MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

PROJECT FILE REPORT

GLENCOE INDUSTRIAL PARK

MUNICIPALITY OF SOUTHWEST MIDDLESEX

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1.0 Introduction

The Municipality of Southwest Middlesex commenced a Class Environmental Assessment in June 2025 to evaluate the potential impacts of extending Tower Avenue in the community of Glencoe to service lands planned for industrial development. This Class Environmental Assessment followed procedures outlined within the latest version of the Municipal Class Environmental Assessment Manual.

The potential impacts of installing municipal services and road infrastructure within a planned road allowance on municipally owned lands and proposed easement located on privately owned lands were assessed through this process.

1.1. Municipal Class Environmental Assessment Process

The Municipal Class Environmental Assessment process outlines the process Proponents must follow to meet the requirements of the Environmental Assessment Act of Ontario. Where the Municipal Class Environmental Assessment process is followed, the Proponent does not have to apply for formal approval per the EA Act. The EA Act must be adhered to when completing road, sewer or wastewater activities. Refer to the Figure below from the Municipal Class Environmental Assessment (MCEA) Manual which outlines the various phases of the Class EA Planning and Design Process.

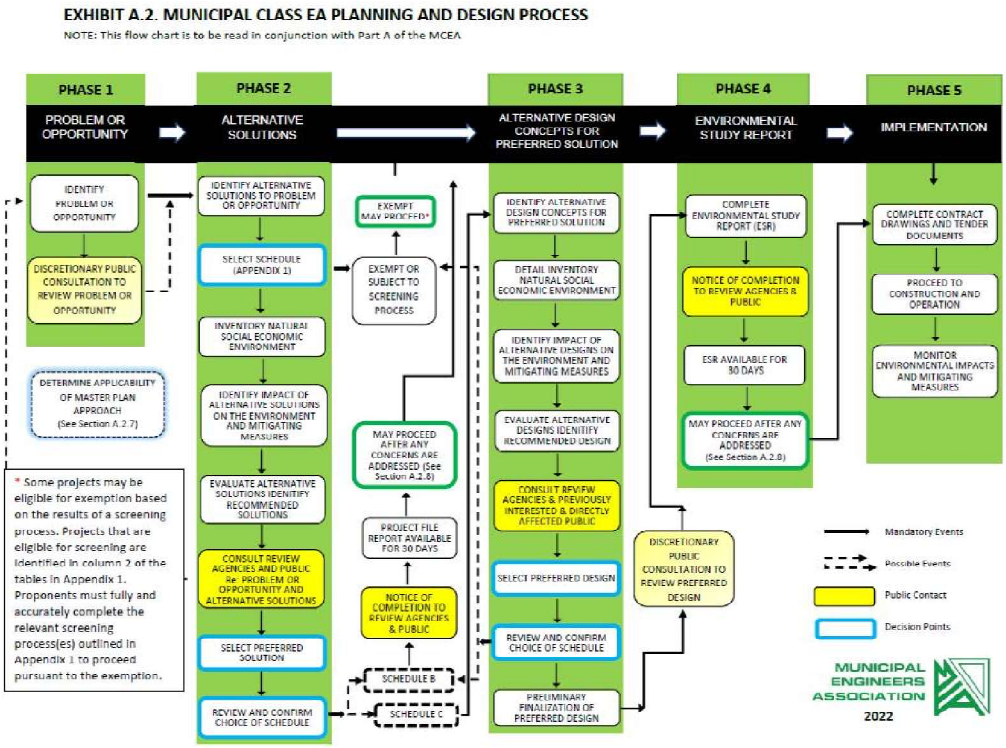

Figure 1: Municipal Class EA Planning and Design Process

The process as outlined within Figure 1 was followed to prepare this Class EA.

1.2. Project Schedule Classification and Class EA Principles

Due to the varying nature of municipal infrastructure projects, including related potential for environmental effects, schedules have been defined to classify projects. Generally, projects are categorized based on the magnitude of their anticipated environmental impact.

Project schedule classifications as per the MCEA Manual are as follows:

- Schedule A: Projects of limited scale with minimal adverse environmental impacts. Schedule A projects are pre-approved.

- Schedule A+: Projects that are pre-approved and include a notification program to inform the public of the project.

- Schedule B: Projects that have the potential for some adverse environmental effects. Phases one and two of the planning process are required, including mandatory consultation with Indigenous Communities, directly affected public and review agencies. A Project File Report must be prepared.

- Schedule C: Projects that have the potential for significant environmental effects and must proceed through the full planning and documentation process, including mandatory consultation with Indigenous Communities, directly affected public and review agencies. An Environmental Study Report must be prepared.

Despite the individual project schedules, the following principles apply to all Class EAs and were adhered to in the preparation of this Class EA:

- Consultation with affected parties, including technical agencies, the public, property owners, groups of interest, adjacent Municipalities and Indigenous Communities, early on and throughout the process;

- Consideration of a reasonable range of alternatives, including “alternatives to”, “alternative methods” as well as the “do nothing” alternative which provides a benchmark for alternative evaluation;

- Identification and consideration of the effects of each alternative on all aspects of the environment, including natural, social, cultural, technical and economical/financial;

- Systematic evaluation of alternatives in terms of advantages and disadvantages to determine net environmental effects. The decision-making process must be phased and recognize the dynamic nature of environmental decision making;

- Clear and complete documentation of the planning process, clearly outlining the approach and how the principles of environmental assessment planning were followed.

As outlined within the MCEA Manual, there is opportunity to request a higher level of study for Schedule B and Schedule C projects through a Section 16 Order Request on the grounds that the order may prevent, mitigate or remedy adverse impacts on the existing Aboriginal and treaty rights as recognized and affirmed in Section 35 of the Constitution Act, 1982. A request for higher level of study must be submitted to the Minister within 30 days of the Notice of Completion publication.

2.0 Project Background and Identification of Opportunity

2.1. Project Background

The Municipality of Southwest Middlesex commenced a Class Environmental Assessment in June 2025 to evaluate the potential impacts of extending Tower Avenue, located within the community of Glencoe, to service lands planned for industrial development. The project area is approximately 16.9 hectares in area and is immediately south of Industrial Road. The project area is generally described as Lot 24, Second Range North. Refer to the key map below:

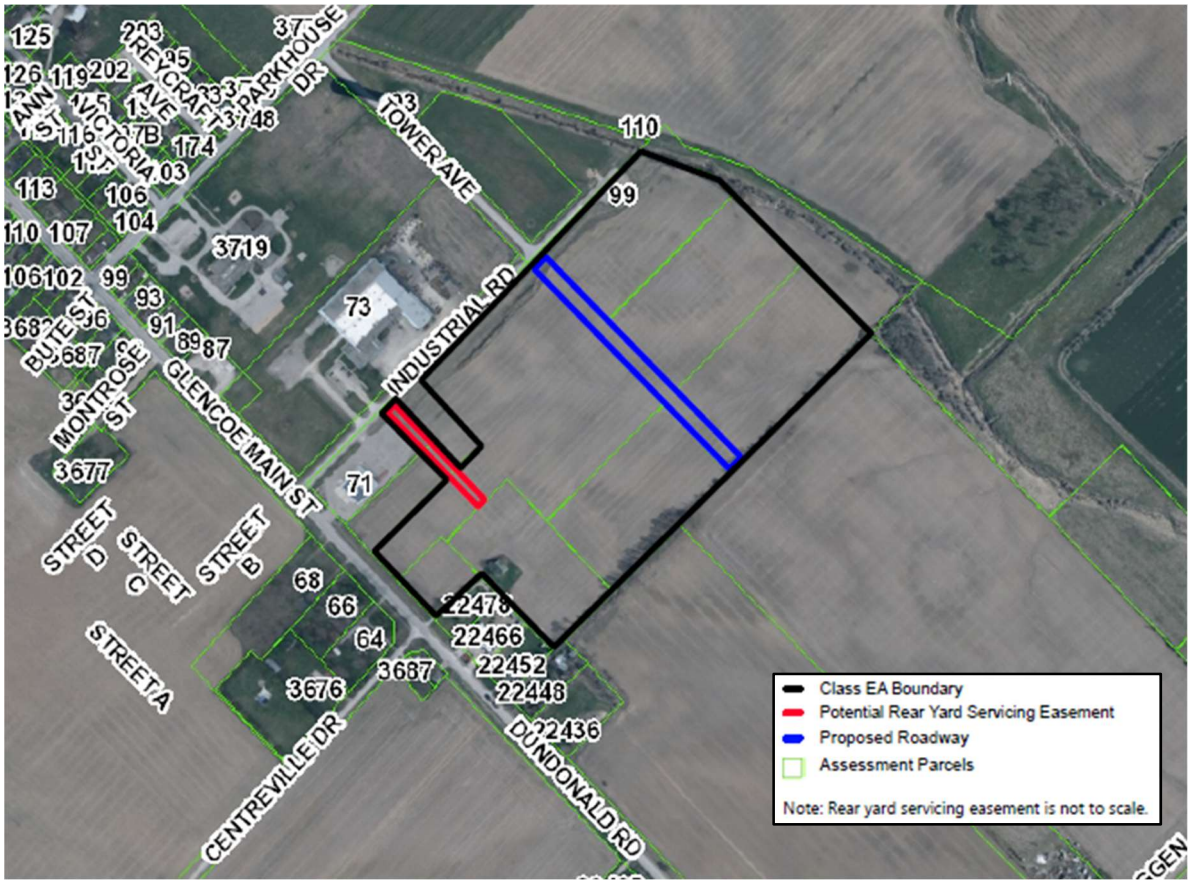

Figure 2: Project Key Map

The lands within the project area are currently owned by the Municipality, with the exception of two (2) lots fronting Dundonald Road in which a proposed servicing easement is anticipated at the rear of privately owned lands. It is noted that one of the lots is the existing municipal fire hall. Similarly, it is noted that one (1) lot within the subject site fronting Dundonald Road is currently owned by Middlesex County but is intended to be purchased by the Municipality of Southwest Middlesex.

The intent of this Class EA is to assess opportunities to extend Tower Avenue from Industrial Road approximately 340m southerly. The proposed road extension would service industrial lots within the project area and be located within a proposed 26m wide road allowance. This proposed road extension commences at Industrial Road and terminates with a proposed turning circle, allowing for future connectivity while facilitating maintenance. As part of this project, roadworks, water, stormwater and wastewater infrastructure would be constructed within the project area. Stormwater and wastewater infrastructure would be installed within a proposed easement over privately-owned lands to facilitate individual lot servicing.

This alternative has been assessed based upon scope as well as anticipated construction costs and is categorized as a Schedule B activity. This categorization was determined based the project scope of the construction of a new roadway and capital costs estimated at less than $3 million, as per the 2024 Municipal Class Environmental Assessment Manual. As such and in accordance with requirements for Schedule B categories, potential environmental impacts associated with the project and related mitigation measures have been identified and efficient consultation with the public and all stakeholders, including Indigenous Communities and the public, has been performed.

2.2. Preliminary Analysis

In order to better understand the project area and surrounding lands, a desktop study of all available resources as well as liaison with Municipal officials was performed.

A detailed review of previously completed studies on the subject lands as well as applicable planning documents and property mapping available from the County of Middlesex and Municipality of Southwest Middlesex was completed. This provided the required background information to understand the rationale for the proposed road extension and industrial development as currently proposed as well as future uses and related infrastructure demands. This allowed for determination of practical alternative solutions to address the ultimate opportunity.

2.3. Nature of the Problem

The preliminary analysis previously outlined above identified a problem with the existing road network and servicing infrastructure as it pertains to planned industrial development within the Glencoe Industrial Park. The following statement outlines the problem identified:

The Glencoe Industrial Park cannot develop for industrial purposes, as planned, without provision of roadway access and municipal servicing.

The preliminary analysis determined that there are only a limited number of reasonable and diverse solutions to address the identified problem. The extension of Tower Avenue, including water, sanitary and stormwater municipal servicing was identified as a potential solution to the problem and would be classified as a Schedule B project. This potential solution would facilitate development within the Glencoe Industrial Park by providing both access and municipal servicing to the area.

3.0 Description of Existing Environment

In order to accurately describe and evaluate the existing environment, the following studies have been performed as part of this Class Environmental Assessment:

- Geotechnical Investigation Report prepared by Englobe dated February 11, 2026;
- Due-Diligence Soil Characterization Report prepared by Englobe dated December 17, 2025;
- Species at Risk Assessment Report prepared by MTE Consultants dated December 8, 2025.

As part of the site certification process, the Municipality undertook the following studies in 2015 and 2016 to document the existing environment:

- Species at Risk Assessment prepared by BioLogic dated December 10, 2025;
- Phase 1 Environmental Site Assessment prepared by Exp Services dated May 26, 2015;
- Stage 1 & 2 Archaeological Assessment prepared by Timmins Martelle Heritage Consultants dated February 2016 and entered into Ontario Public Register of Archaeological Reports May 10, 2016;
- Stage 3 Archaeological Assessment prepared by Timmins Martelle Heritage Consultants dated October 2016 and entered into Ontario Public Register of Archaeological Reports November 18, 2026.

The above noted Species at Risk Assessment, Stage 1 & 2 Archaeological Assessment and Stage 3 Archaeological Assessment are included within this Project File Report as individual appendices.

3.1. Social Environment

The Municipality of Southwest Middlesex was formed on January 1, 2001 with the amalgamation of the former Villages of Glencoe and Wardsville and the Townships of Ekfrid and Mosa. Southwest Middlesex has a population of approximately 5,924 and an area of 427.92 square kilometres The Municipality is located in the southwest corner of Middlesex County and sits conveniently between Highways 401 and 402 and approximately halfway between London and Chatham.

3.1.1 General Site Description

The entire project area under review as part of this Class EA is located within the south easterly portion of Glencoe's settlement area. As per the Municipality's Official Plan,

"Glencoe, situated in the more or less geographic centre of the Municipality, functions as its administrative, business and service centre and its industrial base. It has a few, relatively large industries and is the location of the area's largest institutions and recreational facilities."

The project study area is located in an area of existing residential and industrial development, with nearby industrial/commercial properties. Similarly, there are several existing and planned residential developments within the surrounding area. The project study area measures approximately 16.9 ha in area and is within the existing "Certified Site".

The surrounding land uses include the following:

- Northerly: Existing industrial development and water tower.
- East: Greenhouse currently underway and existing sanitary sewage lagoons.
- Southerly: Cultivated farmland.
- Westerly: Existing firehall as well as existing and planned commercial and residential development.

The subject lands generally slope towards the Glencoe Outlet Drain travelling in the north-south direction easterly of the project site. The lands are currently used for agricultural purposes (cultivated farmland) but have been planned for industrial development and previously underwent the Certified Site Program.

Based upon our review of the Thames-Sydenham and Region Source Protection, portions of the subject lands are within the Lower Thames Valley Source Protection Area but are not identified as a designated vulnerable area.

MTE Consultants prepared a Species at Risk Assessment to evaluate ecological functions and determine impacts on natural heritage features as a result of the proposed works. The assessment confirmed that no mapped natural heritage features or ecological functions are present on the Subject Lands.

As per the Municipality of Southwest Middlesex and County of Middlesex Official Plans, the study area does not contain designated natural areas. However, natural heritage is further discussed in this report.

3.2. Land Use Planning Objectives

3.2.1. Provincial Policy Statement

The current Provincial Policy Statement (PPS) was issued under Section 3 of the Planning Act and came into effect May 1, 2020. The PPS provides policy direction on

matters of provincial interest related to land use planning and development. Similarly, the PPS sets the policy foundation for regulating development and land use while supporting the provincial goal to enhance the quality of life.

The PPS provides a vision for land use planning in Ontario with a focus on growth and development within urban and rural settlement areas while supporting the viability of rural areas. The PPS noted efficient development patterns optimize the use of land, resources and public investment in infrastructure and public service facilities.

The potential Tower Avenue road extension has been evaluated with respect to the PPS and related policy directions and provisions. As determined through our evaluation, specific policies within the following Sections of Part V of the PPS are relevant to this project:

- Part V: Policies
    - Section 1.0: Building Strong and Healthy Communities
    - Section 2.0: Wise Use and Management of Resources
    - Section 3.0: Protecting Public Health and Safety

Our detailed evaluation has determined that the potential Tower Avenue road extension is consistent with the PPS as outlined below according to various the sections of the document.

<u>Section 1.0: Building Strong and Healthy Communities</u>

Section 1.0 of the PPS outlines numerous policies prepared to promote strong, liveable, healthy and resilient communities while protecting the environment, public health and safety as well as facilitating economic growth.

Sub-Section 1.1 entitled “Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns” directly applies to the potential Tower Avenue road extension. Specific policies within Sub-Section 1.1 with particular importance to this potential work are as follows:

Policy 1.1.1. provides various measures that propose healthy, liveable and safe communities, including the following which directly align with the potential Tower Avenue road extension:

- a) Promoting efficient development and land use patterns which sustain the financial well-being of the Province of Ontario and Municipality of Southwest Middlesex;
- “e) Promoting the integration of land use planning, growth management, transit-supportive development, intensification and infrastructure planning to achieve cost-effective development patterns, optimization of transit investments, and standards to minimize land consumption and servicing costs;”
- “g) Ensuring that necessary infrastructure and public service facilities are or will be available to meet current and projected needs;”

Policy 1.1.3.2 notes land use patterns within settlement areas shall be based on densities and a mix of land uses which:

- “a) efficiently use land and resources;”
- “b) are appropriate for, and efficiently use, the infrastructure and public service facilities which are planned or available, and avoid the need for their unjustified and/or uneconomical expansion;”
- “e) support active transportation;”

The above noted criteria under Policy 1.1.1 and Policy 1.1.3.2 directly align with the potential Tower Avenue road extension. Specifically, the Tower Avenue road extension promotes efficient development and land use patterns to facilitate industrial development on lands intended for that purpose. Similarly, the entire study area is located within the Glencoe urban settlement area.

Policy 1.6.1 provides comments regarding infrastructure and public service facilities. Specifically, that “infrastructure and public service facilities shall be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs”. This policy also notes “planning for infrastructure and public service facilities shall be coordinated and integrated with land use planning and growth management so that they are:

a) financially viable over their life cycle, which may be demonstrated through the asset management planning; and
b) available to meet current and projected needs.”

Policy 1.6.6.1 provides numerous criteria specific to planning for sewage and water services, including that such planning must accommodate forecasted growth in a manner that promotes efficient use and optimization of existing municipal sewage and water services. Similarly, Policy 1.6.6.2 states municipal services are the preferred form of servicing for settlement areas to support protection of the environment and minimize potential risks to human health and safety. The objective of the proposed Tower Avenue road extension is to provide efficient municipal services sufficient to service future industrial development which satisfies the aforementioned policies.

Policy 1.6.7 provides criteria for transportation systems, including that they must be safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs, as outlined under Policy 1.6.7.1.

The above noted criteria under Policy 1.6.1, 1.6.7 and 1.6.7.1 directly align with the potential Tower Avenue road extension. Specifically, the goal of the proposed Tower Avenue road extension is to prepare a design that promotes the efficient provision of municipal services and provides a safe transportation system adequate to accommodate anticipated traffic demands.

As described above, the proposed Tower Avenue road extension satisfies the referenced policies provided under Section 1.0: Building Strong and Healthy Communities of the PPS.

Section 2.0: Wise Use and Management of Resources

Section 2.0 of the PPS provides numerous policies to protect natural features. Ontario's long-term prosperity, environmental health and social well-being depend on various factors, including protecting natural and cultural heritage resources for their economic, environmental and social benefits.

Section 3.2.3 of this report provides a detailed discussion of source water protection considerations specific to the subject lands and potential road extension. Refer to Section 4.3.2 of this report for a detailed assessment regarding potential impacts of the proposed road extension on surface water and groundwater resources. These assessments also aid in determining which policies under Section 2.0 are applicable to the subject lands and potential project.

Sub-section 2.1 entitled "Natural Heritage" and sub-section 2.2 "Water" includes policies applicable to the potential Tower Avenue road extension as it pertains to protecting natural heritage and water features.

Policy 2.1.1 states that natural features and areas shall be protected for the long term.

Policy 2.1.8 states that development and site alteration shall not be permitted on lands adjacent to natural heritage features and areas as identified within Policies 2.1.4, 2.1.5 and 2.1.6 unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Having regard for the above noted Policy 2.1.1 and Policy 2.1.8 which relate to natural heritage, MTE conducted a Species At Risk Assessment on the subject lands to identify any natural heritage areas and determine impact mitigation strategies, as applicable. This assessment determined that there are no natural heritage features, natural heritage systems or ecological functions on the subject lands. However, field investigations confirmed the presence of Barn Swallow and five (5) endangered bat species associated with the abandoned barn located on the property. The existing barn associated with the aforementioned species will not be impacted by the proposed Tower Avenue road extension, including related servicing works. As such, impacts to the aforementioned species due to the proposed works is not anticipated. The Species At Risk Assessment is appended to this report for additional information specific to the study area.

Policy 2.2.1 f) notes that planning authorities must implement necessary restrictions on development and site alteration to:

1. protect all municipal drinking water supplies and designated vulnerable areas; and
2. protect, improved or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features and their hydrologic functions.

Policy 2.2.2 states development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored. Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features and their hydrologic functions.

Having regard for the above noted Policy 2.2.1 f) and Policy 2.2.2 which relate to protecting surface and groundwater supplies, the proposed road extension is not anticipated to generate significant surface water or groundwater impacts. Refer to Section 5.3 of this report which discusses the engineering design and construction specifications to be implemented in order to mitigate any potential impacts to surface and groundwater supplies.

Sub-section 2.6 entitled “Cultural Heritage and Archaeology” provides numerous policies geared towards conserving and protecting such resources.

Policy 2.6.2 notes that development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.

Having regard for the above noted Policy 2.6.2 which relates to cultural heritage and archaeology, Timmins Martelle Heritage Consultants (TMHC) conducted a Stage 1 & 2 archaeological assessment for the subject lands as part of the Site Certification process which ultimately recommended a Stage 3 assessment be completed. TMHC subsequently completed a Stage 3 archaeological assessment and ultimately concluded that the 3 locations of concern did not quality for Stage 4 mitigation of construction impacts based upon provincial standards and the native component of all locations did not meet provincial criteria for Stage 3 testing. As such, no further archaeological assessment works were deemed necessary. The Stage 1 & 2 archaeological assessment as well as the Stage 3 archaeological assessment were entered into the Ontario Public Register of Archaeological Reports. The Archaeological Reports, including each respective letter confirming entry into the Register are appended to this report for additional information specific to the study area.

As described above, the proposed Tower Avenue road extension satisfies the referenced policies provided under Section 2.0: Wise Use and Management of Resources of the PPS.

<u>Section 3.0: Protecting Public Health and Safety</u>

Section 3.0 of the PPS provides numerous policies to protect public health and safety. Ontario’s long-term prosperity, environmental health and social well-being depend on reducing the potential for public cost or risk to Ontario’s residents from natural or human-made hazards. The policies provided under Section 3.0 are intended to ensure development is directed away from areas of natural or human-made hazards where there is an unacceptable risk to public health, safety or property damage while not creating new or aggravating existing hazards.

Sub-section 3.1 entitled “Natural Hazards” includes policies applicable to the potential Tower Avenue road extension as it pertains to avoiding natural hazards.

Policy 3.1.1 notes development shall be generally directed, in accordance with guidance developed by the Province, to areas outside of hazardous lands adjacent to rivers, streams, and small inland lake systems which are impacted by flooding hazards and/or erosion hazards.

The Glencoe Outlet Drain travels adjacent to the subject lands and requires consideration throughout the planning and engineering processes. Consultation with the DFO has been performed during the Class EA process, as documented within this report. Upon selection of the preferred alternative and completion of detailed design, approval and required permits will be obtained from the DFO and Conservation Authority for proposed works within and adjacent to the municipal drain including ultimate stormwater outlet. Timing windows for in-water works will be incorporated into the project specifications. Protecting the Municipal Drain is imperative during the design and construction stages of the project. Quality stormwater management controls will be required to ensure any stormwater outletting to the Municipal Drain is treated to an enhanced level of protection. Similarly, a detailed sediment and erosion control plan will be required to ensure the Municipal Drain is protected from sediment ladened runoff during construction.

With the exception of the Glencoe Outlet Drain which is adjacent to the study area, no identified natural heritage features or natural hazard features are contained within or adjacent to the study area boundary. Similarly, project planning did not identify any other hazardous site concerns.

To conclude our review of the Provincial Policy Statements, the proposed Tower Avenue road extension satisfies and is consistent with the PPS. As described above, various supporting studies were performed in order to identify and adequately protect sensitive features in accordance with the PPS. Similarly, the engineering design and construction specifications will be prepared having regard for the PPS, as applicable, including incorporation of environmental impact mitigation measures outlined within this report.

3.2.2. County of Middlesex Official Plan

The Middlesex County Official Plan directs and guides the County of Middlesex in land use policy and physical planning on a broad basis having regard for the Provincial Policy Statements and provincial interests. The County Official Plan provides the framework for detailed planning by local Municipalities.

The County Official Plan includes numerous detailed land use policies which provide specific direction for growth and development within the County. Additional policy direction is provided through local official plans.

The various schedules within the County Official Plan note the following with regards to the subject site:

- Schedule 'A' Land Use: The subject site is within a Settlement Area;
- Schedule 'C' Natural Heritage System: There are no natural heritage systems within the subject site;
- Schedule 'D' Natural Hazard Areas: The subject site is not within Conservation Authority Regulation Limits. However, the Glencoe Outlet Drain adjacent to the subject site is within a regulated area;
- Schedule 'E' Aggregate Resources: The subject site does not appear to contain any aggregate resource areas of petroleum resource pool areas.

As per the County Official Plan and Municipality of Southwest Middlesex Official Plan, the subject lands are located within the designated Glencoe Urban Area.

Our detailed evaluation has determined that the potential Tower Avenue road extension is consistent with the County Official Plan as outlined below according to various sections of the document.

<u>Section 2.0: Policy Framework</u>

Section 2.0 of the County Official Plan provides policies applicable to all land use designations and provides direction for implementation of the detailed land use policies provided in Section 3.0 of the Official Plan.

Sub-section 2.3.2a) notes that urban areas shall demonstrate the potential to accommodate future growth through population projections and must either have full municipal services or demonstrate the potential to provide full municipal services.

Sub-section 2.3.8 notes that local municipalities have the primary responsibility for detailed planning policy within Settlement Areas. Urban areas are to be the focus for future growth including residential, commercial and industrial development.

Sub-section 2.3.8.1 provides the following additional comments regarding urban areas:

- "Urban areas either provide or demonstrate a strong potential to provide full municipal services."
- "New development shall be fully serviced by municipal or communal water and sewage disposal systems."

Sub-section 3.2.4 further notes that local Official Plan policies related to urban areas are to include provision for industrial uses, as well as other land uses.

We note that the feasibility to provide full municipal services along the proposed Tower Avenue road extension to service future industrial development within the study area conforms with the policy direction for the Glencoe urban area.

Section 3.0: Detailed Land Use Policies

Section 3.0 of the County Official Plan outlines detailed land use policies that provide specific direction for growth and development within the County.

Section 3.2.4.1 provides a listing of land uses permitted within urban areas, including industrial uses which directly relates to the potential Tower Avenue road extension which would support future industrial development within the subject lands.

As outlined above, the potential Tower Avenue road extension is consistent with the County Official Plan and related policies.

3.2.3. Municipality of Southwest Middlesex Official Plan

The Municipality of Southwest Middlesex governs land use decisions within the Municipality having regard for the Provincial Policy Statements and provincial interests.

The various schedules within the Municipality's Official Plan note the following with regards to the subject site:

- Schedule 'A' Structure Plan: The subject site is within a Settlement Area;
- Schedule 'B' Map 1 Natural Heritage Features (Wetlands and ANSI's): The subject site does not contain natural water courses, wetlands or ANSI's;
- Schedule 'B" Map 2 Natural Heritage Features (Significant Woodlands): The subject site does not contain natural water courses or significant woodlands;
- Schedule 'C' Land use & Transportation Plan: The subject area is within an Industrial area;
- Schedule 'F' Land Use & Development Sensitivity Areas: The subject area does not contain hazardous lands, railway sensitivity area, sewage treatment facility, landfill site or a grain handling facility.

Our detailed evaluation has determined that the potential Tower Avenue extension is consistent with the Municipality's Official Plan as outlined below according to various sections of the document.

Section 3.0: Glencoe

Section 3.0 of the Municipality's Official Plan provides direction and policies specific to the Glencoe area.

Sub-section 3.2 outlines the various goals and objectives surrounding planning and development within the Settlement Area of Glencoe. The following goals and objectives from this sub-section apply to the potential Tower Avenue extension:

- "a) to accommodate the majority of population growth and development in the Municipality";
- "b) to ensure development and redevelopment does not have a detrimental effect on the ability of the Municipality to provide the necessary infrastructure to accommodate it";

- "f) to encourage industrial development in areas well suited for such purposes and in a manner that does not detract from existing or planned residential and/or commercial areas";

Given that the intention of the proposed road extension is to provide access and services to the subject lands which are planned for industrial development and growth, all infrastructure will be adequately designed to service the intended developments.

Section 3.4.3.1 outlines primary uses of lands designated as "Industrial" within Schedule 'C' of the Official Plan as: "manufacturing, assembling, processing of goods or materials, repairing, recycling, warehousing and distribution of goods or other items, truck terminals and building/construction contractors".

Section 3.4.3.2 outlines secondary uses of lands designated as "Industrial" within Schedule 'C' of the Official Plan provided they do not undermine the viability of the area for industrial purposes or conflict with industrial uses. Secondary uses include the following: "a) uses which are not generally suited to designated 'Commercial' areas; b) uses which have characteristics or functional requirements similar to industrial uses or which are otherwise considered suited to, or compatible with, 'Industrial' areas; c) uses which serve the needs of industrial uses or those employed in the 'Industrial' area; d) uses accessory or incidental to industrial uses."

Section 6 of the Official Plan outlines direction and policy framework for infrastructure, including roads and services. The following direction was noted within the Official Plan and has particular relevance to this Class EA:

- Schedule 'C' of this Official Plan does not identify the road classification of the existing portion of Tower Avenue. However, given our review of the road network and surrounding area, the existing portion of Tower Avenue is assumed to be designated as a Local Road. Section 6.2.3 notes that the primary function of Local Roads is to provide direct access to abutting properties, typically carrying less than 1500 vehicles per day. As such, it is assumed that the Tower Avenue extension will be classified as a Local Road. This new roadway will connect to Industrial Drive, which is also classified as a Local Road as per the Municipality's GIS system and based upon definitions provided within the Official Plan. Given that the proposed Tower Avenue road extension will serve industrial developments, the roadway must be designed with consideration for truck traffic movements. The roadway will be designed and constructed with a granular and asphalt composition adequate to support the industrial traffic loadings, in accordance with geotechnical recommendations.
- Section 6.3.2 states "all development within settlement areas with the exception of Middlemiss shall be connected to, and serviced by, the municipal water supply system". The proposed Tower Avenue road extension and Glencoe Industrial Park will be serviced by a proposed watermain system, including all appurtenances, connected to the existing municipal water supply system.
- Section 6.4.1 states "all development within the Glencoe Urban Area and the Wardsville Community Area shall be connected to and serviced by the

municipal sanitary sewage system". The proposed Tower Avenue road extension and Glencoe Industrial Park will be serviced by a gravity sanitary sewer system, including all appurtenances, connected to the existing municipal sanitary sewage system.

It is further noted that Section 2.8.5 states "the Municipality shall promote stormwater management practices that minimize the volume of runoff and contaminant loads" and further notes "stormwater management plans shall be prepared for undeveloped areas prior to development to effectively control the quantity and quality of stormwater runoff". The proposed Tower Avenue road extension and Glencoe Industrial Park will be serviced by a gravity storm sewer system as well as a stormwater management facility. The stormwater management facility is designed as a wet pond providing both quantity and quality controls in accordance all applicable standards.

Section 2.8.4 provides comments regarding source water protection and notes that the "Municipality shall actively participate in the preparation and implementation of a source water protection plan in accordance with the Clean Water Act". Based upon our review of the Thames-Sydenham and Region Source Protection Region mapping available at the time of preparing this report, we note that the subject site is not within a designated vulnerable area. However, the proposed project specifications will include construction and operational mitigation measures to consider and protect source water.

Based upon the above, including review of the Municipality's Official Plan and the Thames-Sydenham and Region Source Protection Plan, including mapping, it is our opinion that the Tower Avenue road extension conforms with the objectives, policies and permissions of the Official Plan.

3.2.4. Municipality of Southwest Middlesex Zoning By-Law

The Municipality of Southwest Middlesex Comprehensive Zoning By-Law No. 2011/065, consolidated version dated February 2024, regulates the use of land and the character, location and use of buildings and structures throughout the Municipality. The Zoning By-Law conforms with the Municipality's Official Plan, the County's Official Plan as well as the Provincial Policy Statement.

The subject lands are designated as General Industrial Holding Provision (M1-H-3). According to Section 8.0 of the Zoning By-Law, the M1 zone permits a wide range of industrial uses as well as certain commercial uses that are considered compatible with industrial areas or share similar attributes with industrial uses. The H-3 holding provision is assigned to parcels of undeveloped lands zoned for commercial or industrial purposes. Removal of this holding provision is contingent upon the Owner entering into a site plan agreement with the Municipality. This process would ultimately take place outside of the scope of this project.

Given that this proposed work is being undertaken by the Municipality to facilitate future industrial development which would subsequently be subject to the site plan approval process, the proposed Tower Avenue road extension is in accordance with the Municipality's Zoning By-Law.

3.3. Natural Heritage and Environmental Review

3.3.1 Geotechnical and Excess Soils Investigations

Englobe completed a geotechnical investigation and related report (February 11, 2026) in support of the proposed Tower Avenue road extension and Glencoe Industrial Park, including related servicing. As outlined within Section 1 of the report, the purpose of the geotechnical investigation was to investigate and report on the subsurface soil and ground water conditions in order to provide recommendations regarding excavations, dewatering, pipe bedding, trench backfilling and road construction including pavement design and curbs and sidewalks. In addition, chemical analysis and reporting was also performed to inform responsible excess soil management in accordance with O.Reg. 406/19.

The field program conducted is outlined within Section 2.1 of the report. Ten (10) boreholes ranging in depths from 5.2m to 8.2m below ground surface were drilled on July 23, 2025 and July 24, 2025 and one (1) monitoring well was installed. Generally, the findings of the geotechnical investigation are as follows:

- Topsoil was encountered at the surface of all boreholes with thickness ranging from 50mm to 150mm;
- Silt and clayey silt were located below the topsoil at all boreholes;
- Silt and clay, as well as silty clay deposits were located below the silt stratum at three (3) boreholes;
- Glacial till deposits, consisting of clayey silt, silt and clay and silty clay soils were encountered at all boreholes;
- Groundwater was encountered at one (1) borehole where the monitoring well was installed at a depth of 5.3m below ground surface. Dewatering considerations are further discussed within the report.

Complete geotechnical construction recommendations regarding servicing, excavations, dewatering, bedding, backfill, pavement design considerations and drainage are provided within Section 5 of the report.

The Englobe geotechnical report is included within Appendix A of this report.

Englobe completed a due-diligence soil characterization investigation and related report (December 17, 2025) in accordance with O.Reg. 406/19. The soil sampling program was developed to characterize the soil quality within the subject site and satisfy requirements of potential excess soil reuse sites. Soil analytical results were compared to the Excess Soil Quality Standards (ESQS) and assessed using Table 1 Full Depth Background Site Condition Standards (SCS) in an agricultural or other (AgO) property use condition (MECP Table 1 AgO SCS) and Table 2.1 Full Depth Background ESQS in a Potable Ground Water Condition for ICC property use condition (MEC Table 2.1 ICC ESQS).

Generally, two (2) soil zones were identified. Soils within Zone 1, if deemed geotechnically suitable, are appropriate for reuse in areas which are unlikely to be suitable habitat for environmentally sensitive species (i.e. meet Table 1 AgO SCS) with the exception of salt-related impacts. If soils are deemed excess, they are considered suitable for reuse at an off-site location accepting soil meeting MEC Table 1 AgO SCS provided various conditions outlined within the Soil Rules are met. Soils within Zone 2, if deemed geotechnically suitable, are appropriate for reuse in areas unlikely to be suitable habitat for environmentally sensitive species and at least 30m away from the LTVCA regulated area (i.e. meets MECP Table 2 ICC SCS). If soils are deemed excess, they are considered to be suitable for reuse at an off-site location accepting soil meeting MECP Table 2.1 ICC ESQS provided various conditions within the Soil Rules are met.

The Englobe due-diligence soil characterization report is included within Appendix A of this report.

3.3.2 Species at Risk Assessment

MTE completed a Species at Risk Assessment to support and inform this Class Environmental Assessment. Generally, the assessment concluded that:

- No natural heritage features overlap with the subject lands;
- No components of a natural heritage system occur on or adjacent to the subject lands;
- A regulated watercourse is present immediately adjacent to the subject site (i.e. the Glencoe Outlet Municipal Drain);
- Field investigations confirmed the presence of Barn Swallow as well as five (5) endangered bat species associated with the abandoned barn located on the property.

The existing barn associated with the species outlined above will not be impacted by the proposed project. While removal of the barn is possible in the future to facilitate individual lot development, it is outside of the scope of this project. The species noted within and around the existing barn will remain undisturbed by the proposed Tower Avenue road extension project. Should the barn be removed in the future, all applicable regulations and standards will be adhered to, including obtaining all required permits as deemed applicable at that time.

3.3.3 Archaeological Investigation and Cultural Environment

Timmins Martelle Heritage Consultants (TMHC) completed a Stage 1-2 Archaeological Assessment for the study area as outlined within their report dated February 29, 2016. At the time of the assessment, the subject site was enrolled in the Ontario Ministry of Economic Development, Employment & Infrastructure Certified Site Program which prepares a property for development. As part of Certified Site Program, this archaeological assessment was prepared in anticipation of a formal requirement for future development approval. As detailed within the report, the Stage 1-2 assessment noted archaeological material in four (4) locations which ultimately triggered the requirement for an additional Stage 3 archaeological assessment. The Stage 1 -2

Archaeological Assessment was entered into the Ontario Public Register of Archaeological Reports March 10, 2016.

Following the Stage 1-2 Archaeological Assessment, TMHC completed a Stage 3 assessment. As outlined within Section 3.0 of this report, the noted archaeological sites have been sufficiently documented and no further assessment was recommended. This report was subsequently entered into the Ontario Public Register of Archaeological Reports November 18, 2016.
The archaeological reports as prepared by TMHC, including related documentation from the Ministry of Tourism, Culture and Sport are included within Appendices D and E of this report.

As part of the consultation process, the Ministry of Citizenship and Multiculturalism was consulted. Following completion of the "Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes" checklist, it was determined that due to the existing barn within the study area, a Cultural Heritage Evaluation Report (CHER) may be required. Following liaison with the Ministry and County Planning personnel whom provide planning services to the Municipality, it was determined that a CHER was not required due to the following project specific details:

- The existing barn will not be demolished as part of this project;
- The proposed works in nearest proximity to the barn are approximately 70m away from the existing barn and include a sanitary sewer and storm sewer, including appurtenances, at conventional depths and diameters. As such the barn will not be impacted by the proposed works, including but not limited to excavation works and vibration during construction;
- The barn does not have apparent potential cultural heritage value or interest;

It is noted that this barn may be demolished in the future to facilitate individual lot development outside of the scope of this project. All necessary agency approvals, permits and studies will be obtained at that time.

4. Assessment of Alternative Solutions

4.1. Alternative Solution Identification

During Phase 1 of the Class EA process, an assessment was completed to identify reasonable solutions to the defined problem statement. This assessment included liaison with the Municipality of Southwest Middlesex as well as the detailed review and analysis of supporting documentation outlined within previous sections of this report.

Section A.2.3. of the Municipal Class EA manual notes that as part of Phase 2 of the Class EA process, all reasonable and feasible solutions to the noted problem are identified, described and evaluated.

Three (3) study options were considered as summarized below:

1. Construct the Tower Avenue road extension and provide full municipal servicing.

Alternative 1 proposes the provision of full municipal services, including water, sanitary as well as storm infrastructure, and the construction of the Tower Avenue road extension to service planned industrial development within the study area. Municipal infrastructure would be constructed within a proposed road allowance and within a proposed easement.

2. Construct the Tower Avenue road extension and provide partial municipal servicing.

Alternative 2 proposes the provision of partial municipal services, including municipal water, privately owned sanitary infrastructure as well as municipal storm infrastructure, and the construction of the Tower Avenue road extension to service planned industrial development within the study area. Municipal infrastructure would be constructed within a proposed road allowance or within a proposed easement.

3. Do Nothing.

The “Do Nothing” alternative is used as a baseline to compare the above noted alternatives against. The implementation of this alternative would result in the Tower Avenue road extension and related servicing not being constructed.

4.2. Pre-Screening of Alternatives

The table below identifies alternatives considered for this Class EA, as well as an evaluation and justification regarding the screening outcome.

No.	***Description***	***Evaluation***	***Result***
1.	Construct the Tower Avenue road extension and provide full municipal servicing.	This alternative was deemed viable as it has the potential to address the problem statement.	Carried Forward (as Alternative 1)
2	Construct the Tower Avenue road extension and provide partial municipal servicing**.**	This alternative was determined to be unviable and was screened out for the following reasons: (1) the project is in close proximity to existing municipal services that can accommodate the anticipated demands from the planned industrial development (2) the applicable planning framework encourages new	Screened Out

		development within the Glencoe settlement area to be fully serviced by municipal infrastructure, including water, sanitary and storm systems.	
3	Do Nothing	This alternative proposes that the Tower Avenue road extension and related servicing is not constructed which does not address the problem statement. During the Class EA process, including planning and design, this alternative can be implemented at any time prior to the commencement of construction. A decision to "do nothing" would typically be made when the costs of other alternatives, both financial and environmental, significantly outweigh the benefits.	Carried Forward (as Alternative 2)

Table 1: Pre-Screening of Alternatives

4.3. Evaluation of Alternative Solutions

As outlined above, three (3) alternative solutions to the problem statement were identified as reasonable solutions that warranted further analysis and consideration. Of the three (3) alternative solutions, only two (2) have been selected for further assessment. The basis of this preliminary screening was consistent with applicable standards and efficient land use considering existing and future demands.

4.3.1. Assessment Methodology

An assessment process was developed to evaluate the merits and potential environmental impacts between the two (2) alternatives selected to be carried forward through this study. Section A1.1 of the Municipal Class EA Manual describes the term "environment" as including natural, social, cultural, built and economic environments. An evaluation inventory has been developed in accordance with Section A.2.3 of the Manual which establishes applicable attributes to the noted environmental components. This allows for the identification of potential impacts associated with each alternative and ultimately, a recommendation regarding the preferred solution. Consideration for the preliminary analysis of the study area, land use planning, technical studies prepared to support this project as well as comments received from agencies, stakeholders and the public via the consultation program.

4.3.2. Alternative Solution Evaluation

The alternative solutions selected to be carried forward through this study, as outlined above, have been evaluated as part of this Class Environmental Assessment. This evaluation is centred around each alternatives potential impact on various environmental components. Refer to the table below which summarizes the detailed evaluation undertaken.

Environmental Component	***Related Sub-Component***	***Alternative 1*** ***Tower Avenue road extension with full municipal servicing***	***Alternative 2*** ***Do Nothing***
Natural	*Natural Heritage*	No significant impacts anticipated. As outlined within the SAR Report prepared by MTE Consultants, no mapped natural heritage features or ecological functions were identified. Field investigations did confirm the presence of various species specifically associated with the abandoned barn within the subject limits. Given that the abandoned barn will not be impacted by the proposed works, no significant impacts to natural heritage are anticipated.	No impact.
	Air Quality	No significant impacts anticipated. Typical construction mitigation measures will be included within project specifications and implemented during construction to limit impacts to air quality, including but not limited to: no vehicle idling, no equipment idling, efficient and effective methodologies, efficient and effective staging.	No impact.
	Noise Effects	No significant impacts anticipated. Typical construction mitigation measures will be included within project specifications and implemented during construction to limit impacts to ambient noise levels, including but not limited to: no vehicle idling, no equipment idling, efficient and effective methodologies, efficient and effective staging, working hours in accordance with local noise by-law.	No impact.

	Surface Water	No significant impacts anticipated. Sediment and erosion impacts are expected to be minor and will be minimized using standards mitigation measures, including silt fence surrounding the site perimeter, straw bales, silt sacks within adjacent catchbasins and parson inserts within adjacent manholes. Additional sediment and erosion control measures can be implemented based upon any review comments received.	No impact.
	Groundwater	No significant impacts anticipated considering the limited impervious area associated with this road extension and infiltration measures proposed as part of the design, including effectively graded grassed boulevards. The design has been optimized to reduced depths of all underground infrastructure to the extent possible while maintaining compliance with Municipal design standards to limit impacts to the existing hydrogeological system. Based upon the geotechnical investigation, the proposed works are generally not expected to extend beyond the established groundwater levels. The proposed stormwater management pond may extend into the stabilized groundwater but dewatering is anticipated to be minimal, if required.	No impacts.
Social	*Adjacent Land Use (Existing and Planned)*	Minimal property impacts anticipated given the scale and location of the proposed road extension. Minor aesthetic impacts would occur during construction but would be addressed through typical site restoration methods. The proposed streetscape will be consistent with the adjacent existing portion of Tower Avenue, Industrial Drive and surrounding roadways.	No impacts.
	Construction Activities	Temporary nuisance effects anticipated during construction such as noise, vibration and dust. Standard	No impacts.

		construction mitigation and best management practices will be implemented to minimize impacts to adjacent properties. Construction and operational activities will be carried out in accordance with established standards and protocols. As such, construction will not present a significant threat to public health and safety.	
Cultural	*Archaeological Resources*	No impacts anticipated as per the previously completed TMHC reports.	No impact.
	Cultural Heritage	No significant impacts anticipated as no cultural heritage resources were identified in proximity to the study area.	No impact.
	Capital Costs	Construction costs are anticipated to be consistent with recent municipal projects of similar scopes within the Municipality and will be less than $3 million. The probable capital costs based upon the preliminary design is approximately $2.8 million, excluding HST.	No impact.
	Operational Costs	Maintenance and operational costs for the municipal road and services, including all appurtenance works, are expected to be minimal given the limited length of the new roadway (approximately 400m within a typical 26m wide industrial road allowance).	No impact.
Technical	*Design Complexity*	No adverse impacts anticipated. The project design is similar to other minor road projects completed in the community in accordance with the Municipality's design standards.	No impacts.
	Construction Requirements	No adverse impacts anticipated. Construction requirements will be comparable to other minor road projects completed in the community in accordance with the Municipality's design standards.	No impacts.
	Transportation	Minor disruptions to traffic movement on Industrial Drive are anticipated during the construction phase of the project. However, traffic control measures will be implemented to maintain traffic movement and access	No impacts. However, street access would not be provided to planned industrial development within

		to adjacent properties. Completion of this alternative would provide roadway access for planned industrial development as described within this report.	the study area if Tower Avenue is not extended.
	Infrastructure	Minor disruptions to municipal servicing may occur during the construction phase of the project. Measures will be implemented to minimize the inconvenience to affected properties, including distributing pre-construction notices prior to construction commencement. Completion of this alternative would provide the infrastructure required to service planned developments.	No impacts. However, municipal infrastructure would not be provided to planned industrial development within the study area.

Table 2: Alternative 1 Environmental Component Assessment

5. Preliminary Review: Alternative No. 1

5.1. Alternative Solution Identification

As an outcome of evaluating the alternatives, as summarized within this report, the Proponent indicated a preference of implementing Alternative No. 1, construct the Tower Avenue road extension and provide full municipal servicing, to address the defined problem.

There are numerous benefits to advancing this alternative as the recommended option, as outlined below:

- This alternative is expected to generate minimal environmental impacts which are comparable to other minor municipal road projects recently completed within the community of Glencoe and Municipality of Southwest Middlesex. Similarly, construction related impacts (noise, dust, vibration, etc.) are expected to be considerable less than those experienced with typical land-development and large road reconstruction projects recently completed and ongoing within the Municipality. The project specifications will be prepared to minimize construction related impacts to the extent possible.
- This alternative is consistent with the County Official Plan, Municipality Official Plan, Zoning By-Law and Provincial Policy Statements as described within this report.
- Construction and operation of the proposed roadway and related services are not expected to be technically complex and should not result in significant environmental impacts.

5.2. Preliminary Engineering Design

In support of Alternative No. 1, our office has prepared a preliminary engineering design. The primary design plan is provided below with numerous design considerations and components following. Refer to Appendix G for the preliminary design drawings.

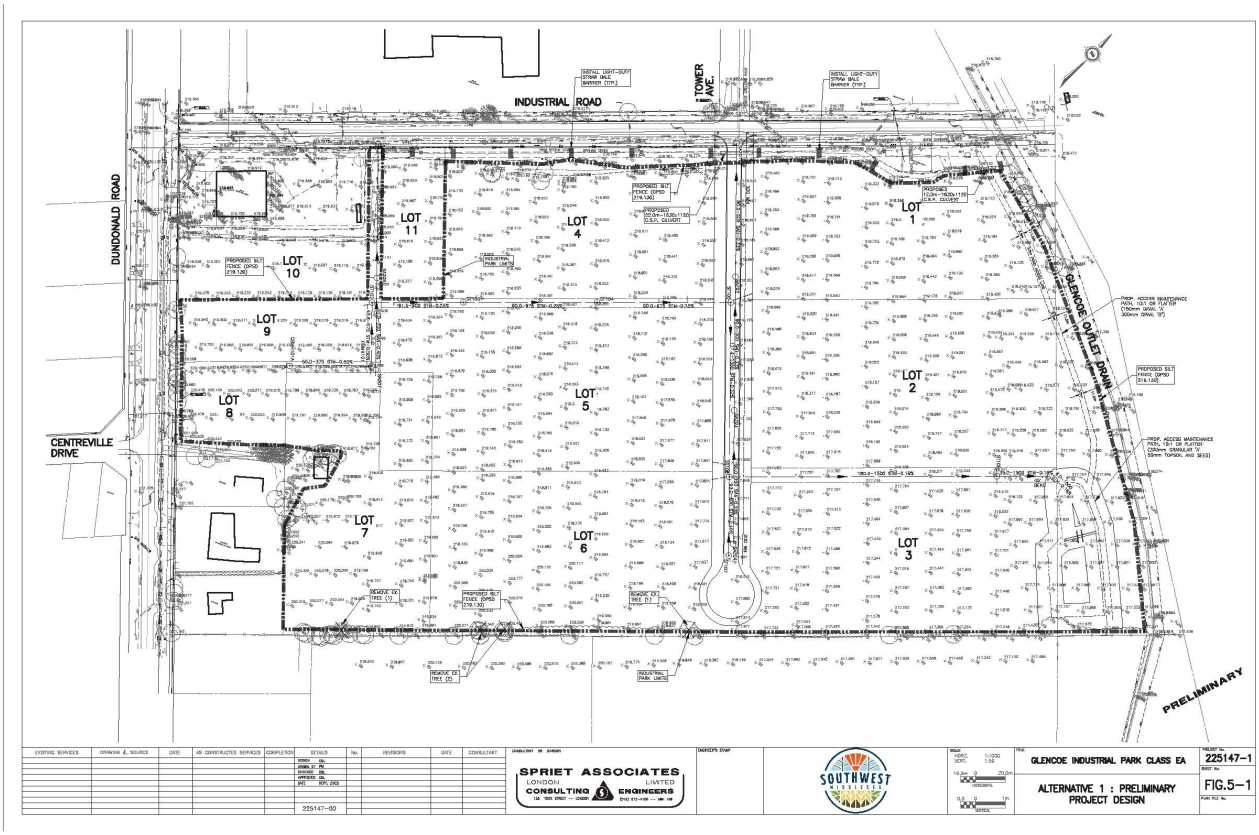

Figure 3: Preliminary Project Design

The primary project objectives, considerations and components of this project and alternative are as follows:

- The goal of this project is to expand municipal infrastructure within the project area to provide roadway access and servicing planned for future industrial development.

- The existing road network will be extended from the existing portion of Tower Avenue southerly approximately 360m from Industrial Drive to future lots planned for industrial development. This new municipal road network will be constructed within a proposed 26m wide road allowance and will accommodate two (2) lanes of traffic.

- The existing watermain network will be extended from the existing watermain on Industrial Drive approximately 360m within the proposed 26m road allowance to provide water servicing to future lots planned for industrial development. The new

watermain network will consist of a 200mm diameter watermain and all appurtenances, including fire hydrants.

- The existing sanitary sewer system will be extended from the existing sanitary sewer on Industrial Drive approximately 360m within the proposed 26m road allowance and approximately 150m within a private easement to provide sanitary servicing to future lots planned for industrial development. The gravity sanitary sewer network will be comprised of 200mm diameter sanitary sewers and all appurtenances. Sanitary sewer flows from the proposed network will outlet into the existing 200mm diameter sanitary sewer along Industrial Road.

- A proposed storm sewer network consisting of 170m of storm sewer within the proposed 26m road allowance and approximately 560m within private easements will provide storm servicing to future lots planned for industrial development. Concrete curb and gutter is proposed to collect lot and road drainage and convey surface flows to the proposed catchbasins. The proposed storm sewer network will convey storm flows to the proposed stormwater management facility (SWM) which has been designed as a wet pond to provide water quality and quantity controls. The adjacent Glencoe Outlet Drain will serve as the ultimate stormwater outlet.

5.3. Impact Mitigation

5.3.1. Construction Activities

While construction activities can pose risks to the environment, the implementation on project specific mitigation measures can significantly mitigate such risks. Specific mitigation measures will be specified within the contract documents to ensure they are enforced throughout the construction phase of the project. Specific to Alternative No. 1, mitigation measures surrounding traffic control, noise, dust, sediment, erosion, refuelling and pesticide use will be implemented. Similarly, project specifications will also ensure all municipal and industry standards as well as all applicable legislation are adhered to throughout the duration of the project.

Measures to minimize air quality, dust, noise sediment and erosion impacts are of particular importance for the proposed project. Project specifications used on comparable and larger municipal infrastructure projects will be utilized for this project to ensure environmental impacts are mitigated to the extent possible.

A summary of the mitigation measures that will be included within the project specifications is provided below:

Activity	***Mitigation Measure***
Traffic Control	Detailed traffic control specifications will be included within the contract documents. Similarly, the Contractor will be required to submit a traffic control plan for review and approval which will be enforced throughout the duration of construction. Traffic

	control specifications and requirements: - Provide adequate signage and barricades; - Local traffic and emergency vehicle access will be provided at all times throughout construction; and - Additional provisions to suit the requirements of the various surrounding properties and their unique needs will be made.
Noise Control	Detailed noise abatement specifications will be included within the contract documents. Noise abatement specifications and requirements will include: - Construction works can only be performed during allowable time frames in accordance with local by-laws; and - Employ devices to minimize noise levels in the construction area, as deemed practical.
Erosion Control	Detailed erosion control design and specifications will be included within the contract documents. Erosion control specifications and requirements will include: - Install silt fence surrounding the entire site perimeter to control sediment during construction. Silt fence must be maintained and replaced as necessary throughout construction; - Install silt sacs within all existing and proposed catchbasins. Silt sacs must be maintained and replaced as necessary throughout construction; - Install parson inserts within all existing and proposed manholes. Parson insets must be maintained and replaced as necessary throughout construction; - Protect all water courses, catchbasins and pipe ends from sediment intrusion; and - Complete all required restoration works immediately following construction.
Dust Control	Detailed dust control specifications will be included within the contract documents. Dust control specifications and requirements will include: - Placement of calcium throughout the project limits to control dust; - Perform street sweeping of all roadways surrounding the project site to ensure roadways are maintained in a clean and safe manner.
Refuelling and Maintenance	Detailed refuelling and maintenance specifications will be included within the contract documents. Refuelling and maintenance specifications and requirements will include: - Identify suitable refuelling and maintenance areas; - Restrict refuelling or maintaining equipment near watercourses; - Restrict cleaning equipment in watercourses and in locations where debris can enter sewers or

	watercourses; and - Identify spill procedures to ensure all parties are prepared to intercept, clean up and dispose of any spills that may occur on land or water.
Material Disposal	Detailed material disposal specifications will be included within the contract documents. Disposal specifications and requirements will include: - Construction debris must be disposed of any approved locations; - Restrict the disposal of fuel, lubricants and pesticides in sewers and watercourses; - Specify the disposal of excess soils must be performed in accordance with O.Reg. 406/19, including but not limited to retaining a Qualified Person (QP), preparing an Excess Soils Destination Assessment Report (ESDAR) and tracking all excess soils movement. The tender package shall include all supporting reports for the Contractor and their QP's reference and use.
Pesticides	The use of pesticides is not proposed as part of this project.
Vegetation Preservation and Removals	Detailed vegetation preservation and removal specifications will be included within the contract documents. Preservation and removal specifications and requirements will include: - Restrict vehicle and equipment exhaust emissions near the dripline of any tree not designated for removal, to the extent possible. - Restrict vehicle and equipment parking, repairs and refuelling near the dripline of any tree not designated for removal, to the extent possible. - Restrict construction materials and soil stockpiling within dripline areas. - Restrict vegetation removal to solely the vegetation specified for removal, having regard for bat roosting and bird nesting periods. - Minimize topsoil and vegetation stripping to solely what is required for the proposed works.

Table 3: Construction Activity Mitigation Measures to be Included in Project Specifications

5.3.2. Future Development

The basis of Alternative 1 is to facilitate planned industrial development within the Glencoe Industrial Park. It is noted that development setbacks may be required due to the adjacent Glencoe Outlet Drain but would be addressed at the time of individual lot development and related site plan approval process.

5.3.3. Operations and Maintenance Considerations

Following the implementation of Alternative 1, the Municipality would incorporate the Tower Avenue road extension, including all related infrastructure, within their typical operation and maintenance schedule.

The roadway will be maintained in accordance with the Municipality's standard practices, including the use of accepted measures to support environmental protection and energy efficiency.

As part of the newly implemented MECP CLI-ECA process, Municipalities are required to prepare and implement operation and maintenance programs for their authorized systems. The proposed sanitary sewers, storm sewers, stormwater management facility and related appurtenances will be incorporated into the Municipality's authorized systems and will be subject to each respective operation and maintenance program.

5.3.4. Climate Change Considerations

The scale of this project is small in comparison to typical municipal and land development projects. As such, climate change impacts during construction and following completion of construction are anticipated to be minor in relation to typical projects within the Municipality and Southwestern Ontario. However, assessing and addressing climate change is critical for long term sustainability. Mitigation measures have been developed based upon best practices, best available technologies, and efficient construction staging. A summary of climate change mitigation measures that will be enforced throughout construction are summarized below and are consistent with the MECP publication "Considering Climate Change in the Environmental Assessment Process", published October 2017.

Climate Change Component	***Mitigation Measure***
Emissions	Reducing greenhouse gas emissions and implementing climate change adaptations will be addressed during construction by ensuring best practices, best available technologies and efficient construction staging are implemented. Restricting vehicle and equipment idling on site will be included within project specifications and communicated to Contractor throughout construction, as required. Similarly, the project design has been optimized to ensure the depth of proposed infrastructure is only as deep as required to limit construction efforts and emissions. Based upon the above, impacts to the environment based upon emissions will be limited to the extent possible.
Stormwater Drainage	The site location is currently cultivated farmland. As such, it is reasonable to assume that the area is not graded in an optimal manner. Considering the increased frequency and intensity of storm events within

	Southwestern Ontario, the inadequate grading poses risks to the neighbouring residential, industrial and agricultural properties by increasing the potential for flooding and excessive ponded water. Detailed design drawings have been prepared, including proposed grading throughout the right of way, ensuring positive boulevard drainage. The combination of effective grading design in accordance with municipal standards and introduction of an asphalt roadway with concrete curb and gutter as well as catchbasins will ensure runoff is collected and directed to the roadway and ultimately to the stormwater management facility and adjacent Glencoe Outlet Municipal Drain. The stormwater management facility has been designed as a wet pond providing enhanced quality control and quantity controls in accordance with municipal standards. The stormwater management design considers the more frequent and severe storms arising from climate change which will benefit the project area and surrounding lands.
Hydrogeological Environment	Considering the scope and depth of the proposed works, including no formal infiltration strategies proposed, changes to local hydrology are not anticipated. The project design has been optimized to ensure the proposed infrastructure is only as deep as required to limit impacts on surrounding vegetation, hydrology and limit construction efforts, and ultimately emissions, from construction vehicles and equipment. Based upon the geotechnical investigation and related report prepared by Englobe, the majority of works are not expected to extend into the stabilized groundwater. It is noted that the stormwater management pond may extend into the stabilized groundwater but minimal dewatering is anticipated. As such, disturbances to the hydrogeological environment are not expected.
Energy Efficiency	Considering the scope of this project is a road extension of approximately 360m length, the scope is small in comparison to typical municipal or land development projects. Energy efficiency impacts throughout construction as well as post construction are anticipated to be minor in comparison to large scale land development and road reconstruction projects performed within the Municipality of Southwest Middlesex and Southwestern Ontario. Energy efficiency impacts will be mitigated by restricting vehicle and equipment idling, utilizing the best practices, best technologies, and efficient construction staging. While the road extension

	will ultimately serve various industrial developments, it is expected that all related construction will be performed utilizing similar mitigation measures and energy efficient materials. Energy efficiency will be prioritized throughout construction and by implementing the mitigation measures outlined above, construction and post construction impacts are anticipated to be minor.
Ecological	Construction scheduling and implementation will be coordinated to avoid impacts to surrounding ecological features, including DFO regulations regarding in-water works. Any tree removals works will be performed avoiding the bat roosting and bird nesting periods. If required, a certified professional will be retained to perform the required field investigations prior to any vegetation removals. Project specifications will also restrict vehicle and equipment exhaust emissions, parking, repairs and refuelling near the dripline of any tree not designated for removal. Based upon the above, impacts to the ecological environment are expected to be minimal considering the implementation of the various mitigation measures and the results of the Species at Risk Assessment as prepared by MTE Consultants and outlined within this report.
Aboriginal Communities	Through the Class EA process, Aboriginal Communities identified as having potential interest in this project and study area were consulted. Based upon this consultation, there are no known climate change impacts on Aboriginal People and/or Communities. Similarly, the Aboriginal Communities consulted did not express any concerns with the proposed works.
Alternative Solutions	There are no alternative solutions that address the problem statement and reduce impacts on climate change and the local environment. As outlined throughout this report, the proposed road extension and related servicing has been designed such that it is in adherence with all applicable standards and project specifications will be prepared to minimize disruptions to existing conditions and impacts to the environment.
Local Drainage Patterns	While surface drainage is expected to marginally increase, the introduction of effective grading, curb and gutter, storm sewers, as well as catchbasins will ensure runoff is directed to the proposed stormwater management facility and ultimately outlet into the Glencoe Outlet Municipal Drain. The increase in runoff is expected to be negligible in terms of impacts to the local drainage patters.

Water Supply	Effects to the local water supply are anticipated to be minor as the existing Glencoe water distribution system has adequate capacity to accommodate the demands associated with the proposed road extension and future planned industrial developments.

Table 4: Climate Change Considerations and Mitigation Measures

5.3.5. Air Quality Considerations

A qualitative air quality assessment has been performed to review the impacts Alternative 1 may have on the air quality surrounding the subject site.

The subject site is within a primarily industrial area, with surrounding land uses including cultivated farm land, sanitary sewage lagoons, greenhouses, fire station, farm equipment supplier and localized industrial properties. The aforementioned land uses impact local air quality to various degrees. As such, the proposed project, including roadway and servicing construction to facilitate future industrial development, is not anticipated to impact local existing air quality significantly.

A review of sensitive receptors surrounding the project site confirms the following:

Sensitive Receptor	***Distance Between Nearest Sensitive Receptor and Project Site***
Health Care Facility	1.8 km
Senior Citizen's Residence or Long Term Care Facility	1.8 km
Childcare Facility	2.2 km
Educational Facility	0.6 km
Dwelling	0.5 km
A place specified by the Director…as a place where discharges of a contaminant may cause a risk to human	None to our knowledge. We note that adjacent land uses are agricultural, commercial, industrial and residential.

Table 5: Sensitive Receptors Surrounding Subject Site

Given the distance between the subject site and surrounding sensitive receptors, the proposed project is not anticipated to impact local existing air quality significantly. Based upon surrounding land uses, the future construction of sensitive receptors in close proximity to the subject site is not anticipated.

Local air quality impacts during construction generally include emissions from construction vehicles and equipment. However, typical construction mitigation measures will be included within project specifications and implemented during construction to limit impacts to air quality, including but not limited to: no vehicle idling, no equipment idling, efficient and effective methodologies, efficient and effective staging.

During the project operation stage (i.e. post-construction), air quality impacts will generally include emissions from vehicular traffic. While mitigation measures related to post-construction vehicular traffic are difficult to enforce, the increased vehicular traffic associated with the road extension and future development is anticipated to be minor given the scale of the development. The growing popularity of electric and hybrid vehicles will assist in reducing emissions from vehicular traffic within the subject site and surrounding areas.

5.3.6. Cumulative Impacts

The potential cumulative impacts Alternative 1 may have on the environment were evaluated as part of this assessment and based upon comments received as part of the consultation process. Refer to Section 6.0 of this report which summarizes the consultation process undertaken.

As discussed within this report, the local development setting is comprised of existing and planned industrial facilities. As such, the implementation of Alternative 1 will facilitate planned industrial development of a limited number of industrial activities by providing the required services, including road infrastructure. Based upon the studies completed and consultation undertaken, in our opinion, completion of the proposed road extension would not generate any significant impacts to the local environment and surrounding lands, under existing and planned conditions.

Given the scale and characteristics of the project as outlined within this report, it is our opinion that the proposed road extension would not generate any significant impacts to the local or regional systems. Similarly, the proposed works align with existing planning framework and planned development within the area. Considering the foregoing, it is our opinion that Alternative 1 should not result in, or contribute to, significant cumulative impacts on the local community of Glencoe, the Municipality of Southwest Middlesex or Southwestern Ontario.

5.3.7. Conclusion

Considering the review and considerations outlined above, and provided that the recommended mitigation measures are implemented, in our opinion, the implementation of Alternative 1 should not have significant environmental impacts on the study area or the broader community.

6. Consultation Program

6.1. Consultation Plan

Guidance to encourage effective two-way consultation between proponents and project stakeholders, including Indigenous Communities, the public, review agencies and adjacent municipalities, is provided under Section A.3 of the Municipal Class EA manual. As part of this study, a consultation plan was developed to encourage effective consultation with the project stakeholders and achieve the communication objectives

outlined within Section A.3 and Appendix 5 of the Municipal Class EA manual. As part of developing the consultation plan, consideration was given to project scope, sensitivity and complexity of the alternative solutions, community characteristics, stakeholders and communication methods.

The following sections provide an overview of the consultation program conducted for this project, including a summary of comments received throughout the study process. Refer to Appendix F for copies of the circulated notices and related correspondence.

6.2. Notice of Commencement

6.2.1. Overview

The Notice of Commencement for this project was issued on June 16, 2025 with the purpose of introducing the project, purpose and intent of the assessment process, summarizing the preferred servicing plan (Alternative 1) and illustrating the location of the study area via an attached key plan.

The Notice of Commencement was mailed or e-mailed to Indigenous Communities and properties within a 200 meter radius, e-mailed to all relevant agencies and posted on the Municipal website. Two (2) Indigenous Communities (Caldwell First Nation and Chippewas of the Thames First Nations) require Notices to be submitted through their online portals which was completed on June 16, 2025.

Consultation records are included within Appendix F of this report.

6.2.2. First Nation Community Consultation

Based upon our review of First Nation communities potentially having interest in this project and/or study area, the following First Nation communities were circulated the Notice of Commencement:

- Aamjiwnaang First Nation;
- Bkejwanong (Walpole Island);
- Caldwell First Nation;
- Chippewas of Kettle and Stony Point;
- Oneida Nation of the Thames;
- Eelūnaapèewii Lahkèewiit (Delaware Nation or Moravian of the Thames);
- Munsee-Delaware Nation;
- Chippewas of the Thames First Nation; and
- Six Nations of the Grand River.

The above listing of First Nation communities potentially having interest in the project and/or study area was further supported by the MECP response to our Notice of Commencement dated July 3, 2025. The MECP's response identified the Six Nations of the Grand River as potentially having interest in the project and/or study area. As such, the Notice of Commencement was circulated to the Six Nations of the Grand River July 10, 2025.

Following issuance of the Notice of Commencement, only Caldwell First Nation and Chippewas of the Thames First Nations provided a response to our office.

Caldwell First Nation community noted that the project has been distributed. However, no further correspondence was received. Chippewas of the Thames First Nation community noted the following within their response letter:

- The proposed project is located within the Longwoods Treaty area to which Chippewas of the Thames First Nation (COTTFN) is the sole-signatory;
- The proposed project is located within the Big Bear Creek Additions to Reserve (ATR) land selection area as well as COTTFN Traditional Territory;
- Moderate concerns were identified with the information presented;
- Regular liaison and updates are required to ensure COTTFN is aware of the status of the Municipal Class EA process, design and construction stages;
- If an archaeological assessment is conducted, COTTFN must be notified for opportunity to actively participate.

As previously outlined, archaeological investigations on the subject site were performed in 2016 prior to the commencement of this Class Environmental Assessment. This past work was summarized to COTTFN in written correspondence. No further correspondence was received.

6.2.3. Agency Consultation

As outlined above, the Notice of Commencement was distributed to numerous agencies and utility providers to obtain their comments. A summary of liaison with agencies following issuance of the Notice of Commencement is provided below:

Agency/ Utility Provider Consulted	***Summary of Comments Received***	***Response to Agency Comments***
Ministry of the Environment, Conservation and Parks (MECP)	• Letter of acknowledgment provided • Noted duty to consult First Nations Groups • Outlined requirements and considerations for Class EA • Questioned distance between project site and sensitive receptors • Confirmed a qualitative air quality impact assessment is acceptable	• Confirmed all identified First Nation communities were circulated the Notice • Issued response letter to MECP confirming our approach with regards to Air Quality, Dust, Noise and Climate Change are acceptable • Confirmed distance between project site and sensitive receptors • Prepared all Class EA process and documentation in accordance with MECP requirements

Ministry of Citizenship and Multiculturalism (MCM)	• Response letter provided • Outlined requirements regarding archaeological resources, built heritage resources and cultural heritage landscapes • Outlined requirements and considerations for Class EA • Follow up correspondence confirmed a CHER is not required as the existing barn will not be impacted by proposed work but suggested Municipal Planning be consulted.	• Issued response to MCM, including confirmation of previously completed archaeological assessments. Completed MCM checklist which suggested cultural heritage studies may be required due to existing barn on the subject property.
Middlesex County	• No comments received.	• Middlesex County Planning who provide planning services to the Municipality, was subsequently consulted to confirm the existing barn does not have cultural heritage value. • No formal response provided.
Ministry of Natural Resources and Forestry	• Response letter provided • Guidance provided regarding identifying and assessing natural features and resources	• No formal response provided • Reviewed guidance and did not identify any of MNRF's interests within this project.
Lower Thames Valley Conservation Authority (LTVCA)	• Requested they are kept informed of status and provided various design documents, including Stormwater Management Report once completed.	• Response provided • Design drawings and Stormwater Management Report will be provided to LTVCA once completed. • Permit from LTVCA will be applied for once design is finalized.
Thames Sydenham Region Source Protection	• No concerns.	• No formal response provided.

Table 6: Summary of Notice of Commencement Agency Consultation

6.2.4. Public Consultation

As outlined above, the Notice of Commencement was mailed to all properties within a 200m radius from the project site and posted on the Municipality's website. Only one response was received from a local business owner acknowledging the notification. A brief response was provided to the individual.

7. Project Conclusion and Recommended Next Steps

7.1. Preferred Alternative Selection

7.1.1. Recommended Alternative

At the commencement of this assessment process, the problem statement was defined as: “The Glencoe Industrial Park cannot develop for industrial purposes, as planned, without provision of roadway access and municipal servicing”. Various alternatives were developed to address the problem statement to various degrees. As reviewed and documented through this report, all potential environmental impacts associated with Alternative No. 1 (construct the Tower Avenue road extension and provide full municipal servicing) can be adequately mitigated using the various measures described within Section 5.3 of this report. The implementation of Alternative No. 1 addresses the problem statement and is not expected to result in any environmental impacts provided that the mitigation measures outlined within this report are adhered to.

Alternative No. 1 is selected as the preferred alternative. As determined through this Class Environmental Assessment, Alternative No. 1 addresses the defined problem statement, aligns with all supporting documentation (Official Plans, Zoning By-Law, North Meadows Secondary Plan, etc.) and provided the mitigation measures are adhered to, should not result in any environmental impacts. The Municipality of Southwest Middlesex supports this recommendation and requested the issuance of the Notice of Completion as well as this Project File Report.

It is noted that during the Class EA process, including evaluation of alternatives, significant capacity constraints within the existing Graham Municipal Drain were encountered. As such, the alignment of the rear yard easement and related infrastructure to service the lots fronting Dundonald Road was revised. Storm and sanitary infrastructure initially planned for installation within the noted rear yard easement have been shortened within this easement area and ultimately run internally to the proposed storm and sanitary sewers within the proposed road allowance. This design alleviates capacity constraints and reduces the overall scope of the noted rear yard easement. Refer to the Notice of Completion which includes an updated location figure as well as appended preliminary design drawings for reference.

7.1.2. Municipal Class EA Project Schedule

Alternative No. 1 has been assessed based upon scope as well as anticipated construction costs and is categorized as a Schedule B activity. This categorization was determined based the scope being the construction of a new roadway and capital costs estimated at less than $3 million, as per the 2024 Municipal Class Environmental Assessment Manual. As such and in accordance with requirements for Schedule B categories, potential environmental impacts associated with the project and related mitigation measures have been identified and efficient consultation with the public and all stakeholders has been performed. As such, this project is considered approved following completion of the environmental screening process summarized in Figure 1. Notwithstanding, additional approvals and permits will be required following completion

of the detailed design, including but not limited to the following:

- MECP Consolidated Linear Infrastructure Environmental Compliance Approvals for all stormwater and wastewater infrastructure;
- Conservation Authority permit for stormwater infrastructure, including the stormwater management facility; and
- Fisheries and Oceans Canada approval for the stormwater management facility and related outlet to the Glencoe Outlet Municipal Drain.

Additional approvals may be required pending scope of final design.

7.1.3. Notice of Completion

The Notice of Completion defined the preferred alternative, detailed the refined study area, noted opportunities to review the Project File Report and confirmed the process to request a higher level of study for the Municipal Class EA. The notice was issued on March 10, 2026 to agencies and First Nation Communities who expressed interest in the project in response to the Notice of Commencement. We note that the notice was only sent to the one (1) local property owner who had responded to the Notice of Commencement. However, given that the notice was also posted on the Municipality's website, the public was circulated the notice.

Refer to Appendix H which includes the Notice of Completion.

The Notice of Completion comment period will conclude on April 10, 2026. The only response received was a letter from _____ dated _____ included within Appendix F. The _____ response letter provides the following comments:

- _____

7.1.4. Probable Capital Costs

As noted, the total probable cost of the project is approximately $2.8 million, excluding engineering and excluding HST. It is our understanding that the project will be funded through multiple sources, including the Southwestern Ontario Development Fund (SWODF), County Loan program and Municipal funding.

7.1.5. Anticipated Construction Schedule

Construction is anticipated for the 2026 construction season. However, construction must be staged such that in-water works do not take place between March 15 – July 15, in accordance with typical DFO timelines.

7.2. Conclusion

This project file report details the Class Environmental Assessment process carried out to evaluate the potential impacts of extending Tower Avenue in the community of Glencoe to service planned industrial development. As outlined within this report, Alternative 1 (construct the Tower Avenue road extension and provide full municipal

servicing) was determined to be the preferred alternative given that it addresses the problem statement and is not expected to result in any environmental impacts provided that the mitigation measures outlined within this report are adhered to.

Alternative No. 1 has been assessed based upon scope as well as anticipated construction costs and is categorized as a Schedule B activity. This categorization was determined based the scope being the construction of a new roadway and capital costs estimated at less than $3 million, as per the 2024 Municipal Class Environmental Assessment Manual.

Provided the mitigation measures outlined within this report are adhered to, any potential environmental impacts associated with Alternative No. 1 can be adequately alleviated and the project should proceed to tendering and construction.

SPRIET ASSOCIATES LONDON LIMITED

Prepared By:

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APPENDIX ‘A’

Geotechnical Report

Prepared by Englobe

Geotechnical Investigation Report

Glencoe Industrial Park, Glencoe, ON

Spriet Associates Architects and Consulting Engineers
Final Report

February 11, 2026
OC04.02506021.000-GS-R-0001-00

ENGLOBE

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1 General Information

Englobe Corp. (Englobe) was retained by the Spriet Associates Architects and Consulting Engineers to carry out a geotechnical investigation for the planned Glencoe industrial park to be located in Glencoe, Municipality of Southwest Middlesex, Ontario; shown on the Location Plan, Drawing 1 in Appendix A.

The proposed development consists of extending Tower Avenue by approximately 340 metres east to accommodate a new industrial park. Planned works include the installation of underground services—watermain, sanitary sewers, and storm sewers—together with the construction of a stormwater management facility and the roadway itself, complete with curbs and gutters. Based on the conceptual servicing plan, it is also noted that portions of the storm and sanitary services are to be installed within a rear yard easement. The proposed service installation depths are anticipated to be on the order of 2.6 to 3.5 m to invert for sanitary sewers with deepest service at 5.0 mbgs, 3.0 m to invert for storm sewers, and 2.0 m to invert for the watermain.

The purpose of this investigation was to explore the subsurface soil and groundwater conditions at the site. Based on the findings, we have prepared this engineering report with geotechnical recommendations for excavations and dewatering, pipe bedding, trench backfilling, and road construction including pavement design and curbs and sidewalks. In addition, chemical analyses were carried out on representative soil samples from each borehole, and the results are provided in the Englobe environment report, 02506021.0200.EN.0001.0A_DDSCR.

2 Investigation Procedure

2.1 Field Program

2.1.1 Drilling Program

The fieldwork for this investigation was performed on July 23 and 24, 2025 and involved the drilling of ten boreholes (Boreholes BH-01-25 to BH-10-25). The locations of the boreholes are shown on Drawing No. 2 in Appendix A, and the boreholes are listed on the Borehole Logs in Appendix B.

The field investigation was carried out in general conformance with the professional standards set out in the Canadian Foundation Engineering Manual (CFEM 2023, 5th Edition), applicable Ontario Regulations, and the ASTM International. The following is a summary of field investigation tasks:

- Local utility companies were contacted prior to the start of drilling activities in order to demarcate underground utilities on the site.
- The boreholes were advanced using a Diedrich D50 track mount drill rig equipped with continuous flight hollow stem augers supplied and operated by London Soil Test under the supervision of an Englobe drilling supervisor. The boreholes were logged by our geotechnical supervisor.
- Soil samples were recovered from the boreholes at regular depth intervals using a 50 mm outside diameter split spoon sampler in accordance with ASTM D1586 Standard Penetration Test (SPT) and the results are provided on the borehole logs (Appendix B).

- Combustible Soil Vapour (CSV) “headspace” readings were carried out on soil samples obtained from the boreholes using a RKI Eagle Portable-Gas Detector, Type 101, that was calibrated to hexane. The CSV readings are provided on the borehole logs (Appendix B).
- The borehole locations and ground surface elevations were surveyed by Englobe using a SX Blue Platinum Model MFREQ RTK Global Navigation Satellite System (GNSS) rover. The borehole locations were referenced to Universal Trans Mercator North American Datum of 1983 (UTM NAD83) coordinates; the zone reference (17N) has been excluded for presentation purposes. The ground surface elevations are geodetic, based on GNSS and local base station telemetry with a vertical root mean squared error of less than 20 mm.
- Groundwater measurements were taken in the open boreholes and are provided on the borehole logs (Appendix B).
- A monitoring well was installed in Borehole BH-7-25 to allow measurement of stabilized groundwater levels. The monitoring well was constructed using 50 mm diameter Trilock pipe with 1.5 m long 10 slots well screens, delivered to the site pre-cleaned in individually sealed plastic bags. The monitoring well was installed in accordance with O. Reg 903, as amended.
- The boreholes without monitoring wells were backfilled with bentonite in accordance with Ontario Regulation 903 as amended, under the Ontario Water Resources Act.

2.2 Laboratory Testing

All soil samples recovered during this investigation were returned to the Englobe laboratory for visual examination and moisture content testing on the recovered soil samples. The moisture content values are shown on the appended borehole logs and selected soil samples were submitted for particle size analyses, and Atterberg limits. Detailed descriptions and the results of the laboratory tests are provided in Appendix C and Section 3 of this report.

It is important to note that as per the standard policy of Englobe, the soil samples will be stored for a period of three months from the date of sampling. These soil samples will be discarded after three months unless prior arrangements have been made for longer storage.

3 Subsurface Conditions

The subsurface soil and groundwater conditions observed in the boreholes and the results of the field and laboratory testing are shown on the Log of Borehole sheets in Appendix B. A list of abbreviations and symbols is provided to assist in the interpretation of the borehole logs. It should be noted that the boundaries between the strata have been inferred from drilling observations and non-continuous samples. These boundaries generally represent a transition from one soil type to another and should not be inferred to represent exact planes of geological change. The subsurface conditions will vary between and beyond the locations investigated.

3.1 Soil Conditions

For the purposes of geotechnical design, the following discussion has been simplified to focus on the major soil strata. In general, the boreholes advanced at the site revealed topsoil at the ground surface, underlain by native soils consisting of Silt, Clayey Silt, Silt and Clay, Silty Clay Clayey Silt glacial till and Silt and Clay glacial till.

3.1.1 Topsoil

All boreholes were advanced on undeveloped land and observed topsoil at the ground surface. The thickness of the topsoil ranged from 50 mm to 150 mm. The topsoil generally consisted of silty and silty sandy soils. Topsoil found was brown in colour and observed to be moist at the time of drilling.

3.1.2 Silt and Clayey Silt

Silt and Clayey Silt deposits were observed beneath the topsoil in all boreholes. The thickness of these deposits varied across the site. Standard Penetration Test (SPT) N-values obtained within this stratum ranged from 7 to 20 blows per 305 mm of penetration, corresponding to relative conditions from loose/firm, and compact/very stiff. The natural moisture contents of the recovered samples ranged between 13 and 23 percent.

3.1.3 Silt and Clay, and Silty Clay

Silt and Clay, and Silty Clay deposits were observed beneath the Silt stratum in boreholes BH-01-25, BH-05-25, and BH-06-25. These deposits range in thickness from approximately 0.9 m to 1.7 m. Standard Penetration Test (SPT) N-values within these deposits varied from 9 to 21 blows per 300 mm of penetration, which is indicative of a stiff to very stiff consistency. The natural moisture contents of the recovered samples ranged between 17 and 21 percent.

3.1.4 Clayey Silt, Silt and Clay, and Silty Clay (Glacial Till)

Glacial till deposits, consisting of Clayey Silt, Silt and Clay, and Silty Clay soils, were encountered in all boreholes. All ten boreholes were terminated in the Silt and Clay glacial till stratum. Standard Penetration Test (SPT) N-values obtained in the till ranged from 11 to 26 blows per 300 mm of penetration, indicating a stiff to very stiff consistency. The natural moisture contents of the recovered samples were measured in the range of approximately 15 to 24 percent.

3.2 Groundwater

Groundwater observations and measurements carried out in the open boreholes and monitoring well installed in Borehole BH-7-25 are presented on the appended borehole logs and summarized in Table 1 below.

Table 1: Water Level Measurements

Borehole No.	Ground Surface Elevation (m)	Un-stabilized Groundwater Elevation / Depth (m)	Stabilized Groundwater Sept 15, 2025 Elevation/Depth (m)	Stabilized Groundwater Dec 18, 2025 Elevation/Depth (m)
BH-7-25/MW	218.0	-	5.3/212.6	2.05/215.95

It is important to note that the groundwater conditions described in this report refer only to those observed at the place and time of observation noted in the report. These elevations and conditions may vary locally due to seasonal fluctuations, groundwater regimes encountered at the site or as a consequence of construction activities on the site or adjacent sites.

4 Design Recommendations

4.1 Tower Avenue extension - Pavement Design

For pavement design purposes, Tower Avenue is considered a rural minor Local Road. The minimum required pavement component thicknesses as provided in the Design and Construction Standards for the Municipality of Southwest Middlesex 2021 is provided in Table 2 below.

Table 2: Township of Southwest Middlesex Minimum Pavement Component Thicknesses

Pavement Component	Structural Layer Coefficient	Drainage Coefficient	Tower Avenue (Urban Local) Thickness (mm)
Hot-Mix Asphalt	0.42	1.0	90
Granular A (Base Course)	0.14	1.0	150
Granular B (Subbase Course)	0.09	1.0	300
		Structural Number (SN)	86 mm

The Structural Number (SN) was calculated in accordance with Appendix D of the *Adoption and Verification of the AASHTO Pavement Design Guide for Ontario Conditions* (MTO MI-183). The structural layer and drainage coefficients applied in the analysis were selected from the recommendations provided in Table D-9 of MTO MI-183.

To evaluate whether the Township of Southwest Middlesex's standard pavement structures would be adequate for the extension of Tower Avenue, Englobe estimated the design traffic loading in terms of Equivalent Single Axle Loads (ESALs). As measured traffic data for this section of roadway was not available from the Township, an Average Annual Daily Traffic (AADT) of 1,000 vehicles was assumed for design purposes. The assumed AADT of 1,000 reflects anticipated future traffic volumes associated with planned roadway expansion and industrial development, including increased truck traffic over the pavement design life, and is subject to revision should updated traffic data become available. Given Tower Avenue's rural setting, an annual growth rate of two percent (2%) was adopted. On this basis, ESALs were estimated in accordance with the procedures outlined in MTO MI-183. A summary of the traffic assumptions and resulting ESAL calculations is presented in Appendix D: Traffic Data.

Traffic volumes were calculated beginning in 2026 using the assumed AADT of 1,000 vehicles, two percent (2%) annual growth, and a truck percentage of twenty percent (20%) over a 20-year pavement design life. In the absence of a detailed traffic spectrum, truck factors were estimated from typical values presented in Tables D-3 and D-4 of MTO MI-183. A truck factor of 0.78 was considered appropriate for this roadway.

Based on these assumptions, the total cumulative traffic loading over the 20-year design life is estimated at approximately **705,600** ESALs. Supporting details are provided in Appendix D.

Pavement design recommendations were developed in accordance with the *1993 AASHTO Guide for the Design of Pavement Structures*, supplemented by MTO MI-183 (*Adaptation and Verification of the AASHTO Pavement Design for Ontario Conditions*, Revised March 19, 2008) and Englobe's extensive experience with pavements of this type. For the analysis, the average resilient modulus of the subgrade was assumed to be 20 MPa, consistent with the values recommended in Table D-8 of MTO MI-183 for low-plasticity clays and compressible silts (CL, MH).

Table 3 summarizes the design parameters adopted for the structural evaluation of this roadway section.

Table 3: AASHTO Structural Analysis Parameters

Parameter	Design Values Tower Avenue
ESALs	705,600
Initial Serviceability	4.2
Terminal Serviceability	2.0
Reliability Level	85 %
Overall Standard Deviation	0.47
Estimated Resilient Modulus of Subgrade	20 MPa
Calculated Design Structural Number	**107 mm**

Based on the existing traffic levels and composition, and the assumptions and calculations outlined, the Township of Southwest Middlesex standard pavement component thicknesses (provided in Table 2) will not be sufficient for the subject roadway. A recommended design to meet the serviceability requirements for the Township of Southwest Middlesex is outlined in Table 4.

Table 4: Township of Southwest Middlesex Recommended Pavement Component Thickness

Pavement Component	Structural Layer Coefficient	Drainage Coefficient	Tower Avenue (Rural Minor Local) Thickness (mm)
Hot-Mix Asphalt	0.42	1.0	130
Granular A Base Course	0.14	1.0	150
Granular B Type I Subbase Course	0.09	1.0	400
Structural Number (SN)			**110**

4.2 Infiltration Assessment

The hydraulic conductivity of the grain-size distribution sample was evaluated using the fifteen (15) available empirical methods implemented in the spreadsheet *HydrogeoSieveXL ver. 2.2* (J.F. Devlin, University of Kansas, 2015). For the designated stormwater management facility area (BH-07-25), the calculated hydraulic conductivity is **2.2×10^{-8} cm/s**, which corresponds to an estimated factored infiltration rate of less than **10 mm/hr**.

The calculated hydraulic conductivity values and corresponding factored infiltration rates are summarized in **Table 5**.

Table 5: Hydraulic Conductivity and Factored Infiltration Rates

Borehole and Sample Number	Sample Depth (m)	Soil Classification	Hydraulic Conductivity (cm/sec)	Recommended Factored Infiltration Rate (mm/hr)
BH-07-25, Sa 8	6.1 - 6.56	CL	2.2×10^{-8}	<10

It should be noted that hydraulic conductivity and infiltration rate are distinct concepts and as such, unit conversion does not apply.

Geological conditions are inherently variable. Information about the subsurface stratigraphy is only available at discrete borehole pit locations at the time of report preparation. To develop recommendations from the available information, it is necessary to make some assumptions concerning conditions at the site. Adequate inspection should be provided during construction to check that these assumptions are reasonable.

It is the responsibility of the designer to carry out field inspections at the time of installation to confirm that the soil and groundwater conditions are consistent with the design assumptions.

5 Construction Recommendations

5.1 Servicing

5.1.1 Excavations and Dewatering

The proposed service installation depths are anticipated to be on the order of 2.6 to 3.5 m to invert for sanitary sewers with the deepest service at 5.0 mbgs, 3.0 m to invert for storm sewers, and 2.0 m to invert for the watermain.

Based on the subsurface conditions, the native soils encountered at depths between 2 to 5 m below ground surface generally consist of competent materials suitable for supporting the proposed pipe installations and associated bedding. Where localized pockets of loose or unsuitable soils are encountered beneath proposed pipe inverts, sub-excavation should be carried out to competent strata and the excavated zones replaced with approved, well-compacted granular materials, such as Granular A or Granular B Type I.

Based on the soil conditions observed in the boreholes, open-cut excavation is considered to be the most practical and cost-effective method of construction. It is further noted that no free groundwater was observed in the boreholes advanced within the proposed roadway and service easement areas. However, the silty and clayey soils encountered may produce groundwater over time, and levels could fluctuate during construction.

Temporary excavations to conventional depths for installation of underground pipes at this site must comply with the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.

The boreholes show that the excavations for the construction are expected to extend through surface topsoil, over native silt, clayey silt, silty clay, silt and clay, clayey silt (glacial till), silt and clay (glacial till), and silty clay (glacial till). As per the O.Reg 213/91, S.226, the soil at this site may be classified as shown in the Table 6 below.

Table 6: Soil Classification for Excavations

Soil Type	Above Groundwater Level	Below Groundwater Level
Silt, Clayey Silt	Type 3	Type 4
Silt and Clay, Silty Clay	Type 3	Type 4
Clayey Silt, Silt and Clay, Silty Clay (Glacial Till)	Type 2	Type 3

Where workmen must enter a trench or excavation the soil must be suitably sloped and/or braced in accordance with the regulation requirements. The regulation stipulates safe excavation slopes by soil type as Table 7.

Table 7: Safe Excavation Slope Based on Soil Type (Ontario Regulation 213/91 Occupational Health and Safety Act (OHSA))

Soil Type	Base of Slope	Steepest Slope Inclination
1	Within 1.2 metres of bottom of trench	1 horizontal to 1 vertical
2	Within 1.2 metres of bottom of trench	1 horizontal to 1 vertical
3	From bottom of trench	1 horizontal to 1 vertical
4	From bottom of trench	3 horizontal to 1 vertical

Where space limitations (from utility poles, existing underground services, or buildings) do not permit overburden cut slopes at inclinations specified above, a steeper cut slope can be employed if a trench liner box is used to protect workers. Trench box liners could also be used to minimize the size of the excavation for installation of the underground services therefore minimizing the excess soil which is removed from the site. Some ground movement adjacent to the trench is to be expected if this option is used.

It should be noted that trenchless method for the utility replacement can be an option and Englobe would be please to provide additional information if required.

Every prefabricated hydraulic or engineered support system shall be designed by a professional engineer and shall be constructed, installed, used in accordance with its design drawings and specifications (O.Reg. 213/91, s. 236).

It is anticipated that existing utility conduits, municipal services and/or gas lines will be exposed in the trenches for the new services. To ensure stability, the pipes should be properly supported in the vicinity of the excavation, and in accordance with the specific requirements of the utility provider. Englobe can provide supplementary recommendations for pipe support at specific locations if required. Precautions concerning services should be as per O.Reg. 213/91, s. 228.

5.1.2 Temporary Groundwater Control

During the field investigation, stabilized groundwater was measured at depths of 2.05 to 5.3 mbgs (Elevation 212.6 to 215.95 m) in the monitoring well installed in borehole BH-7-25. No free groundwater was observed in other boreholes; however, the silty and clayey soils encountered may produce groundwater over time, and levels could fluctuate during construction.

Proposed service installation depths are approximately 2.6 - 3.5 mbgs for sanitary sewers (deepest invert 5.0 mbgs), ~3.0 mbgs for storm sewers, and ~2.0 mbgs for the watermain. Excavations to these depths are expected to be manageable using conventional sump pumping techniques, with care taken to divert surface water from the excavation. Sump pits should be lined with geotextile filter fabric and filled completely with clean stone, with the pump inlet set within the stone. Unfiltered pumping can lead to migration of soil fines, loosening the soil and potentially causing ground surface settlement.

Moderate inflow is expected where excavations extend up to 0.5 m below the stabilized groundwater level. It is believed that this groundwater can be controlled using a gravity dewatering system with perimeter interceptor ditches and high-capacity pumps.

Excavations below 0.5 m below the stabilized groundwater may require a positive dewatering system installed by a specialist dewatering contractor to lower the groundwater level prior to excavating to maintain a safe and adequately dry excavation. Starting July 1, 2025, construction site dewatering activities that take more than 50,000 litres of groundwater, storm water or a combination of both per day will be subject to registration on the Environmental Activity and Sector Registry (EASR). Residential foundation drainage systems that are taking less than 379,000 litres of water per day will be exempt from requiring a Permit to Take Water (PTTW). More details are provided on O.Reg. 63/16 and O.Reg. 387/04.

The contractor should decide on the method and technique of dewatering to maintain a stable base and side slopes based on the factual information provided in this report. It is also recommended that prior to construction, trial test pits be dug in order to evaluate the expected groundwater inflow and to determine best means to achieve adequate dewatering.

5.1.3 Pipe Bedding

Loose silt deposits may not provide adequate long-term support for the proposed pipe installations due to the potential for post-construction settlement. All trench bases should therefore be inspected by a qualified geotechnical engineer during excavation. Where loose soils are identified beneath the pipe inverts, sub-excavation to competent material will be required. Similarly, any organic soils (e.g., topsoil) encountered at any invert elevation must be fully removed.

Sub-excavated zones should be backfilled with OPSS.MUNI 1010 Granular A, placed in maximum 200 mm lifts and compacted to at least 100% of the Standard Proctor Maximum Dry Density (SPMDD). In general, stiff to compact native mineral soils or properly compacted granular fills are considered suitable to provide long-term pipe support.

Conventional bedding and cover in accordance with Township of Southwest Middlesex standards are appropriate. A minimum 150 mm thick bedding layer of OPSS.MUNI 1010 Granular A should be provided below the pipe, together with at least 300 mm of Granular A cover above the pipe crown. Bedding and cover materials should be placed in lifts not exceeding 150 mm in thickness and compacted to a minimum of 95% SPMDD.

5.1.4 Trench Backfill

The trench above the specified pipe bedding should be backfilled with inorganic soils that are not excessively wet. The backfill should be placed in maximum 200 mm thick lifts and each lift compacted to at least 100% SPMDD. Trench backfill within 1 m of the pavement structure should be compacted to 100% SPMDD. Based on the results of insitu moisture content tests carried out on the native overburden deposits, the materials excavated from above the groundwater table will typically be suitable for reuse as trench backfill; however, this will depend on the moisture contents at the time of construction. Material for reuse should be within 2% of the optimum SPMDD moisture content. Any overly wet material may require air drying or may need to be excluded from the backfill material. Organic material (topsoil) and fill containing debris (asphalt, brick, etc.) is not considered suitable for reuse as trench backfill and if encountered, shall be separated.

If there is a shortage of on-site excavated material, then it is recommended that material meeting the specifications of OPSS.MUNI 1010 Select Subgrade Material (SSM) be imported for trench backfill.

To minimize potential problems, backfilling operations should follow closely after excavation so that only a minimal length of trench is exposed. Care should be taken to protect side slopes of excavations by diverting surface run-off away from the excavations.

If construction extends into the winter, then the backfilling operations should be planned so that exposure of the backfill material to freezing conditions is kept to a minimum and to ensure that frozen material is not used as backfill.

Frequent inspection and compaction testing by experienced geotechnical personnel should be carried out to examine and approve backfill material, and to verify that the specified degree of compaction has been achieved.

5.2 Backfilling and Reuse of Excavated Material

Backfilling of trench excavations can be accomplished by reusing the excavated soils or imported granular soil, provided the moisture content of the material is maintained within ± 2 percent of optimum and the fill is free of topsoil, organics, and any deleterious material. The lift thickness of fill placed in excavated trenches should not exceed 200 mm and be compacted to not less than 98 percent of its standard Proctor maximum dry density (SPMDD).

The soils encountered at the site may be geotechnically suitable for reuse as backfill, provided the soil is free of organic material (topsoil) and its moisture content is within ± 2 percent of the optimum moisture content. The native soils above the groundwater level are likely to be near their optimum water content for compaction, whereas those below the groundwater level will likely be wet and well above their optimum water content for compaction.

Silt, clayey silt, and glacial till soil deposits at this Site are sensitive to small changes in moisture content and thus may be difficult to compact, unless they are allowed to dry to around their optimum moisture content (which may require significant time).

Control of moisture content during placement and compaction will also be essential for maintaining adequate compaction. If any materials are found to be wet, they may be left aside to dry or mixed with drier material that is to be used as backfill. All backfill materials should be placed in thin layers (200 mm thick or less) and compacted by a heavy, smooth-type roller to 98 percent of SPMDD.

All backfill operations and materials should be inspected and tested by qualified geotechnical personnel to confirm that proper material is utilized, and that adequate compaction is attained.

5.3 Surface Works

5.3.1 Curbs and Sidewalks

The concrete for sidewalks and curbs should be proportioned, mixed, placed, and cured in accordance with the requirements of Township of Southwest Middlesex Standard Specifications for Curb and Sidewalk, OPSS 353 for curbs and OPSS 351 for concrete sidewalks as well as CSA A23.1 and A23.2.

If new sidewalks are to be provided, the subgrade should comprise undisturbed native mineral soil or well-compacted fill. A minimum 150 mm thick layer of OPSS.MUNI 1010 Granular A type aggregate compacted to 100% SPMDD should be placed beneath the sidewalk slabs.

During cold weather, freshly placed concrete must be covered with insulating blankets to protect against freezing. It is recommended that a minimum of three cylinders from each day's pour should be taken for compressive strength testing. Air entrainment, temperature, and slump tests should be made from the same batch of concrete from which test cylinders are made.

5.3.2 Pavement Construction Recommendations

Following installation of the new services, the roadway will be constructed. Any existing organic soil and loose soils should be removed from below the pavement areas and if required, grades should be raised with approved on-site inorganic soils or imported granular materials. Subgrade fill and SSM for the roadways should be placed in maximum 200 mm thick lifts and compacted to at least 98% SPMDD, if greater than 1 m below the top of subgrade, and 100% SPMDD within the top 1 m of the subgrade.

The recommended pavement design, as outlined in Section 4.1 is provided in Table 8:

Table 8: Recommended Pavement Component Thicknesses

Pavement Component	Tower Avenue, Township of Southwest Minimum Middlesex Structure	Tower Avenue, Recommended Structure
HL3 Surface Course (mm)	40	50
HL8 Binder Course (mm)	50	80
Granular A Base Course (mm)	150	150
Granular B Type I Subbase Course (mm)	300	400
Total Depth (mm)	540	680

Prior to undertaking any pavement construction work, the roadway drainage and sub-drainage should be carefully assessed, noting that provision of proper drainage is fundamental to the performance of the roadway to mitigate frost-related movements and minimize seasonal loss of subgrade support (subgrade softening in spring). All subdrains should be located below the lowest elevation of granular material in the road base. Pavements should be provided with a continuous centre-to-edge cross fall of 3 percent at top of subgrade and 2 percent for granular layers.

Following construction of the services and preparation of the subgrade, the pavement reconstruction should be carried out in general accordance with Township of Southwest Middlesex guidelines, as follows:

Englobe recommended structure:

- The prepared subgrade should be proof-rolled in the presence of a qualified representative of a geotechnical engineering firm to check for weak spots and any soft or wet spots or other obviously objectionable materials (such as organic material, construction debris, etc.) should be sub-excavated and properly replaced with suitable, approved material;
- Install pavement subdrains in accordance with Township of Southwest Middlesex standards, OPSD 216.03;
- Construct the pavement subbase with 400 mm of OPSS.MUNI 1010 Granular B Type I and compact in lifts not exceeding 200 mm in loose thickness to 100% SPMDD;
- Construct the pavement base with 150 mm of OPSS.MUNI 1010 Granular A and compact to 100% SPMDD; and,
- Place two lifts of hot-mix asphalt: one 80-mm lift of OPSS 1150 HL 8 binder, and one 50-mm lift of OPSS 1150 HL 3 surface course, and compact in conformance with OPSS 310 requirements.

It is recommended that PG 58-28 be used in both the OPSS 1150 HL 8 binder course and HL 3 surface course hot-mix asphalt layers for this project. Performance graded asphalt cement (PGAC) PG 58-28 should conform to OPSS 1101 requirements.

A tack coat is recommended between all hot-mix asphalt layers.

Appropriate quality control/quality assurance laboratory and field testing of the pavement structure components (granular base and subbase and hot-mix asphalt) should be conducted. Compaction testing of the hot-mix asphalt should be carried out at the time of placement.

Englobe recommends that the surface course hot mix asphalt should be placed as soon as possible following placement of the binder course to ensure that the full pavement strength is available before regular traffic is allowed on the newly constructed roadway.

A joint transition treatment will be necessary where old and new pavement layers abut. Provided the existing pavement is 100 mm thick or greater, the recommended transition treatment consists of milling the existing surface layer approximately 300 mm wide and 50 mm deep to provide better pavement tie-in to adjacent new asphalt pavement structure.

It is recommended that all construction joints at the ends of the pavement be cleaned with stiff bristle brooms and compressed air to remove all dust, dirt and other foreign matter. A tack coat should be applied to all construction joints prior to the placement of hot-mix asphalt to ensure an adequate bond between the old and new pavements.

Systematic routine preventative maintenance is strongly recommended for all newly reconstructed or rehabilitated pavements. Crack routing and sealing will generally be required within 2 to 3 years of rehabilitation/construction. As the pavements ages, it will also be necessary to patch areas of medium to high severity distresses (i.e. potholes, ravelling). In some cases, routine maintenance may be considered to extend the life of an existing section by several years. For example, spray patching may be carried out to retard water infiltration at edge crack locations.

All pavement construction, rehabilitation and maintenance work should only be completed during periods of favourable weather. The Englobe pavement design recommendations are contingent upon provision of a consistently competent, stable subgrade that is properly drained and free of soft spots and objectionable materials (such as organic material) and is capable of supporting the design traffic loads.

5.4 Construction Inspection and Testing

5.4.1 Materials Testing and Inspections

It is recommended that geotechnical inspections, compaction testing, asphalt testing and concrete testing be carried out per Minimum testing requirements provided in the Design and Construction Standards 2021 by Township of Southwest Middlesex.

Appropriate laboratory and field testing of the pavement structure components (granulars and hot-mix asphalt) should be conducted, as well as concrete testing for the curbs and sidewalks. Compaction testing of the hot-mix asphalt should be carried out at the time of placement. Mix designs for the concrete materials and hot-mix asphalt should be reviewed for suitability and specification compliance at least two weeks prior to production and placement.

Concrete to be tested in accordance with the requirements of CSA A23.1 and A23.2. Field sampling and testing of concrete shall be according to OPSS 1350 MUNI.

The need for continuous repair work and paving supervision by a pavement inspector and quality assurance testing during pavement rehabilitation/construction projects cannot be over emphasized. It is also recommended that an annual maintenance program including localized repairs and crack sealing be implemented to ensure that the pavements are maintained at a suitable level.

5.4.2 Construction Vibrations

Given the proximity of residences to the project, it is recommended that the contractor conduct a pre-construction condition survey of the properties and buildings along the subject corridor and notify the residents of the likelihood of construction vibrations prior to the start of construction and dewatering activities. The contractor should adjust the amplitude and frequency of the compaction equipment, as well as keep layer thicknesses to a minimum such that the appropriate compaction can be achieved without excess vibration.

6 Statement of Limitations

The analyses and recommendations provided in this report are based on field measurements and observations made by Englobe technical staff.

The geotechnical recommendations provided in this report are applicable only to the project described in the text and then only if constructed substantially in accordance with the details stated in this report. Since all details of the design may not be known at the time of report preparation, we recommend that we be retained during the final design stage to verify that the geotechnical recommendations have been correctly interpreted in the design. Also, if any further clarification and/or elaboration are needed concerning the geotechnical aspects of the project, Englobe should be contacted. We recommend that we be retained during construction to confirm that the subsurface conditions do not deviate materially from those encountered in the test holes and to ensure that our recommendations are properly understood.

The geotechnical recommendations provided in this report are intended for the use of the owner and its retained designer. They are not intended as specifications or instructions to contractors. Any use which a contractor makes of this report, or decisions made based on it, are the responsibility of the contractor. The contractor must also accept the responsibility for means and methods of construction, seek additional information if required, and draw their own conclusions as to how the subsurface conditions may affect their work. Englobe accepts no responsibility and denies any liability whatsoever for any damages arising from improper or unauthorized use of the report or parts thereof.

It is important to note that the geotechnical investigation involves a limited sampling of the site gathered at specific test hole locations and the conclusions in this report are based on this information gathered. The subsurface geotechnical, hydrogeological, environmental and geologic conditions between and beyond the test holes will differ from those encountered at the test holes. Also, such conditions are not uniform and can vary over time. Should subsurface conditions be encountered which differ materially from those indicated at the test holes, we request that we be notified in order to assess the additional information and determine whether or not changes should be made as a result of the conditions.

It is noted that the borehole locations and chemical analysis performed were selected based on a limited review of the site history and observation of the site and subsurface conditions.

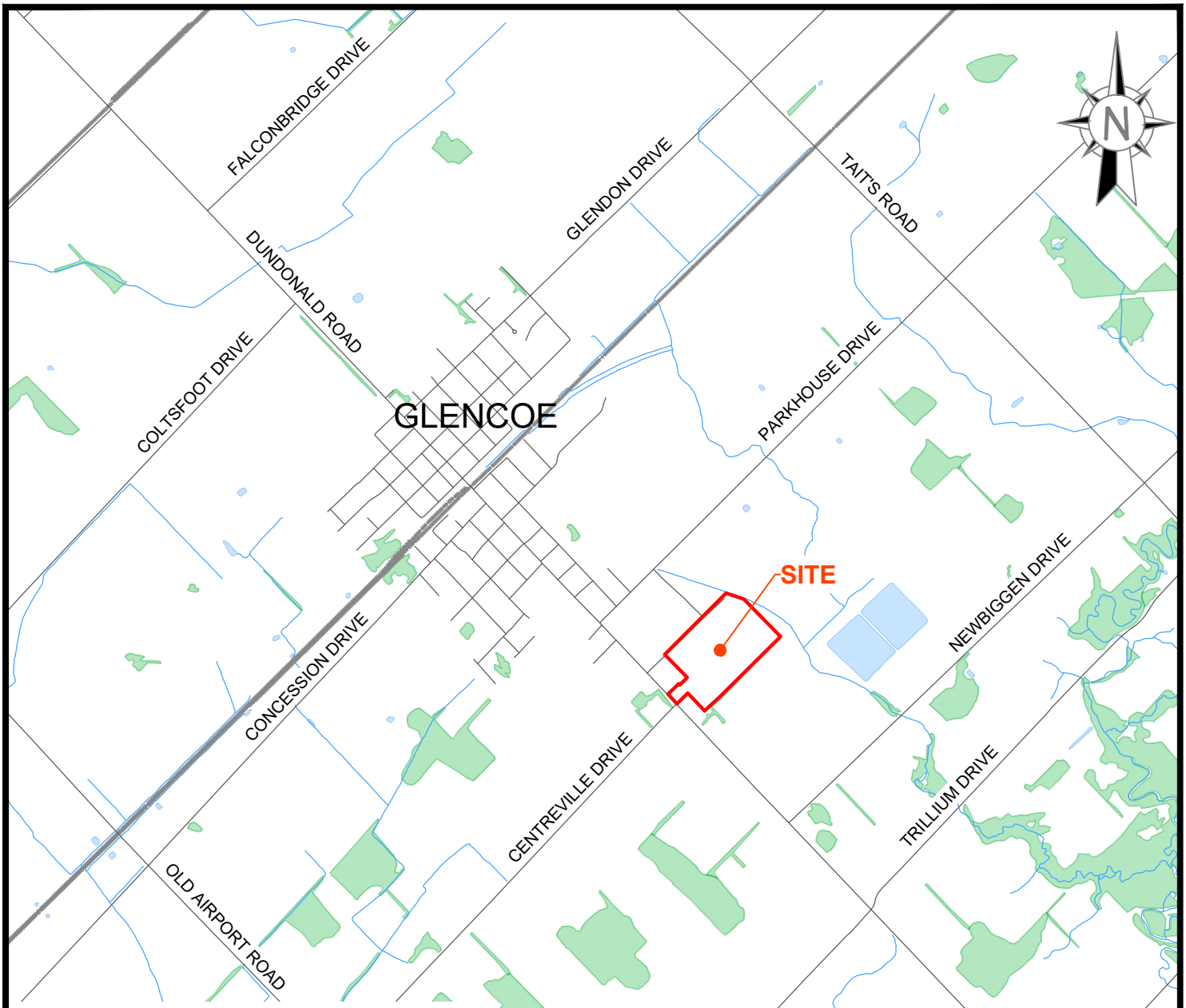
The chemical testing program was designed to identify the presence of the contaminants considered most likely to be encountered and did not include all possible contaminants and conditions. The analytical test results are assumed correct and performed according to all current regulations. No audit of laboratory methods or procedures was performed; however, the laboratory conducts its own Quality Assurance/Quality Control for certification activities.

Appendix A
Drawings

Drawing 1: Location Plan

Drawing 2: Site Plan

ENGLOBE



NOTES:

1. **REFERENCES: ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY; LAND INFORMATION ONTARIO.**
2. **Drawing scale may be distorted due to file conversion and/or copying. Measurements taken from the drawing must be verified in the field.**

This document must be used jointly with the recommendations formulated in the geotechnical study report

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Client

Spriet Associates Architects and Consulting Engineers

Project

Glencoe Industrial Park, Glencoe, ON

99 Industrial Road, Glencoe, ON

Title

Site Plan

Englobe Corp.
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London, ON N6E 3T6
T 519 685-6400
F 519 685-0943

Discipline: Geosciences		Prepared by: LK	Checked by: MH
Scale: 1:30 000		Drawn by: LK	Approved by: ZB
Date: 17/09/2025		Figure N°: 01 of 02	
Page setup: 0001	Paper Format: ANSI full bleed A (8.50 x 11.00 Inches)	Register N°:	

Resp.	Project	Phase	Disc.	Type	Drawing N°	Rev.
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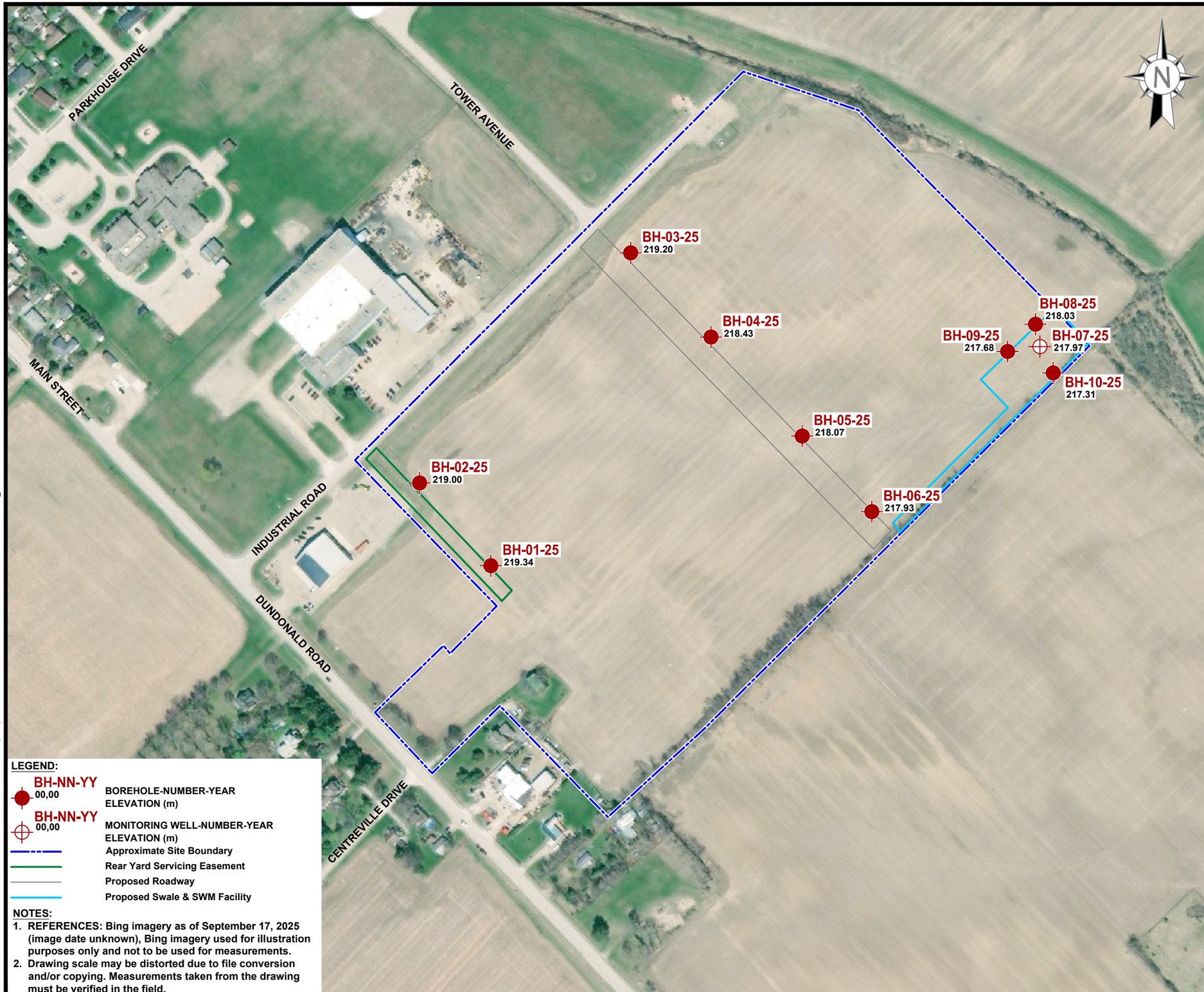

LEGEND:

- BH-NN-YY 00,00 — BOREHOLE-NUMBER-YEAR ELEVATION (m)
- BH-NN-YY 00,00 — MONITORING WELL-NUMBER-YEAR ELEVATION (m)
- Approximate Site Boundary
- Rear Yard Servicing Easement
- Proposed Roadway
- Proposed Swale & SWM Facility

NOTES:

1. REFERENCES: Bing imagery as of September 17, 2025 (image date unknown), Bing imagery used for illustration purposes only and not to be used for measurements.
2. Drawing scale may be distorted due to file conversion and/or copying. Measurements taken from the drawing must be verified in the field.

This document must be used jointly with the recommendations formulated in the geotechnical study report

No.	Version	Date	By	Check	Appr.
XX	REVISION	JJ/MM/AA	XX	XX	XX

Seal

Scale

0 10 20 30 50 75 100 150 m

1:3 000

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Client

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F 519 685-0943

Project

Glencoe Industrial Park, Glencoe, ON

99 Industrial Road, Glencoe, ON

Title

Borehole Location Plan

Discipline: Geosciences		Prepared by: LK	Checked by: MH
Scale: 1:3 000		Drawn by: LK	Approved by: ZB
Date: 17/09/2025		Figure N°: 02 of 02	
Page setup: 0002	Paper format: ANSI full bleed B (17,00 x 11,00 Inches)	Register N°:	

Resp.	Project	Phase	Disc.	Type	Drawing N°	Rev.
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Appendix B
Borehole Logs

List of Abbreviations

Boreholes BH-01-25 to BH-10-25

ENGLOBE

List of Abbreviations

The abbreviations commonly employed on the borehole logs, on the figures, and in the text of the report, are as follows:

Sample Types		Soil Test and Properties	
AS	Auger Sample	SPT	Standard Penetration Test
CS	Core Sample	UC	Unconfined Compression
RC	Rock Core	FV	Field Vane Test
SS	Split Spoon	ø	Angle of internal friction
TW	Thinwall, Open	γ	Unit weight
WS	Wash Sample	W_p	Plastic Limit
BS	Bulk Sample	w	Water content
GS	Grab Sample	W_L	Liquid Limit
WC	Water Content Sample	I_L	Liquidity Index
TP	Thinwall, Piston	I_p	Plastic Index
		PP	Pocket Penetrometer

Penetration Resistances	
Dynamic Penetration Resistance	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.) diameter 60˚ cone a distance 300 mm (12 in.) The cone is attached to 'A' size drill rods and casing is not used.
Standard Penetration Resistance, N (ASTM D1586)	The number of blows by a 63.5 kg (140 lb.) hammer dropped 760 mm (30 in.) required to drive a standard split spoon sampler 300 mm (12 in.)
WH	Sampler advanced by weight of hammer
PH	Sampler advanced by hydraulic pressure
PM	Sampler advanced by manual pressure

Soil Description		
Cohesionless Soils Compactness Condition	**SPT N-Value** (blows per 0.3 m)	**Relative Density (D_r** (%)
Very Loose	0 to 4	0 to 20
Loose	4 to 10	20 to 40
Compact	10 to 30	40 to 60
Dense	30 to 50	60 to 80
Very Dense	Over 50	80 to 100
Cohesive Soils Consistency	**Undrained Shear Strength (C_u kPa**	**psf**
Very Soft	Less than 12	Less than 250
Soft	12 to 25	250 to 500
Firm	25 to 50	500 to 1000
Stiff	50 to 100	1000 to 2000
Very Stiff	100 to 200	2000 to 4000
Hard	over 200	over 4000
DTPL	Drier than plastic limit	Low Plasticity, W_L<30
APL	About plastic limit	Medium Plasticity, 30< W_L<50
WTPL	Wetter than plastic limit	High Plasticity, W_L>50

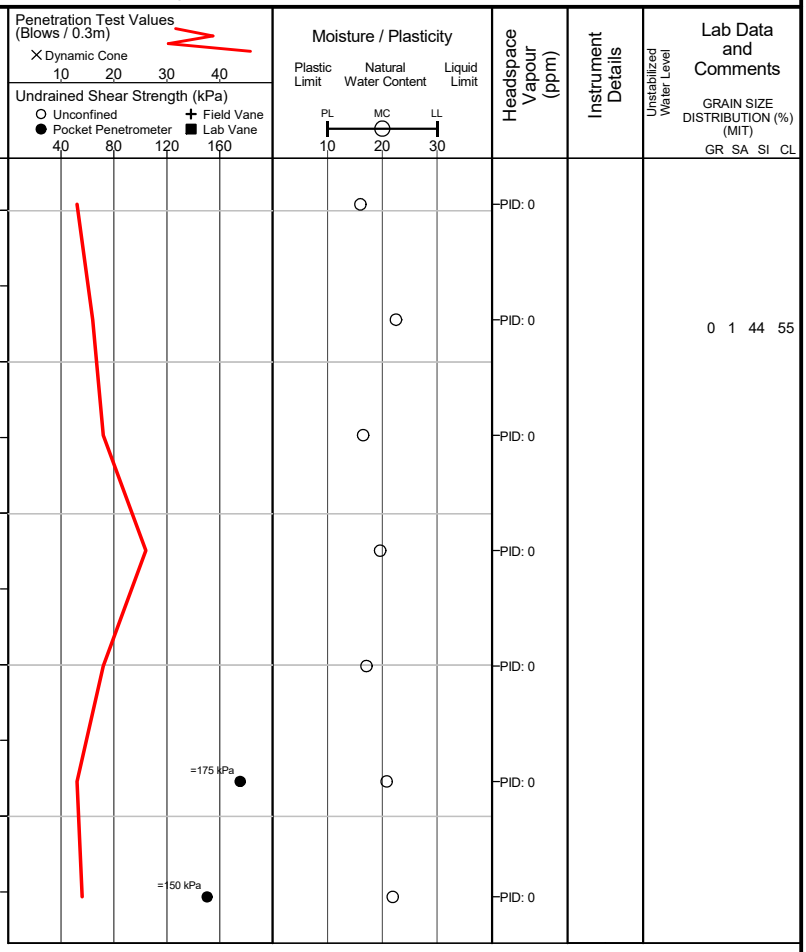
LOG OF BH-01-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 23	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732058, N: 442974 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value	Headspace Vapour (ppm)	Lab Data and Comments (GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL)
219.3	**GROUND SURFACE**					
219.1 / 0.2	150mm **TOPSOIL**, Silty Sand, brown, very moist	1	SS	13	PID: 0	
218.7 / 0.6	**SILT**, some clay, trace sand, rootlets, compact, brown, very moist					
	SILT AND CLAY, trace sand, very stiff, brown, very moist	2	SS	16	PID: 0	0 1 44 55
		3	SS	18	PID: 0	
217.2 / 2.1	**CLAYEY SILT**, trace gravel, very stiff, brown, very moist (GLACIAL TILL)	4	SS	26	PID: 0	
		5	SS	18	PID: 0	
215.5 / 3.8	**SILT AND CLAY**, trace gravel, stiff, grey, very moist (GLACIAL TILL)	6	SS	13	PID: 0	
		7	SS	14	PID: 0	
214.1 / 5.2						



END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02506021.000 - bh logs.gpj

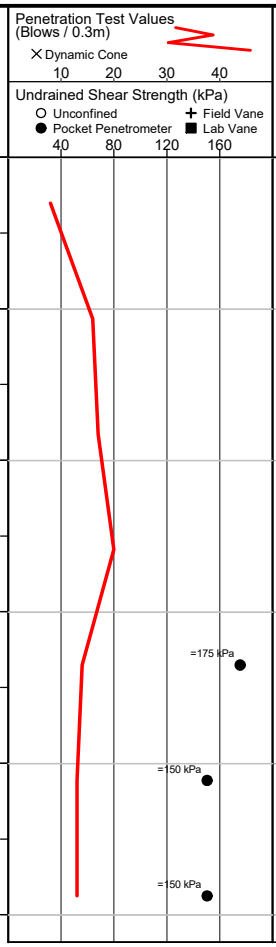
LOG OF BH-02-25

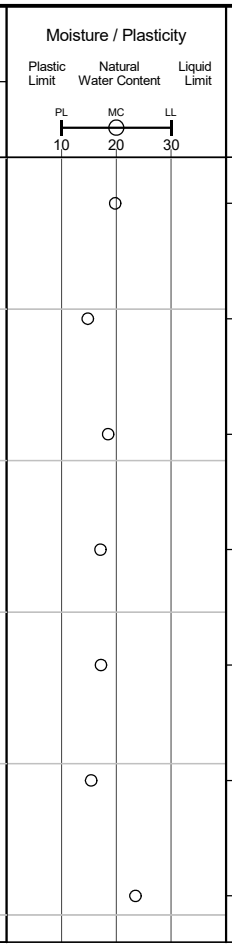
Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 23	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732123, N: 442918 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)	Headspace Vapour (ppm)	Lab Data and Comments (GR SA SI CL)
219.0	**GROUND SURFACE**					219		
218.8 / 0.2	130mm **TOPSOIL**, Silty, brown, very moist		1	SS	8		PID: 0	
	SILT, some clay, trace sand, rootlets, loose, brown, very moist							
218.2 / 0.8	**CLAYEY SILT**, with clay seams, very stiff, brown, very moist		2	SS	16	218	PID: 0	
217.5 / 1.5	**CLAYEY SILT**, trace gravel, very stiff, brown, very moist (GLACIAL TILL)		3	SS	17	217	PID: 0	
			4	SS	20		PID: 0	
216.0 / 3.0	**SILT AND CLAY**, trace gravel, stiff, grey, very moist (GLACIAL TILL)		5	SS	14	216	PID: 0	
			6	SS	13	215	PID: 0	
			7	SS	13	214	PID: 0	0 2 47 51
213.8 / 5.2								





END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02506021.000 - bh logs.gpj

LOG OF BH-03-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 23	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732303, N: 443083 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value	Headspace Vapour (ppm)	Lab Data and Comments (GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL)
219.2	**GROUND SURFACE**					
219.0 / 0.2	130mm **TOPSOIL**, Silty, brown, very moist					
	SILT, some clay, some sand, rootlets, compact, brown, very moist	1	SS	16	PID: 0	
		2	SS	17	PID: 0	
217.7 / 1.5	**CLAYEY SILT**, very stiff, brown, very moist	3	SS	20	PID: 0	
216.9 / 2.3	**CLAYEY SILT**, trace gravel, very stiff, brown, very moist (GLACIAL TILL)	4	SS	25	PID: 0	
		5	SS	18	PID: 0	
215.4 / 3.8	**SILT AND CLAY**, trace gravel, trace sand, stiff, grey, very moist (GLACIAL TILL)	6	SS	12	PID: 0	
		7	SS	11	PID: 0	3 6 53 38
214.0 / 5.2	**END OF BOREHOLE**					

Depth Scale (m): 0, 1, 2, 3, 4, 5

Elevation Scale (m): 219, 218, 217, 216, 215

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

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane; 40 80 120 160; =125 kPa

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

Unstabilized Water Level

Instrument Details

Borehole was dry and open upon completion of drilling.

file: 02506021.000 - bh logs.gpj

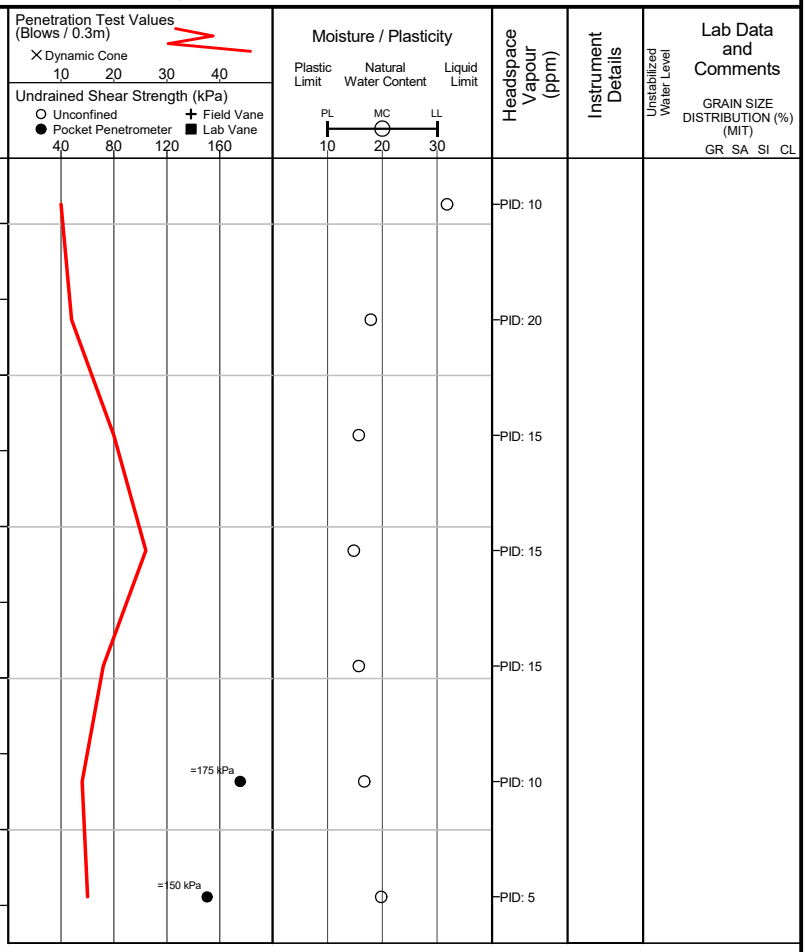
LOG OF BH-04-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 23	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732237, N: 443146 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value
218.4	**GROUND SURFACE**			
218.2 / 0.2	130mm **TOPSOIL**, Silty, brown, very moist	1	SS	10
217.8 / 0.6	**SILT**, some sand, some clay, rootlets, loose / compact, brown, very moist			
	CLAYEY SILT, with clay seams, very stiff, brown, very moist	2	SS	12
216.9 / 1.5	**CLAYEY SILT**, trace gravel, very stiff, brown to grey, very moist (GLACIAL TILL)	3	SS	20
		4	SS	26
		5	SS	18
214.6 / 3.8	**SILTY CLAY**, trace gravel, stiff, grey, very moist (GLACIAL TILL)	6	SS	14
		7	SS	15
213.2 / 5.2				



END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02506021.000 - bh logs.gpj

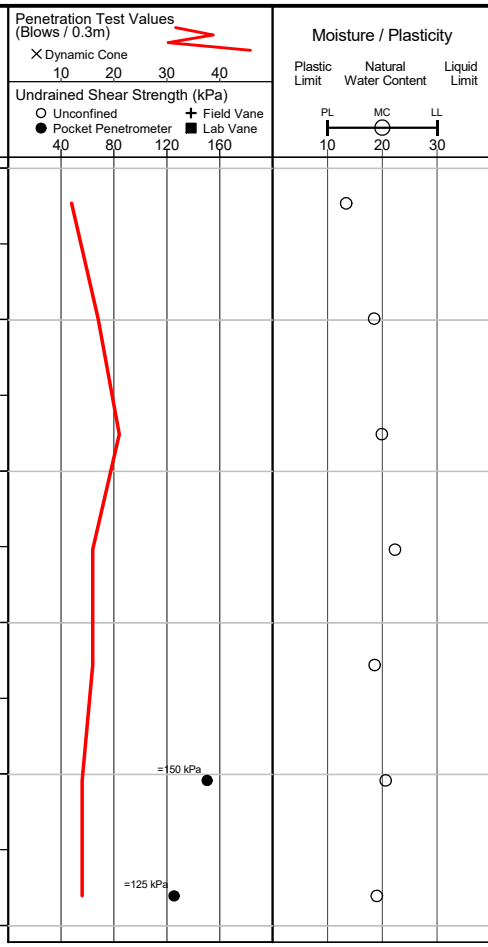
LOG OF BH-05-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 23	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732159, N: 443217 (UTM 17T) — Elevation Datum : Geodetic

Rig type : D50, track-mounted — Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value	Headspace Vapour (ppm)	Lab Data and Comments (GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL)
218.1	**GROUND SURFACE**					
	105mm **TOPSOIL**, Silty, brown, moist					
	SILT, trace sand, rootlets, compact, brown, very moist	1	SS	12	PID: 0	
217.5 / 0.6	**SILT AND CLAY**, trace sand, with clay seams, very stiff, brown, very moist	2	SS	17	PID: 0	0 5 55 40
		3	SS	21	PID: 0	
215.8 / 2.3	**CLAYEY SILT**, trace gravel, trace sand, very stiff, brown, very moist (GLACIAL TILL)	4	SS	16	PID: 0	
		5	SS	16	PID: 0	
214.3 / 3.8	**SILT AND CLAY**, trace gravel, trace sand, stiff, grey, very moist (GLACIAL TILL)	6	SS	14	PID: 0	
		7	SS	14	PID: 0	
212.9 / 5.2						



END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02506021.000 - bh logs.gpj

LOG OF BH-06-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 23	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732100, N: 443272 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value	Elevation (m)	Headspace Vapour (ppm)
217.9	**GROUND SURFACE**					
	Brown **SILT**, some clay, trace sand, rootlets, loose, brown, very moist	1	SS	9		PID: 0
217.3 / 0.6	**SILTY CLAY**, stiff, brown, very moist	2	SS	9	217	PID: 0
216.4 / 1.5	**CLAYEY SILT**, with clay seams, stiff / very stiff, brown, very moist	3	SS	15	216	PID: 0
215.6 / 2.3	**CLAYEY SILT**, trace gravel, very stiff, brown to grey, very moist (GLACIAL TILL)	4	SS	17		PID: 0
		5	SS	16	215	PID: 0
214.1 / 3.8	**SILT AND CLAY**, trace gravel, stiff, grey, very moist (GLACIAL TILL)	6	SS	13	214	PID: 0
		7	SS	14	213	PID: 0
212.7 / 5.2						

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

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

=175 kPa

=175 kPa

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

Instrument Details

Unstabilized Water Level

Lab Data and Comments

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

END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02506021.000 - bh logs.gpj

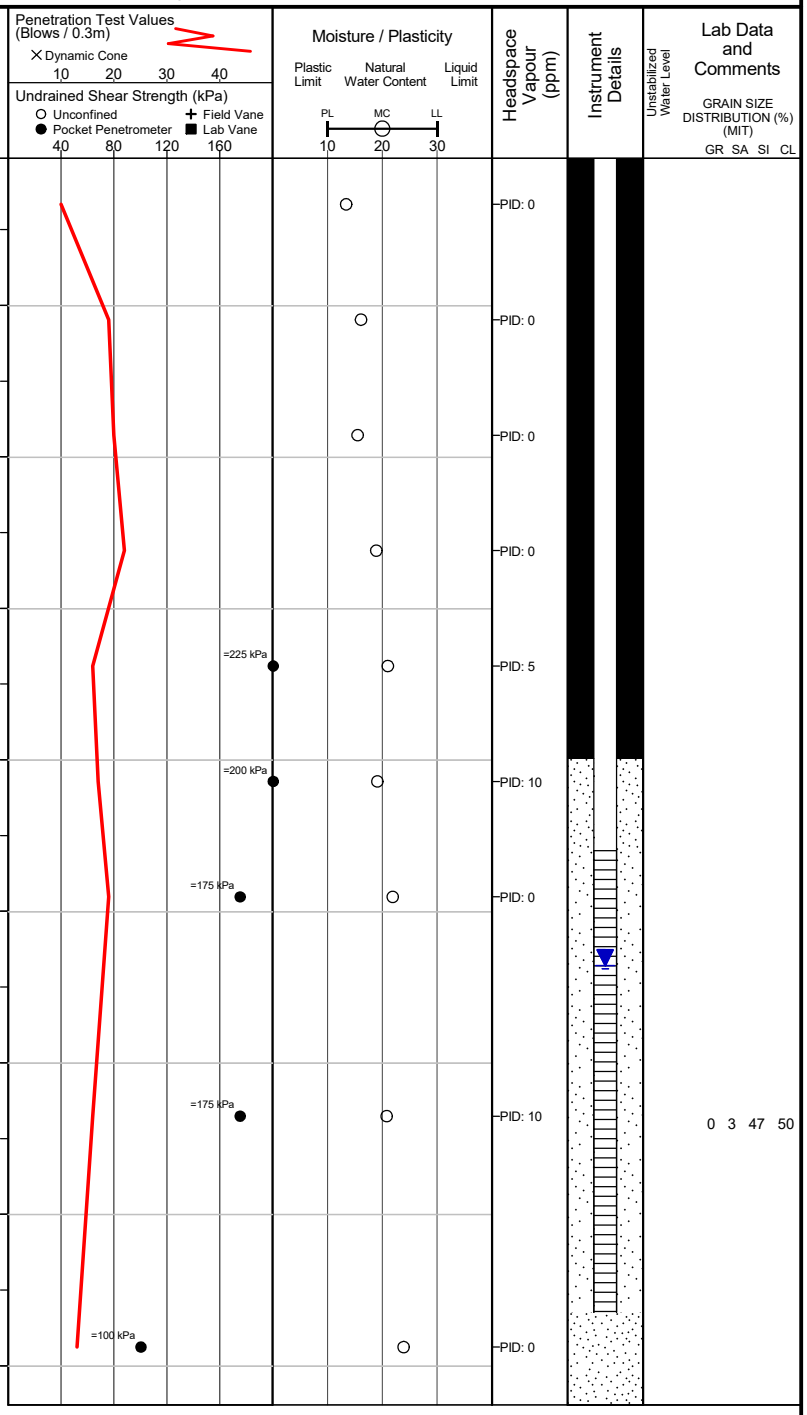
LOG OF BH-07-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 24	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732229, N: 443403 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value
218.0	**GROUND SURFACE**			
	105mm **TOPSOIL**, Silty, brown, very moist	1	SS	10
217.4 / 0.6	**SILT**, some clay, trace sand, rootlets, loose to compact, brown, very moist			
	CLAYEY SILT, with clay seams, very stiff, brown, very moist	2	SS	19
216.5 / 1.5	**CLAYEY SILT**, trace gravel, very stiff, brown, very moist (GLACIAL TILL)	3	SS	20
		4	SS	22
215.0 / 3.0	**SILT AND CLAY**, trace gravel, trace sand, very stiff, brown, very moist (GLACIAL TILL)	5	SS	16
		6	SS	17
		7	SS	19
	...brown to grey	8	SS	16
	...stiff	9	SS	13
209.8 / 8.2	**END OF BOREHOLE**			



Borehole was dry and open upon completion of drilling.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Sep 18, 2025	5.3	212.6

file: 02506021.000 - bh logs.gpj

LOG OF BH-08-25

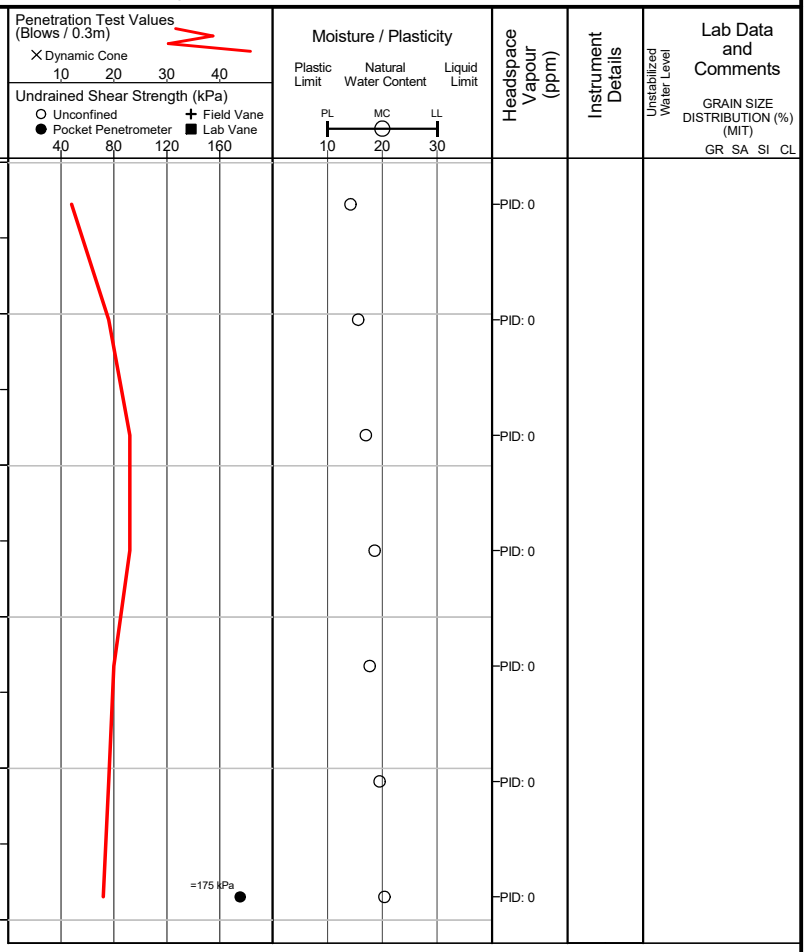
Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 24	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732247, N: 443400 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value
218.0	**GROUND SURFACE**			
	105mm **TOPSOIL**, Silty, brown, moist			
	SILT, trace to some clay, rootlets, compact, brown, very moist	1	SS	12
217.4 / 0.6	**CLAYEY SILT**, very stiff, brown, very moist	2	SS	19
216.5 / 1.5	**CLAYEY SILT**, trace gravel, very stiff, brown, very moist (GLACIAL TILL)	3	SS	23
		4	SS	23
		5	SS	20
214.2 / 3.8	**SILT AND CLAY**, trace gravel, very stiff, brown, very moist (GLACIAL TILL)	6	SS	19
		7	SS	18
212.8 / 5.2	**END OF BOREHOLE**			

Borehole was dry and open upon completion of drilling.



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LOG OF BH-09-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 24	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732226, N: 443378 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Number	Type	SPT 'N' Value	Headspace Vapour (ppm)
217.7	**GROUND SURFACE**				
	75mm **TOPSOIL**, Silty, brown , very moist	1	SS	11	PID: 0
217.1 / 0.6	**SILT**, trace to some clay, rootlets, compact, brown, very moist				
	CLAYEY SILT, with clay seams, very stiff, brown, very moist	2	SS	17	PID: 0
216.2 / 1.5	**CLAYEY SILT**, trace gravel, with clay seams, very stiff, brown, very moist (GLACIAL TILL)	3	SS	19	PID: 0
		4	SS	20	PID: 0
		5	SS	22	PID: 0
213.9 / 3.8	**SILT AND CLAY**, trace gravel, very stiff, grey, very moist (GLACIAL TILL)	6	SS	16	PID: 0
212.5 / 5.2		7	SS	18	PID: 0

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

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

=175 kPa

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

Elevation Scale (m): 217, 216, 215, 214, 213

Depth Scale (m): 0, 1, 2, 3, 4, 5

Instrument Details

Unstabilized Water Level

Lab Data and Comments

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

END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02506021.000 - bh logs.gpj

LOG OF BH-10-25

Project No.	: 02506021.000	Client	: Spriet Associates Architects and Consulting Engineers	Originated by	: BT
Date started	: 2025 July 24	Project	: Glencoe Industrial Park, Glencoe, ON	Compiled by	: LK
Sheet No.	: 1 of 1	Location	: 99 Industrial Road, Glencoe, ON	Checked by	: MH

Position : E: 4732209, N: 443414 (UTM 17T) Elevation Datum : Geodetic

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Moisture / Plasticity	Headspace Vapour (ppm)	Instrument Details	Lab Data and Comments
217.3	**GROUND SURFACE**										
	50mm **TOPSOIL**, Silty, brown, moist										
	SILT, some clay, rootlets, loose, brown, very moist		1	SS	7	217			PID: 0		
216.7 / 0.6	**CLAYEY SILT**, trace gravel, trace sand, with clay seams, stiff to very stiff, brown, very moist (GLACIAL TILL)		2	SS	11	216			PID: 0		
			3	SS	21	215			PID: 0		
			4	SS	19	214			PID: 0		
			5	SS	20	213			PID: 0		
213.5 / 3.8	**SILT AND CLAY**, trace gravel, very stiff, grey, very moist (GLACIAL TILL)		6	SS	17		>225 kPa		PID: 0		
			7	SS	21		=225 kPa		PID: 0		
212.1 / 5.2	**END OF BOREHOLE**										

Borehole was dry and open upon completion of drilling.

Appendix C
Geotechnical Lab Results

Figures 1 to 3, 5 and 6: Particle Size Analysis

Figure 4: Atterberg limits

ENGLOBE

GRAIN SIZE AND HYDROMETER ANALYSIS REPORT
LS-602, 702 & 703/704

Project Number:	02506021	Project Name:	Glencoe Industrial Park	Client:	Spriet Associates London Limited
ROS:	2604	Sample ID:	Borehole 01, Sample 2	Sample Depth:	0.76 - 1.22m
Sampled By:	Englobe	Date Received:	July 30, 2025	Date Completed:	August 9, 2025
File Number:	04-02506021.000.MT-SH-001-00			Englobe Laboratory	London

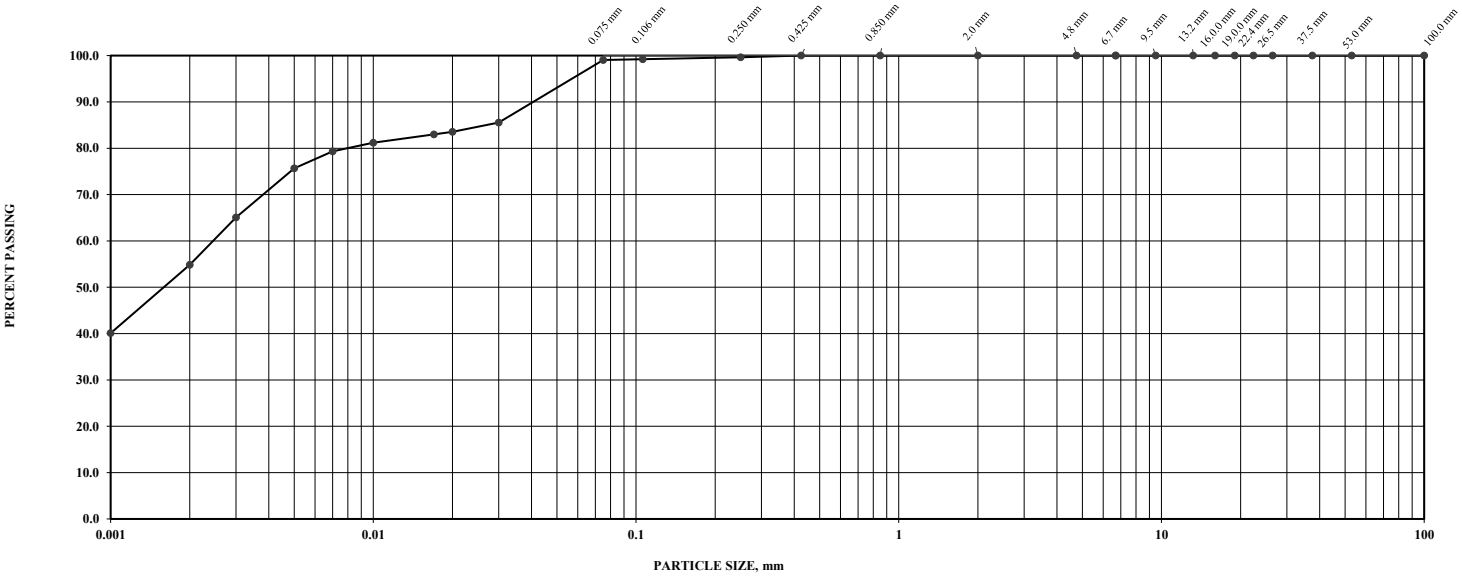
PARTICLE SIZE DISTRIBUTION, MTO LS-702

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	GRAVEL

UNIFIED SOILS CLASSIFICATION ASTM D 2487

FINES (SILT & CLAY)	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	COARSE GRAVEL



Coefficients

D60	0.003	D30		D10		Cc		Cu	

Sieve Analysis		Hydrometer Analysis	
Sieve Size, mm	% Passing	Diameter, mm	% Passing
53	100.0	0.030	85.6
37.5	100.0	0.020	83.5
26.5	100.0	0.017	83.0
22.4	100.0	0.010	81.2
19	100.0	0.007	79.3
16	100.0	0.005	75.7
13.2	100.0	0.002	54.8
9.5	100.0	0.001	40.1
6.7	100.0	Atterberg Limits	
4.75	100.0		
2.00	100.0	Liquid Limit	
0.850	100.0		
0.425	100.0	Plastic Limit	
0.250	99.6		
0.106	99.2	Plastic Index	
0.075	99.0		

GRAIN SIZE PROPORTIONS, %	
% Gravel (> 4.75 mm):	
% Sand (75 µm to 4.75 mm):	1.0
% Silt (2 µm to 75 µm):	44.2
% Clay (<2 µm):	54.8
Group Symbol / Soil Description	SILT and CLAY, trace Sand
Remarks	

Figure: 1

Tested By: Nurudeen Makanjuola, Laboratory Technician

Reviewed By: David McBay, CET.-Laboratory Supervisor

Date: August 14, 2025

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.

GRAIN SIZE AND HYDROMETER ANALYSIS REPORT
LS-602, 702 & 703/704

Project Number:	02506021	Project Name:	Glencoe Industrial Park	Client:	Spriet Associates London Limited
ROS:	2605	Sample ID:	Borehole 02, Sample 7	Sample Depth:	4.58 - 5.03m
Sampled By:	Englobe	Date Received:	July 30, 2025	Date Completed:	August 9, 2025
File Number:	04-02506021.000.MT-SH-002-00			Englobe Laboratory	London

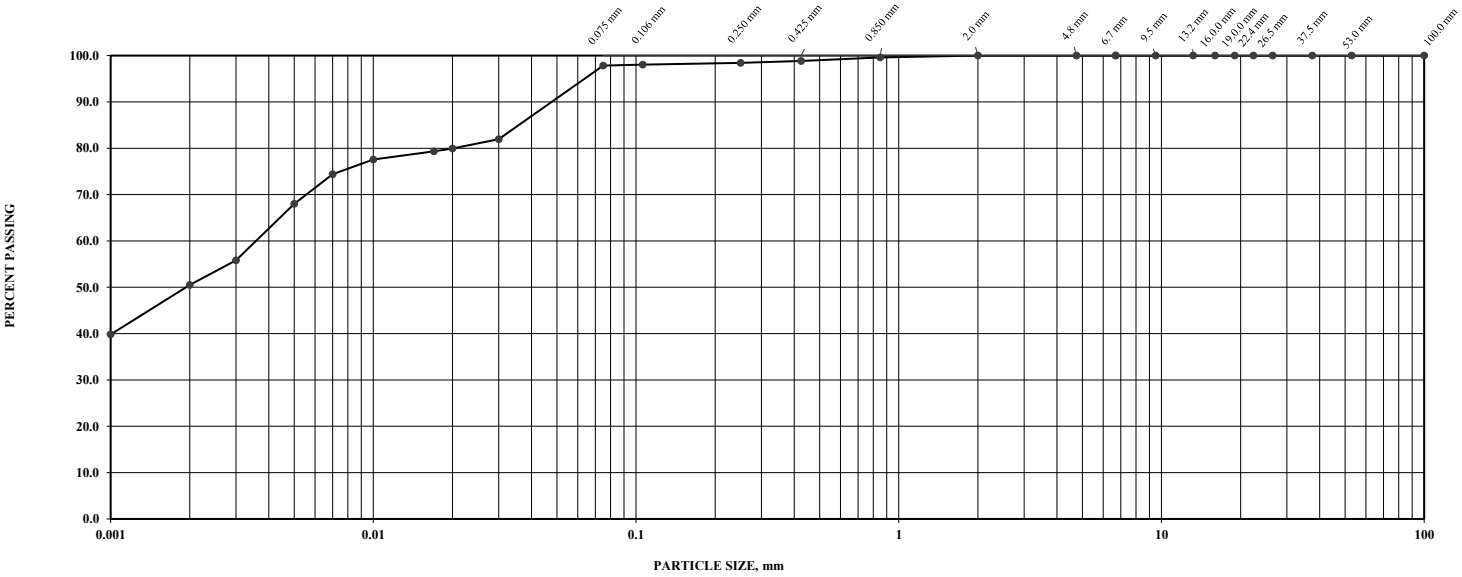
PARTICLE SIZE DISTRIBUTION, MTO LS-702

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	GRAVEL

UNIFIED SOILS CLASSIFICATION ASTM D 2487

FINES (SILT & CLAY)	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	COARSE GRAVEL



Coefficients

D60	0.004	D30		D10		Cc		Cu	

Sieve Analysis		Hydrometer Analysis	
Sieve Size, mm	% Passing	Diameter, mm	% Passing
53	100.0	0.030	81.9
37.5	100.0	0.020	79.9
26.5	100.0	0.017	79.3
22.4	100.0	0.010	77.6
19	100.0	0.007	74.4
16	100.0	0.005	68.0
13.2	100.0	0.002	50.5
9.5	100.0	0.001	39.8
6.7	100.0	Atterberg Limits	
4.75	100.0		
2.00	100.0	Liquid Limit	
0.850	99.6		
0.425	98.8	Plastic Limit	
0.250	98.4		
0.106	98.0	Plastic Index	
0.075	97.8		

GRAIN SIZE PROPORTIONS, %	
% Gravel (> 4.75 mm):	
% Sand (75 µm to 4.75 mm):	2.2
% Silt (2 µm to 75 µm):	47.3
% Clay (<2 µm):	50.5

Group Symbol / Soil Description		SILT and CLAY, trace Sand

Remarks

Figure: 2

Tested By: Nurudeen Makanjuola, Laboratory Technician

Reviewed By: David McBay, CET.-Laboratory Supervisor

Date: August 14, 2025

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.

GRAIN SIZE AND HYDROMETER ANALYSIS REPORT
LS-602, 702 & 703/704

Project Number:	02506021	Project Name:	Glencoe Industrial Park	Client:	Spriet Associates London Limited
ROS:	2606 / 2607	Sample ID:	Borehole 03, Sample 7	Sample Depth:	4.58 - 5.03m
Sampled By:	Englobe	Date Received:	July 30, 2025	Date Completed:	August 9, 2025
File Number:	04-02506021.000.MT-SH-003-00			Englobe Laboratory	London

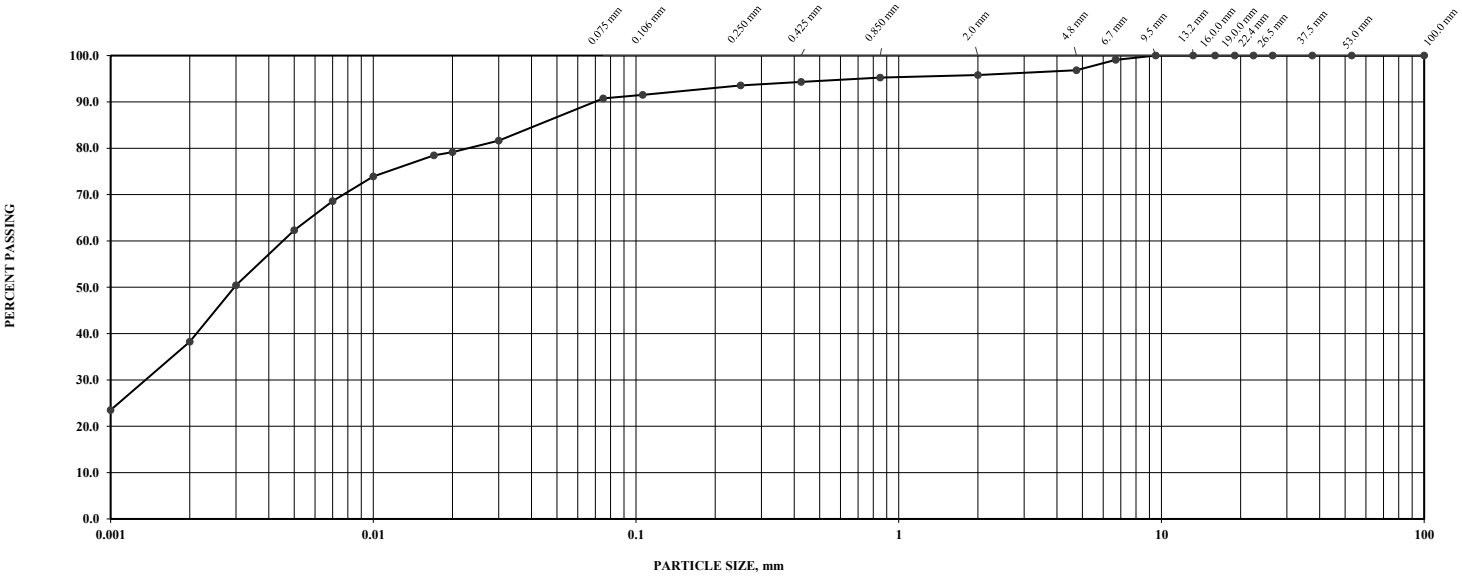
PARTICLE SIZE DISTRIBUTION, MTO LS-702

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	GRAVEL

UNIFIED SOILS CLASSIFICATION ASTM D 2487

FINES (SILT & CLAY)	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	COARSE GRAVEL



Coefficients

D60	0.005	D30	0.001	D10		Cc		Cu	

Sieve Analysis		Hydrometer Analysis	
Sieve Size, mm	% Passing	Diameter, mm	% Passing
53	100.0	0.030	81.7
37.5	100.0	0.020	79.2
26.5	100.0	0.017	78.5
22.4	100.0	0.010	73.9
19	100.0	0.007	68.6
16	100.0	0.005	62.3
13.2	100.0	0.002	38.2
9.5	100.0	0.001	23.5
6.7	99.1	Atterberg Limits	
4.75	96.8		
2.00	95.8	Liquid Limit	36
0.850	95.2		
0.425	94.3	Plastic Limit	21
0.250	93.6		
0.106	91.5	Plastic Index	15
0.075	90.8		

GRAIN SIZE PROPORTIONS, %	
% Gravel (> 4.75 mm):	3.2
% Sand (75 µm to 4.75 mm):	6.0
% Silt (2 µm to 75 µm):	52.6
% Clay (<2 µm):	38.2

Group Symbol / Soil Description	CL	SILT and CLAY, traces of Sand and Gravel

Remarks

Figure: 3

Tested By: Nurudeen Makanjuola, Laboratory Technician

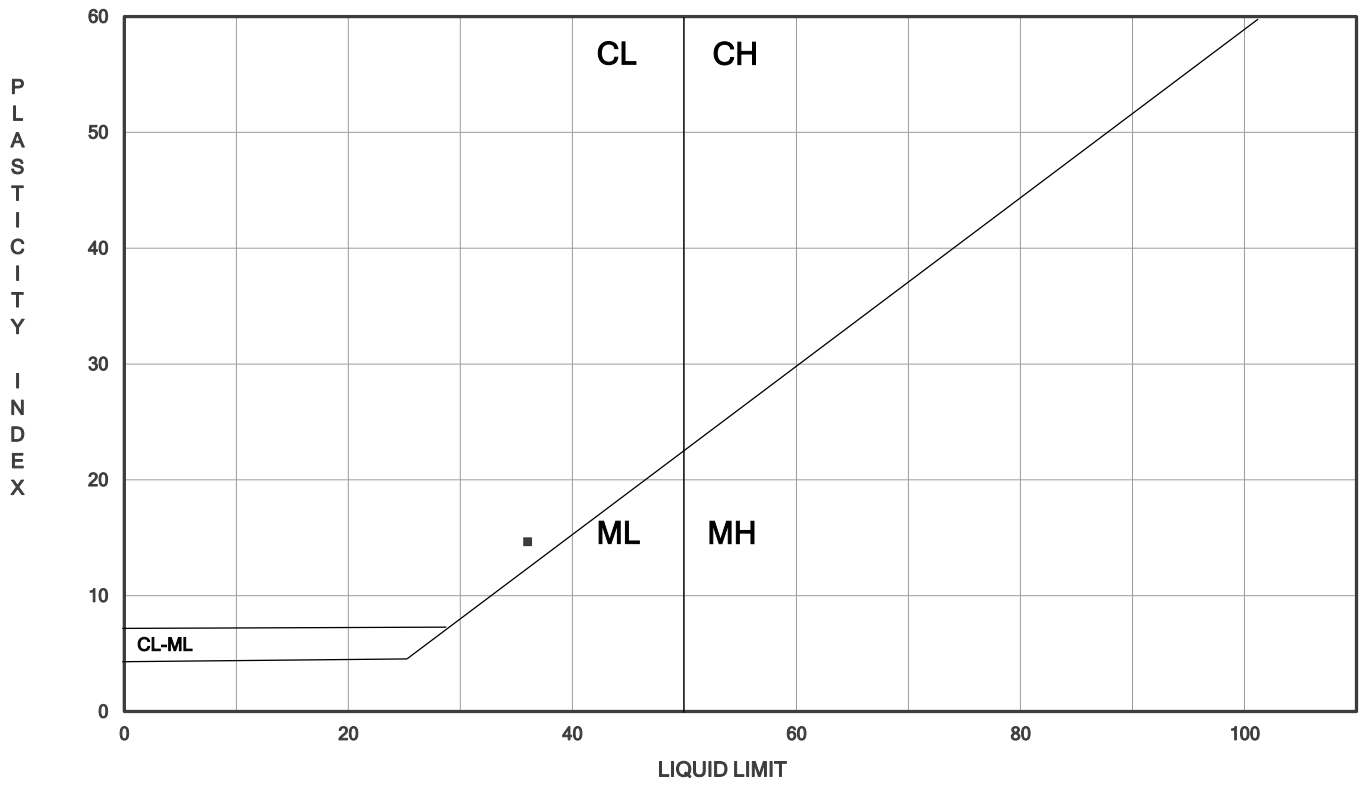
Reviewed By: David McBay, CET.-Laboratory Supervisor

Date: August 14, 2025

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.

METHOD OF TEST FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS
MTO LS-703/704

Project Number:	**02506021**	Project Name:	**Glencoe Industrial Park**	Client:	**Spriet Associates London Limited**
ROS:	**2606 / 2607**	Sample ID:	**Borehole 03, Sample 7**	Sample Depth:	**4.58 - 5.03m**
Sampled By:	**Englobe**	Date Received:	**July 30, 2025**	Date Completed:	**August 9, 2025**
File Number:	**04.02506021.000.MT-AT-001-00**			Englobe Laboratory:	**London**



Atterberg Limits / In-Situ Moisture Content	
Liquid Limit, LL	**36**
Plastic Limit, PL	**21**
Plasticity Index, PI	**15**
In Situ Moisture Content (ASTM D2216) %	

Grainsize Proportions, %	
% Gravel (> 4.75 mm):	**3.2**
% Sand (75 µm to 4.75 mm):	**6**
% Silt (2 µm to 75 µm):	**52.6**
% Clay (<2 µm):	**38.2**

Soil Description	**SILT and CLAY, traces of Sand and Gravel**
Group Symbol	**CL**
Remarks	**Figure: 4**

Tested By: Nurudeen Makanjuola, Laboratory Technician

Reviewed By: David McBay, CET. -Laboratory Supervisor

Date: August 14, 2025

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.

London Office: 60 Meg Drive, Unit#12, London, ON,N6E 3T6 - Ph: (519) 685-6400

GRAIN SIZE AND HYDROMETER ANALYSIS REPORT
LS-602, 702 & 703/704

Project Number:	02506021	Project Name:	Glencoe Industrial Park	Client:	Spriet Associates London Limited
ROS:	2608	Sample ID:	Borehole 05, Sample 2	Sample Depth:	0.76 - 1.22m
Sampled By:	Englobe	Date Received:	July 30, 2025	Date Completed:	August 9, 2025
File Number:	04-02506021.000.MT-SH-004-00			Englobe Laboratory	London

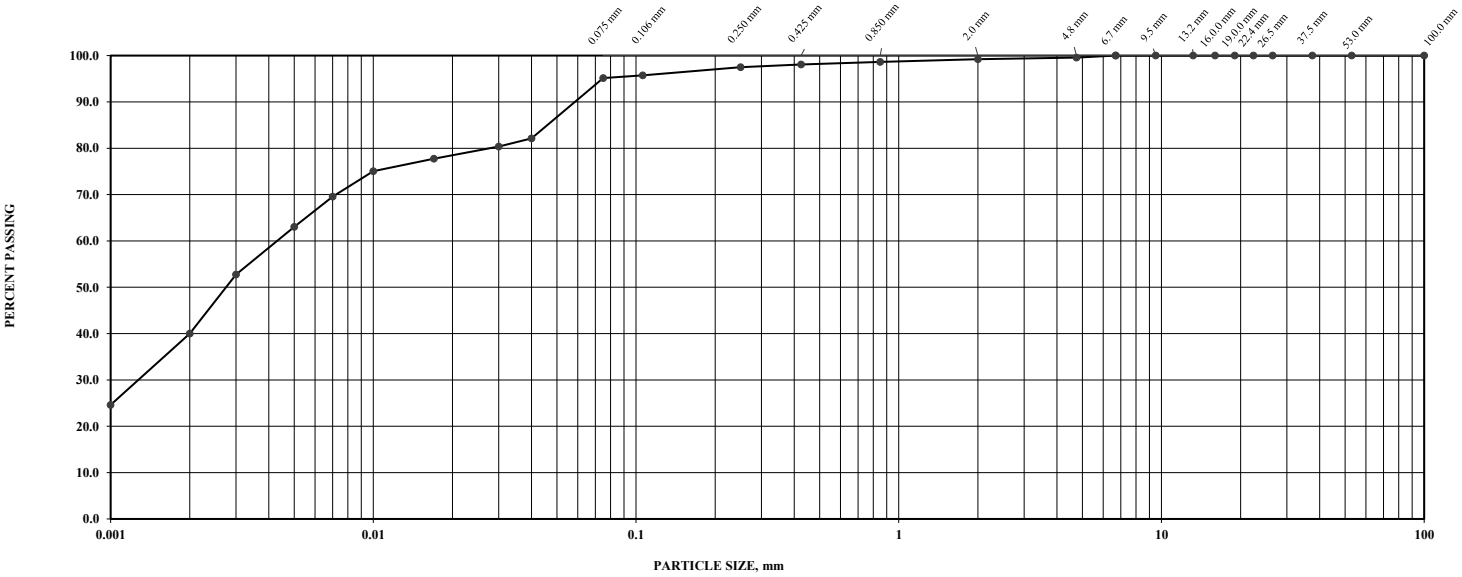
PARTICLE SIZE DISTRIBUTION, MTO LS-702

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	GRAVEL

UNIFIED SOILS CLASSIFICATION ASTM D 2487

FINES (SILT & CLAY)	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	COARSE GRAVEL



Coefficients

D60	0.004	D30	0.001	D10		Cc		Cu	

Sieve Analysis		Hydrometer Analysis	
Sieve Size, mm	% Passing	Diameter, mm	% Passing
53	100.0	0.040	82.1
37.5	100.0	0.030	80.4
26.5	100.0	0.017	77.7
22.4	100.0	0.010	75.1
19	100.0	0.007	69.5
16	100.0	0.005	63.0
13.2	100.0	0.002	40.0
9.5	100.0	0.001	24.6
6.7	100.0	Atterberg Limits	
4.75	99.6		
2.00	99.2	Liquid Limit	
0.850	98.6		
0.425	98.1	Plastic Limit	
0.250	97.5		
0.106	95.7	Plastic Index	
0.075	95.1		

GRAIN SIZE PROPORTIONS, %	
% Gravel (> 4.75 mm):	0.4
% Sand (75 µm to 4.75 mm):	4.5
% Silt (2 µm to 75 µm):	55.1
% Clay (<2 µm):	40.0

Group Symbol / Soil Description		SILT and CLAY, trace Sand

Remarks

Figure: 5

Tested By: Nurudeen Makanjuola, Laboratory Technician

Reviewed By: David McBay, CET.-Laboratory Supervisor

Date: August 14, 2025

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.

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GRAIN SIZE AND HYDROMETER ANALYSIS REPORT
LS-602, 702 & 703/704

Project Number:	02506021	Project Name:	Glencoe Industrial Park	Client:	Spriet Associates London Limited
ROS:	2609	Sample ID:	Borehole 07, Sample 8	Sample Depth:	6.10 - 6.56m
Sampled By:	Englobe	Date Received:	July 30, 2025	Date Completed:	August 9, 2025
File Number:	04-02506021.000.MT-SH-005-00			Englobe Laboratory	London

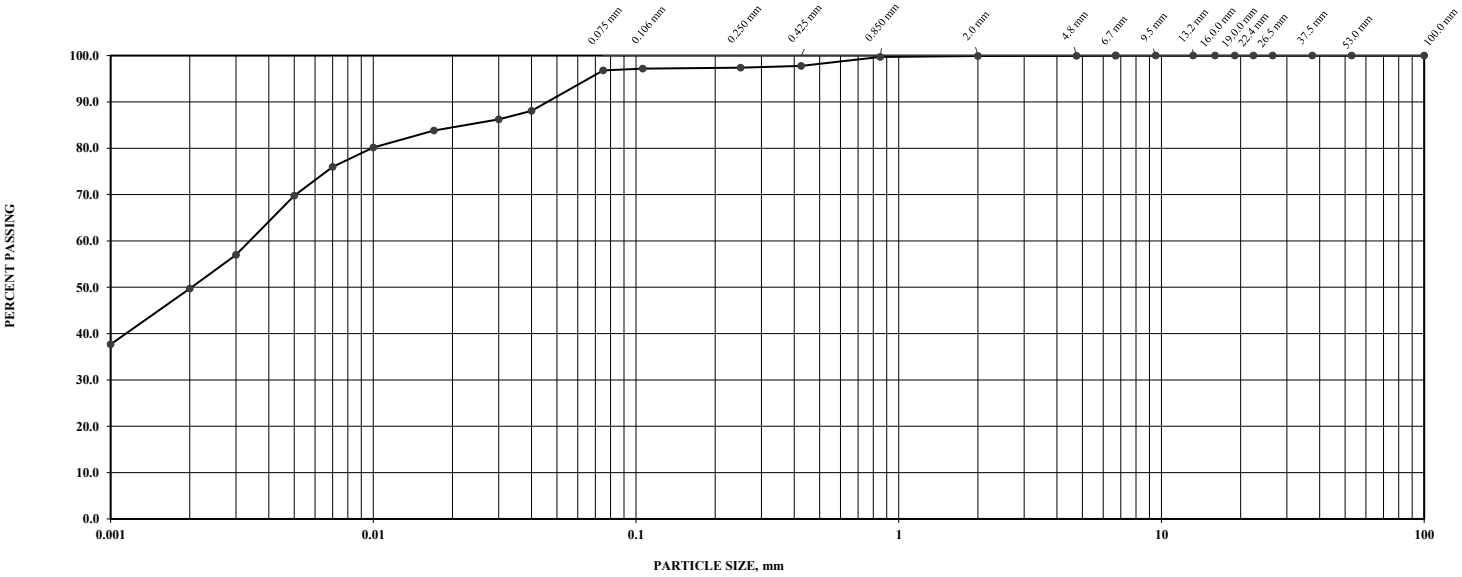
PARTICLE SIZE DISTRIBUTION, MTO LS-702

U.S. BUREAU OF SOILS CLASSIFICATION (AS USED IN MINISTRY OF TRANSPORTATION OF ONTARIO PAVEMENT DESIGNS)

CLAY	SILT	VERY FINE SAND	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	GRAVEL

UNIFIED SOILS CLASSIFICATION ASTM D 2487

FINES (SILT & CLAY)	FINE SAND	MEDIUM SAND	COARSE SAND	FINE GRAVEL	COARSE GRAVEL



Coefficients

D60	0.003	D30		D10		Cc		Cu	

Sieve Analysis		Hydrometer Analysis	
Sieve Size, mm	% Passing	Diameter, mm	% Passing
53	100.0	0.040	88.1
37.5	100.0	0.030	86.2
26.5	100.0	0.017	83.8
22.4	100.0	0.010	80.1
19	100.0	0.007	76.0
16	100.0	0.005	69.8
13.2	100.0	0.002	49.7
9.5	100.0	0.001	37.7
6.7	100.0	Atterberg Limits	
4.75	99.9		
2.00	99.9	Liquid Limit	
0.850	99.7		
0.425	97.8	Plastic Limit	
0.250	97.4		
0.106	97.2	Plastic Index	
0.075	96.8		

GRAIN SIZE PROPORTIONS, %	
% Gravel (> 4.75 mm):	0.1
% Sand (75 µm to 4.75 mm):	3.1
% Silt (2 µm to 75 µm):	47.1
% Clay (<2 µm):	49.7

Group Symbol / Soil Description		SILT and CLAY, trace Sand

Remarks

Figure: 6

Tested By: Nurudeen Makanjuola, Laboratory Technician

Reviewed By: David McBay, CET.-Laboratory Supervisor

Date: August 14, 2025

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request.

Appendix D
Traffic Data

ENGLOBE

TABLE D-2 TRAFFIC DATA AND ESTIMATED ESALs

Tower Avenue Extension

Glencoe, ON

YEAR	AVERAGE ANNUAL DAILY TRAFFIC	No. OF LANES	ESTIMATED CUMULATIVE ANNUAL ESALs
2026	1,000	2	
2027	1,020	2	29,000
2028	1,040	2	58,600
2029	1,061	2	88,800
2030	1,082	2	119,600
2031	1,104	2	151,000
2032	1,126	2	183,100
2033	1,149	2	215,800
2034	1,172	2	249,200
2035	1,195	2	283,200
2036	1,219	2	317,900
2037	1,243	2	353,300
2038	1,268	2	389,400
2039	1,294	2	426,200
2040	1,319	2	463,800
2041	1,346	2	502,100
2042	1,373	2	541,200
2043	1,400	2	581,100
2044	1,428	2	621,800
2045	1,457	2	663,300
2046	1,486	2	705,600

Directional Factor (DF) =	0.5
Lane Distribution Factor (LDF) =	1.0
Combined Truck Factor (CTF) =	0.78
Percent Trucks =	20.0%
Traffic Growth Rate =	2.0%
Days Per Year For Truck Traffic =	365
Number of Lanes in one Direction =	1

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APPENDIX ‘B’

Due-Diligence Soil Characterization Report

Prepared by Englobe

December 17, 2025

Spriet Associates Architects and Consulting Engineers
155 York Street,
London ON, N6A 1A8

Attention: Katherine Dagenais, P.Eng. (katherine@spriet.on.ca)

Subject: **Due-Diligence Soil Characterization Report**
Proposed Glencoe Industrial Park
Glencoe, Municipality of Southwest Middlesex, Ontario
Englobe reference: 02506021.0200.EN.0001.00

---

1 Introduction

Englobe Corp. ("Englobe") was retained by Spriet Associates Architects and Consulting Engineers (hereinafter referred to as the "Client") to complete due-diligence soil characterization and analysis ("Soil Sampling") in support of the engineering design services for the proposed Glencoe Industrial Park in Glencoe, Ontario (hereinafter referred to as the "Project Area").

Englobe understands that the total anticipated volume of excess soil for this project area is broken down as follows;

- roadworks and servicing: 8,000 m^3; and
- storm water management (SWM) facility: 24,700 m^3

Based on the location of the Project Area, the Project meets the criteria for non-application of Section 8 of Ontario Regulation 406/19 and aligns with the "low-risk" site exemption clause. The purpose of the Soil Sampling activities was to characterize the environmental quality of soil contained at the Project Area prior to off-site beneficial reuse and/or disposal.

A due-diligence excess soil characterization program for the proposed Glencoe Industrial Park was requested by the Client in general accordance with Ontario Regulation 406/19: On-Site and Excess Soil Management, made under Environmental Protection Act, R.S.O. 1990, c. E. 19, last amended December 17, 2024 ("O.Reg. 406/19").

1.1 Non-Application of Section 8 of the Regulation

It is Englobe's understanding that the Project Leader has determined that the project is likely to fall under the location-based exemption of Section 8 of O.Reg. 406/19 (the Project Area is used entirely for agricultural purposes).

As a result, the following tasks were not considered to be required for this project at the time of writing:

- Assessment of Past Uses and Sampling and Analysis Plan;
- Soil sampling at the frequency defined in O.Reg. 406/19;
- Soil Characterization Report;
- Filing on the Resource Productivity and Recovery Authority (RPRA) Excess Soil Registry; and,
- Implementation of a soil tracking system.

2 Methodology

Englobe developed a due-diligence excess soil characterization program, designed to characterize the soil quality at the Project Area, and satisfy the requirements of potential excess soil reuse sites. This section outlines the field program conducted on July 23 and 24, 2025.

2.1 Soil Sampling

2.1.1 Boreholes

A total of ten (10) boreholes were advanced within the Project Area (BH1 through BH10) on July 23 and 24, 2025. Boreholes were advanced to maximum depths of approximately 5.2 to 8.2 metres below grade (mbg) or soil surface. The approximate borehole locations are shown on the attached **Drawing 2**, contained in **Appendix A.**

The boreholes were advanced in accordance with O.Reg. 903 using a Diedrich D50T track mounted drill with an auger sampling device supplied and operated by a MECP-licenced drilling contractor, London Soil Test (LST).

A total of forty-six (46) soil samples [including four (4) field duplicate sample for QA/QC purposes] were selected for laboratory analysis of petroleum hydrocarbons (PHCs) fractions F1 to F4, benzene, toluene, ethylbenzene and xylenes (BTEX), metals, pH, electrical conductivity (EC), and sodium adsorption ratio (SAR). Additionally, ten (10) samples were submitted for analysis of the ministry's Synthetic Precipitation Leaching Procedure (mSPLP).

2.2 Soil Screening and Sampling

Soil vapour headspace readings were completed on all soil samples using a Mini-Rae photoionization detector (PID) calibrated with isobutylene reference gases. The soil samples were allowed to equilibrate to the ambient air temperature prior to measurement.

Samples selected for laboratory chemical analysis were collected into pre-cleaned, laboratory supplied containers provided with necessary preservatives and placed in an ice chilled cooler to minimize the potential for chemical degradation and volatilization. Sample containers were labelled with a unique sample number, project reference, date, and time of sampling.

Soil samples were selected for laboratory chemical analysis on the basis of olfactory evidence of odours, physical evidence of staining or deleterious matter, headspace readings, and/or evaluation of analytical test groups. The soil samples selected for laboratory chemical testing were submitted to a Canadian Association for Laboratory Accreditation Inc. (CALA)-accredited laboratory, ALS Global (ALS) of Waterloo, Ontario.

2.3 Quality Assurance/Quality Control (QA/QC)

Quality assurance/quality control (QA/QC) measures were incorporated into the field sampling and laboratory analytical programs to evaluate the field and analytical data for acceptable accuracy, precision, representativeness, and comparability. Specific QA/QC measures were followed in relation to equipment decontamination, equipment calibration, sample collection and handling, field documentation, and contractor provision.

Specific procedures pertaining to the characterization and description of soil samples and were followed by trained field personnel.

Decontamination procedures were followed during the soil sampling activities, including:

- All sampling equipment having potential to come into contact with contaminated soil was decontaminated prior to and following each sample. Decontamination consisted of washing equipment with a non-phosphate detergent and distilled water mixture.
- New disposable chemical resistant nitrile gloves were worn for the handling and collection of soil samples to minimize the potential for cross-contamination.

Specific procedures were followed for the documentation, handling, and transport of the soil samples, including:

- Soil samples upon collection were placed directly in ice-chilled coolers;
- Soil samples were assigned unique identification numbers and submitted by the sampler to the contractual laboratory following chain of custody protocols within required holding times; and,
- Quality control soil samples were collected to provide a quantitative evaluation of the accuracy of the field sampling and laboratory analytical procedures. Duplicate soil samples at a general frequency of one (1) for every ten (10) samples for each parameter analyzed were submitted to the contractual laboratory to evaluate the precision and reproducibility of the field sampling and laboratory analytical procedures. Field quality control results were compared to applicable alert criteria.

The laboratory, ALS, performed chemical analyses following referenced methods incorporating QA/QC protocols as provided by the Ministry of Environment Conservation and Parks (MECP) and Canada Wide Standards for Petroleum Hydrocarbons. Chemical analyses for specific analytical test groups were performed in general accordance with the MECP document titled *"Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality,"* dated February 19, 2021, as amended.

Analytical test group specific quality control samples were prepared and analyzed by the laboratory, including:

— Laboratory duplicate samples to evaluate method reproducibility and sample homogeneity;
— Method blanks to evaluate potential bias;
— Spike blanks to evaluate method accuracy;
— Surrogate compounds to evaluate extraction efficiency;
— Matrix spikes to evaluate extraction efficiency and matrix interferences; and,
— QC standards to evaluate method accuracy.

Quality control results reported by the contractual laboratory were compared to applicable alert and control criteria and were presented in the quality control reports accompanying the certificates of analysis (COAs). The laboratory QA/QC results are discussed in **Section 3.3.**

3 Results

3.1 Applicable Standards

3.1.1 On-Site Soil Reuse Quality Assessment Criteria

The soil analytical results were compared to the criteria presented in the MECP document titled *"Soil, Ground Water and Sediment Standards for use under Part XV.1 of the Environmental Protection Act,"* dated July 1, 2011 (hereinafter referred to as the MECP Site Condition Standards).

The soil analytical results were assessed using the MECP Site Condition Standards (SCS), Table 1: Background Site Condition Standards for Agricultural or other (AgO) property use condition (MECP Table 1 AgO SCS) and MECP Table 2: Full Depth Background SCS in a Potable Ground Water Condition for industrial/commercial/community (ICC) property use condition (MECP Table 2 ICC SCS)

The rationale for the selection of the MECP Table 1 AgO SCS is as follows;

— The current land use of the Project Area is an agricultural field;

— There are records of municipal water wells located within the area

— Soil pH analysis completed on all soil samples collected as part of this investigation were within the range specified by O. Reg. 153/04 (5 to 9 for surface soil). Therefore, the Project Area is not considered to be an environmentally sensitive site due to soil pH;

— Based on field observations and laboratory grain size analysis, the predominant soils at the Site are comprised of coarse-grained soils (% of particles are < 75 µm);

— There is a Lower Thames Valley Conservation Authority (LTVCA) regulated area which overlaps the site on the north-western boundary. This area provides a 40 m buffer around an unnamed creek which flows northwest to northeast. The Table 1 AgO SCS applies to areas within 30 m of this LTVCA regulated area; and,

— The Glencoe Outlet Municipal Drain is located within 30 m of the northeast boundary of the Project Area, however, due to the LTVCA regulated area, the most stringent site condition standard criteria is applied to this area within the Project Area.

In addition to the above noted information, the rationale for the selection of the MECP Table 2 ICC SCS is as follows;

— The proposed work is to be completed within roadways and Stormwater Management Pond within the Project Area.

3.1.2 Off-Site Soil Reuse Quality Assessment Criteria

The soil analytical results were compared to the Excess Soil Quality Standards (ESQS) presented in the Soil Rules. Based on the unknown anticipated quantity of excess soil to be excavated/managed (i.e. volume greater than 350 cubic metres), and discussions with the client, the soil analytical results were assessed using:

— Table 1 Full Depth Background Site Condition Standards (SCS) in an agricultural or other (AgO) property use condition (MECP Table 1 AgO SCS), and;

— Table 2.1 Full Depth Background ESQS in a Potable Ground Water Condition for ICC property use condition (MECP Table 2.1 ICC ESQS).

3.1.3 mSPLP Assessment Criteria

mSPLP results were compared to the volume independent MECP Leachate Screening Levels (LSL) for Excess Soil Reuse in an agricultural or other (AgO) property use (MECP Table 1 AgO LSL).

3.2 Soil Quality

The analytical results for PHCs (fractions F1 to F4) and BTEX, and metals and inorganics (including pH, EC and SAR) from the Englobe 2025 Field Program are summarized in **Tables 1 and Table 2**, which are contained in **Appendix B**. In addition, the laboratory certificates of analysis provided by ALS for soil samples collected during the Englobe 2025 Field Program are contained in **Appendix C**, for reference.

3.2.1 Assessment to MECP Table 1 AgO SCS

Based on a review of the laboratory analytical results, all sampling locations had concentrations of the specified parameters reported above the MECP Table 1 AgO SCS.

— Samples generally across the entire project area exceeded the MECP Table 1 AgO SCS for sodium absorption ratio (SAR) and/or electrical conductivity (EC);

— BH10 S5 exceeded the MECP Table 1 AgO SCS for molybdenum at a depth between 3.0 m and 3.7 m below ground surface (bgs);

— BH1 S6 and DUP-S-3 (field duplicate) exceeded the MECP Table 1 AgO SCS for PHC F2 at a depth between 3.8 m and 4.4 m bgs;

— BH2 S4 and BH2 S7 exceeded the MECP Table 1 AgO SCS for PHC F2 at depth between 2.3 and 2.9 m bgs, and 4.6 and 5.2 m bgs, respectively;

— BH3 S6 exceeded the MECP Table 1 AgO SCS for PHC F2 at a depth between 3.8 m and 4.4 m bgs;

— DUP-S-1 (field duplicate of BH4 S7) exceeded the MECP Table 1 AgO SCS for PHC F2 at depth between 4.6 and 5.2 mbg. The average of sample DUP-S-1 and the parent sample exceeded MECP Table 1 AgO SCS criteria, and as such this location is considered to be an exceedance of the criteria; and,

— BH5 S6 exceeded the MECP Table 1 AgO SCS for PHC F2 at a depth between 3.8 m and 4.4 m bgs.

All other laboratory analytical results met the MECP Table 1 AgO SCS.

3.2.2 Assessment to MECP Table 2.1 ICC ESQS

Based on a review of the laboratory analytical results, all sampling locations had concentrations of the specified parameters reported above the MECP Table 2.1 ICC ESQS.

— Samples at BH7 S6, BH7 S7, BH7 S8, BH9 S3 & DUP-S-2, and BH9 S4 exceeded the MECP Table 2.1 ICC ESQS for EC.

All other laboratory analytical results met the MECP Table 2.1 ICC ESQS.

3.2.3 Assessment to MECP Table 2 ICC SCS

Based on a review of the laboratory analytical results, all sampling locations had concentrations of the specified parameters reported above the MECP Table 2 ICC SCS.

— Samples at BH7 S6, BH7 S7, BH7 S8, BH9 S3 & DUP-S-2and BH9 S4 exceeded the MECP Table 2 ICC SCS for EC.

All other laboratory analytical results met the MECP Table 2 ICC SCS.

3.2.4 Assessment to MECP Leachate Screening Levels Criteria

Englobe's Qualified Person (QP) selected soil samples for mSPLP analysis after determining the sampling locations where 90% (or higher) of the highest contaminant concentrations were found. Based on a review of the laboratory analytical results, all analyzed samples met the MECP Table 1 AgO and 2.1 ICC LSLs. The mSPLP results are provided in Table 5.

3.2.5 Quality Assurance/Quality Control Results

Soil sampling undertaken during the Englobe 2025 Field Program followed written procedures to ensure sample integrity and the collection of reliable data. Soil samples were collected into pre-cleaned test group specific containers prepared with any necessary preservatives by the contractual laboratory, ALS. Sample integrity was maintained by placing containerized samples immediately upon collection into ice chilled insulated coolers to minimize chemical activity and delivered to the laboratory within test group specific holding times. Decontamination protocols were followed and new disposable sampling equipment (i.e. gloves) was used to minimize the potential for sample cross contamination and bias.

Certificates of analysis prepared by the contractual laboratory were received for all soil samples analyzed. Review of the certificates of analysis indicated that they were prepared in a manner consistent with the requirements of O.Reg. 153/04 and O.Reg. 406/19. Copies of the laboratory certificates of analysis are presented in **Appendix C**, for reference.

QA/QC samples were collected and analyzed as part of the Englobe 2025 Field Program to ensure the reliability of the analytical data. The QA/QC samples included the collection of soil duplicates to evaluate the precision/reproducibility of the field and analytical procedures. A summary of the field duplicates is provided in **Table 3-1,** below.

Table 3-1 Summary of QA/QC Program

Sample Location	Sample ID	Duplicate Sample ID	Media	Analysis Performed
BH4	BH4 S7	DUP-S-1	Soil	PHCs F1 to F4, BTEX, Metals, pH, EC, SAR
BH9	BH9 S3	DUP-S-2	Soil	PHCs F1 to F4, BTEX, Metals, pH, EC, SAR
BH1	BH1 S6	DUP-S-3	Soil	PHCs F1 to F4, BTEX, Metals, pH, EC, SAR
BH10	BH10 S6	DUP-S-4	Soil	PHCs F1 to F4, BTEX, Metals, pH, EC, SAR

Notes:
PHCs F1 to F4 - Petroleum Hydrocarbons Fractions F1 to F4
BTEX - Benzene, Toluene, Ethylbenzene and Xylenes
EC - Electrical Conductivity
SAR - Sodium Adsorption Ratio

A quantitative evaluation of the soil duplicate sample results was completed by calculating the relative percent difference (RPD) and comparing the results to applicable alert criteria. The calculation of RPDs is only valid if an analyte is detected in both samples at a concentration at least five times the method detection limit (MDL). Alert criteria are matrix and test group specific. For parameters analyzed in the soil duplicate samples, considering matrix heterogeneity, an alert criterion of 60% was applied.

The results of the calculation of RPDs are summarized as follows:

- For PHCs and BTEX none of the assessed parameters were detected at concentrations exceeding laboratory MDLs and, as such, RPDs could not be calculated;
- For metals and inorganics, the RPDs were all below the 60% alert criteria.

Based on review of the field and laboratory QA/QC sample results, no data qualifications were required, and the quality of the analytical data was deemed acceptable to meet the objectives of the Englobe 2025 Field Program and did not affect decision making related to the findings of this report.

4 Conclusions

Based on the analytical results obtained during the Soil Sampling, as documented in this report, three (3) soil zones were identified within the Project Area. A summary of the soil management requirements for the soil zones are as follows:

Soil Zone 1: A review of the laboratory analytical results indicates that the soil quality identified within Soil Zone 1 identified as Soil Zone 1, if deemed geotechnically suitable, are appropriate for reuse in areas which are unlikely to be suitable habitat for environmentally sensitive species (i.e. meet the Table 1 AgO SCS) with the exception of salt-related impacts. If these soils are deemed as excess soil and required exportation from the Project Area then these soils are considered to be suitable for reuse at an off-site location accepting soil meeting the MECP Table 1 AgO SCS under the following conditions, as outlined in Section D (1) (3) of the Soil Rules:

- Salt impacted soil is finally placed at the Project Area at one (1) of the following locations:
  - Where it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice;
  - At an industrial or commercial property use and to which non-potable standards would be applicable; or
  - At least 1.5 m below the surface of the soil.
- Salt impacted soil is not finally placed at the Project Area at any of the following locations:
  - Within 30 metres of a waterbody; or
  - Within 100 metres of a potable well / an area intended for future potable well; or
  - Where crops / pasture activities are occurring / planned (unless the soil is placed 1.5 m or greater below the soil surface). with salt-related impacts.

Soil Zone 2: A review of the laboratory analytical results indicates that the soil quality identified within Soil Zone 2, if deemed geotechnically suitable, are appropriate for reuse within the Project Area in areas which are unlikely to be suitable habitat for environmentally sensitive species and at least 30 m away from the Lower Thames Valley Conservation Authority (LTVCA) regulated area (i.e meets MECP Table 2 ICC SCS). If these soils are deemed as excess soils and required exportation from the Project Area then these soils are considered to be suitable for reuse at an off-site location accepting soil meeting the MECP Table 2.1 ICC ESQS under the following conditions, as outlined in Section D (1) (3) of the Soil Rules:

- Salt impacted soil is finally placed at the Project Area at one (1) of the following locations:
  - Where it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice;
  - At an industrial or commercial property use and to which non-potable standards would be applicable; or
  - At least 1.5 m below the surface of the soil.
- Salt impacted soil is not finally placed at the Project Area at any of the following locations:
  - Within 30 metres of a waterbody; or
  - Within 100 metres of a potable well / an area intended for future potable well; or
  - Where crops / pasture activities are occurring / planned (unless the soil is placed 1.5 m or greater below the soil surface). with salt-related impacts.

Soil within the Project Area has been characterized at select locations and depths. Further sampling should be conducted if soils at depths not sampled be deemed excess soils.

Under O.Reg. 406/19, written acceptance of the excess soil is required to be provided by the owner or operator of the reuse/disposal site to the Project Leader or their representative (such as the Contractor) prior to receipt of the excess soil from the Project Area. Furthermore, an acceptable "beneficial reuse" [i.e. backfilling excavation, grading)] must be identified for the undertaking at the reuse site to permit the deposit of excess at the reuse site.

It is noted that the information provided above is based on the soil samples collected and analyzed from the sample locations only. The environmental quality of the soils at the Project Area may vary between the sampling locations and sampling dates. It is further noted that this Due-Diligence Soil Characterization Report may not satisfy specific receiving sites' internal requirements.

5 Closure

This Due-Diligence Soil Sampling Report was completed by Arden McPhail and reviewed by Emily Brook, P.Eng. This report is subject to the Statement of Limitations provided in **Appendix D.**

Best regards,

Englobe Corp.:

Arden McPhail, G.I.T.
Environment Professional

Emily Brook, P.Eng., QP$_{ESA}$
Project Manager

APPENDICES

Appendix A	Drawings
Appendix B	Analytical Tables
Appendix C	Laboratory Certificates of Analysis
Appendix D	Englobe Statement of Limitations

Appendix A
Drawings

ENGLOBE

Note
This drawing shall be read in conjunction with the associated technical report.

0 250 500 750 1,000 1,250 m

Revision	Date	Issue	Approval
A	11/7/2025	Draft	E.B.

Client	Spriet Associates London Limited
Site	Glencoe Industrial Park, Glencoe, ON
Report Title	Due Diligence Soil Characterization Report
Drawing Title	Site Location Map
Designed By	A.M.
Drawn By	H.K.
Approved By	E.B.
Scale	1:25,000
Date	Nov 2025
Project No.	02506021.000
Figure No.	1

Folder: D:\EnglobeProjects2025\02506021.000\02506021\SiteLocation.aprx Friday, Friday, November 7, 2025 @ Time: 9:41 AM

Drawing: 02506021SiteLocation

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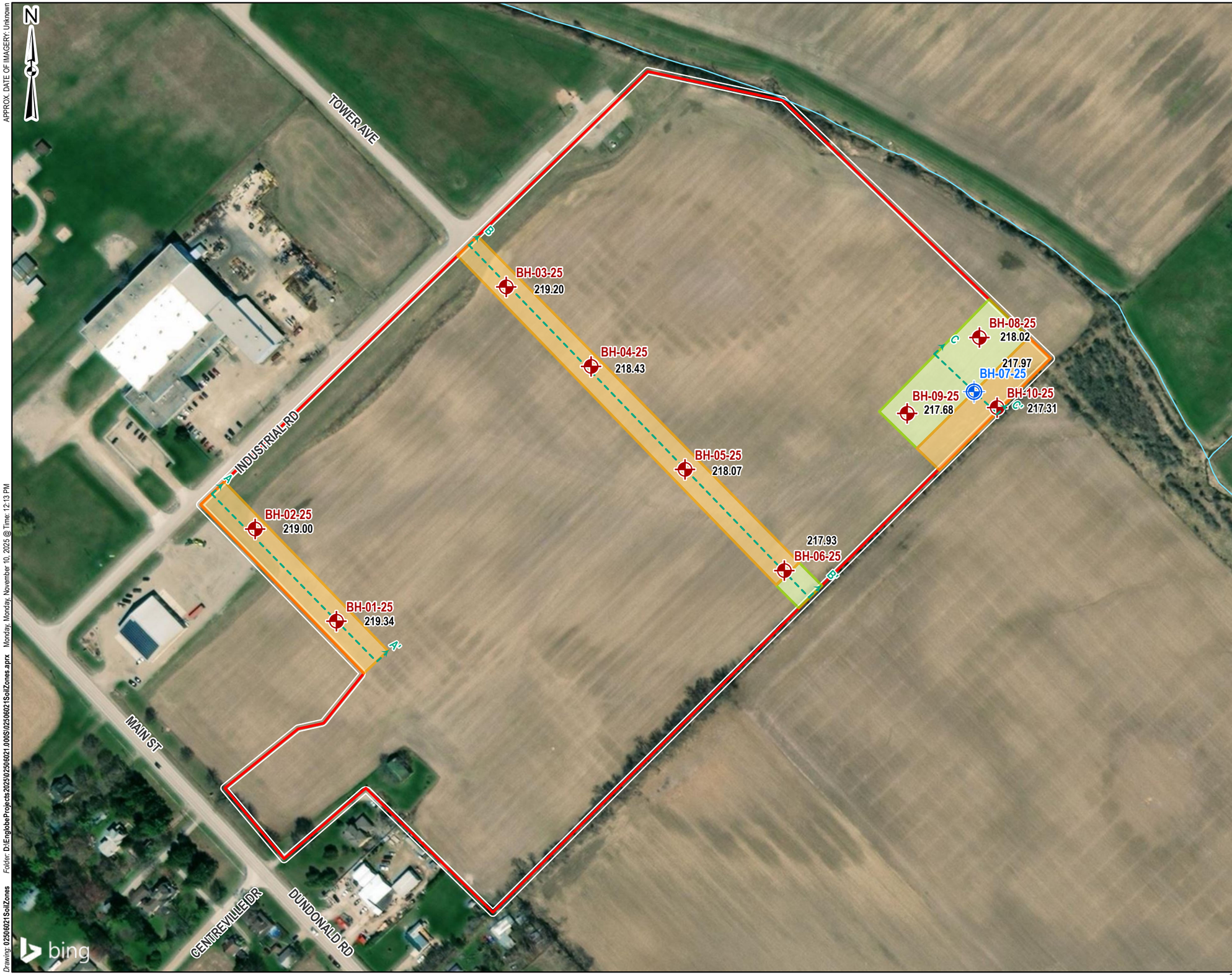

APPROX. DATE OF IMAGERY: Unknown

Drawing: 02506021SoilZones Folder: D:\EnglobeProjects2025\02506021.000S\02506021SoilZones.aprx Monday, Monday, November 10, 2025 @ Time: 12:13 PM

eNGLOBe

Notes

1. This drawing shall be read in conjunction with the associated technical report.
2. Coordinate System: NAD 1983 CSRS UTM Zone 17 T
   Projection: Transverse Mercator
   Datum: North American 1983 CSRS
3. Source: Bing Maps Aerial (used for Illustrative Purposes only)

Legend

- Approximate Borehole Location (Englobe, 2025)
- Approximate Monitoring Well Location (Englobe, 2025)
- XXX.XX Approximate Elevation (Englobe, 2025)
- Watercourse
- C C' Cross-Section Lines
- Approximate Project Extent

Soil Zones

- Soil Zone 1: Soil meets MECP Table 1 AgO SCS excluding salt impacts
- Soil Zone 2: Soil meets MECP Table 2.1 ICC ESQS at specific depths excluding salt impacts

1:2,500

0 25 50 75 100 125 m

0 1:1 5 cm

Scale accurate when printed at 100% using paper size ANSI full bleed B (11.0 x 17.0 Inches)

Revision	Date	Issue	Approval
A	11/10/2025	Draft	E.B.

Client: **Spriet Associates London Limited**

Site: **Glencoe Industrial Park, Glencoe, ON**

Report Title: **Due Diligence Soil Characterization Report**

Drawing Title: **Soil Zones**

Designed By: A.M.	Scale: 1:2,500
Drawn By: H.K.	Date: Nov 2025
Approved By: E.B.	Project No.: 02506021.000

Figure No. **2**

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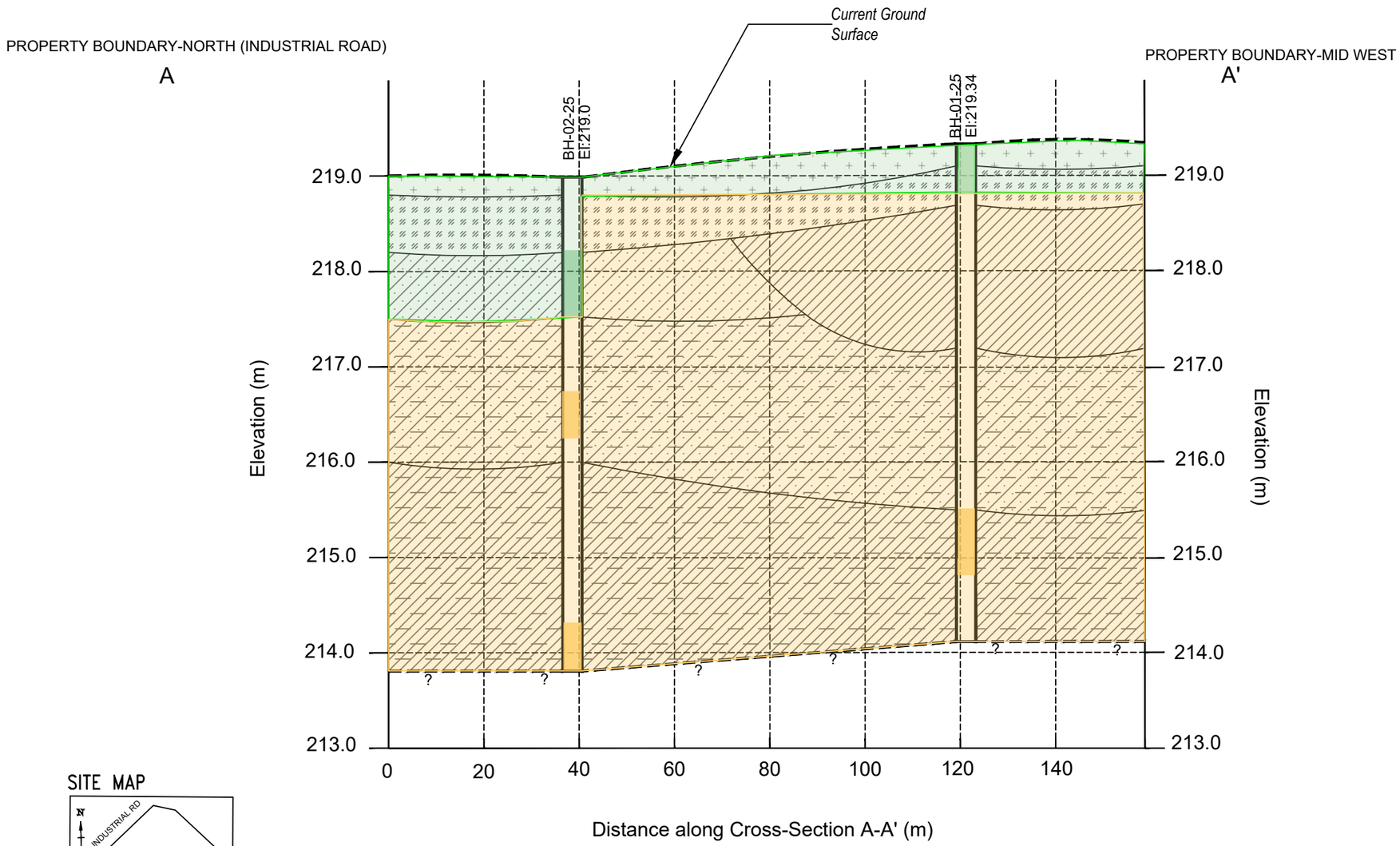
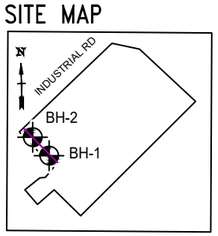


SITE MAP



Vertical 0 1 2 3 4 m

Horizontal 0 20 40 80 100

ENGLOBE

Note

1. This drawing shall be read in conjunction with the associated technical report.
2. Drawing scale may be distorted. Measurements/locations taken from the drawing must be verified in the field.

Legend

- Topsoil
- Silt
- Silt and Clay
- Clayey Silt
- Clayey Silt Till
- Silt and Clay Till
- Soil Zone 1: Soil Meets MECP Table 1 AgO SCS excluding salt impacts
- Soil Zone 2: Soil Meets MECP Table 2.1 ICC ESQS at specific depths excluding salt impacts
- End of Investigation

Revision	Date	Issue	Approval
A	11/10/2025	Draft	E.B

Client: **Spriet Associates London Limited**

Site: **Glencoe Industrial Park, Glencoe, ON**

Report Title: **Due Diligence Soil Characterization Report**

Drawing Title: **Subsurface Profile Cross-Section A-A'**

Designed By: A.M	Scale: As Shown
Drawn By: H.K	Date: Nov 2025
Approved By: E.B	Project No.: 02506021.000

Figure No. **3A**

Folder: D:\EnglobeProjects\2025\02506021.000S Monday, November 10, 2025 @ 14:24 by Harkiran Kaur

Drawing: 02506021Cross-Sections.dwg

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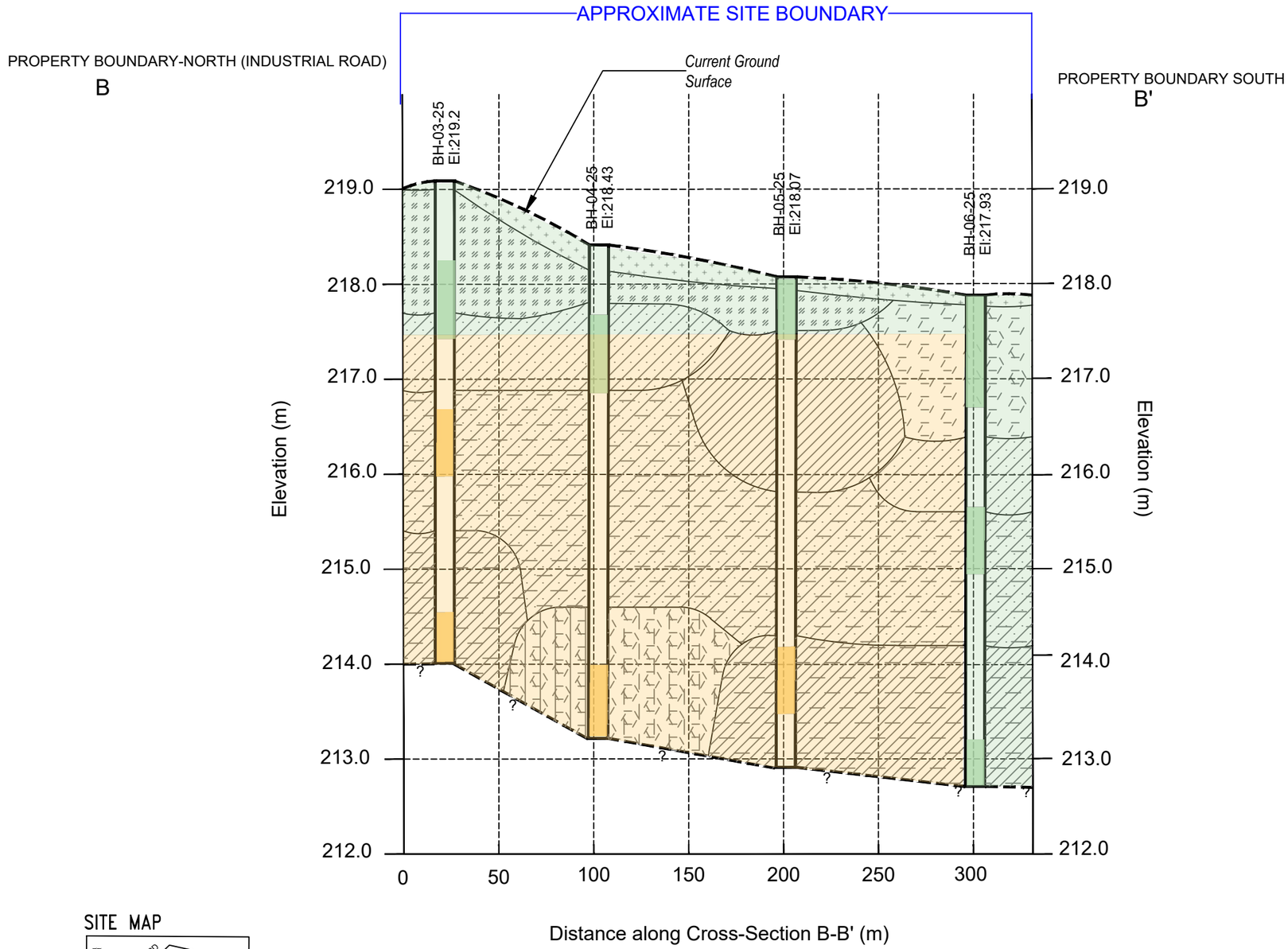
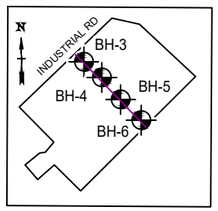


SITE MAP



Vertical 0 1 2 3 4 m

Horizontal 0 50 100 150 200

ENGLOBE

Note

1. This drawing shall be read in conjunction with the associated technical report.
2. Drawing scale may be distorted. Measurements/locations taken from the drawing must be verified in the field.

Legend

- Topsoil
- Silt
- Silt and Clay
- Clayey Silt
- Clayey Silt Till
- Silt and Clay Till
- Silty Clay
- Silty Clay Till
- Soil Zone 1: Soil Meets MECP Table 1 AgO SCS excluding salt impacts
- Soil Zone 2: Soil Meets MECP Table 2.1 ICC ESQS at specific depths excluding salt impacts
- End of Investigation

Revision	Date	Issue	Approval
A	11/10/2025	Draft	E.B

Client: **Spriet Associates London Limited**

Site: **Glencoe Industrial Park, Glencoe, ON**

Report Title: **Due Diligence Soil Characterization Report**

Drawing Title: **Subsurface Profile Cross-Section B-B'**

Designed By: A.M	Scale: As Shown
Drawn By: H.K	Date: Nov 2025
Approved By: E.B	Project No.: 02506021.000

Figure No. **3B**

Folder: D:\EnglobeProjects\2025\02506021.000S Monday, November 10, 2025 @ 14:24 by Harkiran Kaur

Drawing: 02506021Cross-Sections.dwg

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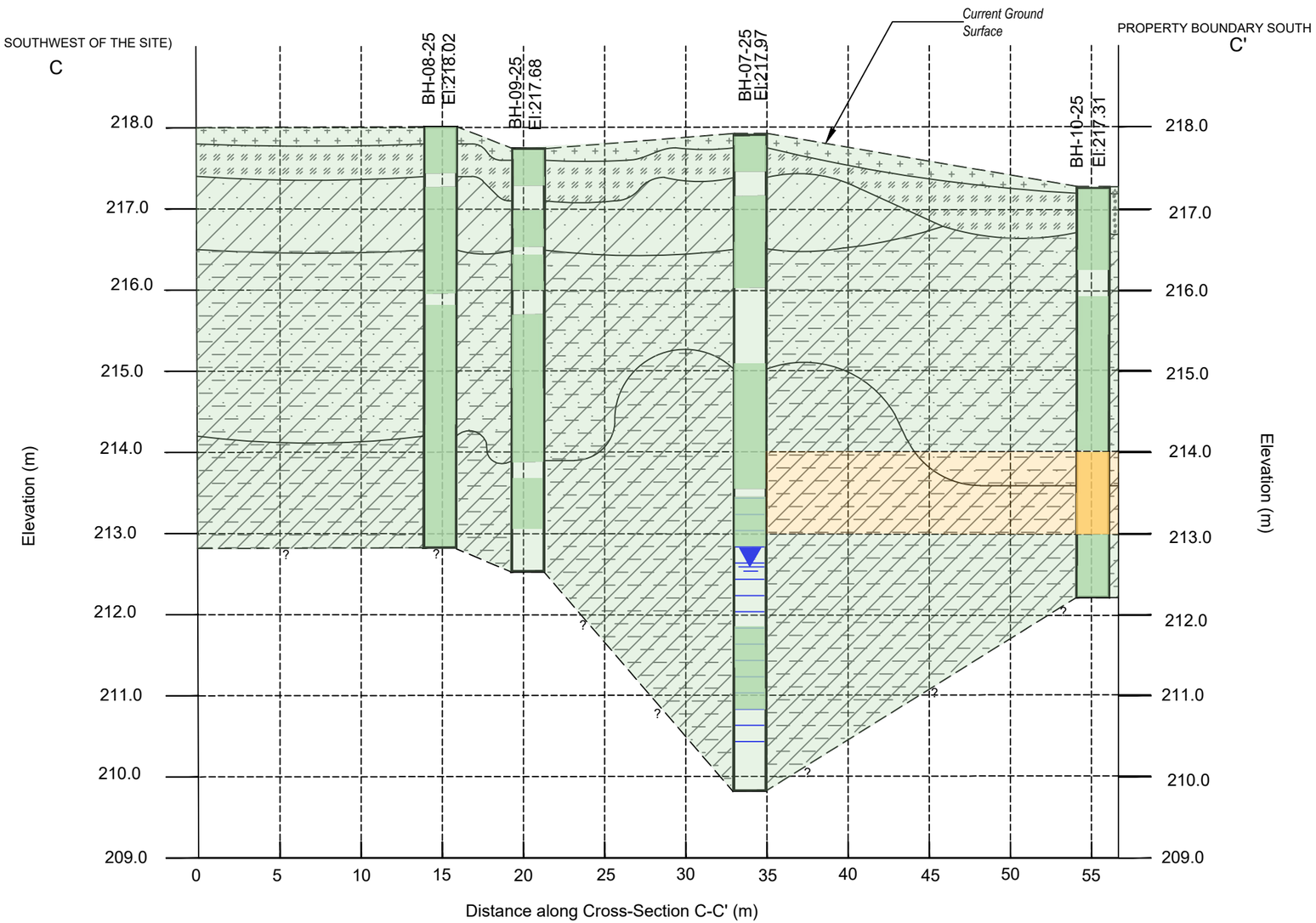
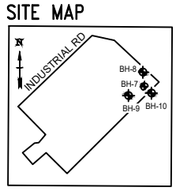


SITE MAP



Vertical 0 1 2 3 4 m

Horizontal 0 5 10 15 20

ENGLOBE

Note

1. This drawing shall be read in conjunction with the associated technical report.
2. Drawing scale may be distorted. Measurements/locations taken from the drawing must be verified in the field.

Legend

- Topsoil
- Silt
- Silt and Clay
- Clayey Silt
- Clayey Silt Till
- Silt and Clay Till
- Groundwater Level as of 18 Sep 2025
- Monitoring well Screen
- Soil Zone 1: Soil Meets MECP Table 1 AgO SCS excluding salt impacts
- Soil Zone 2: Soil Meets MECP Table 2.1 ICC ESQS at specific depths excluding salt impacts
- End of Investigation

Revision	Date	Issue	Approval
A	11/10/2025	Draft	E.B

Client: **Spriet Associates London Limited**

Site: **Glencoe Industrial Park, Glencoe, ON**

Report Title: **Due Diligence Soil Characterization Report**

Drawing Title: **Subsurface Profile Cross-Section C-C'**

Designed By: A.M	Scale: As Shown
Drawn By: H.K	Date: Nov 2025
Approved By: E.B	Project No.: 02506021.000

Figure No. **3C**

Drawing: 02506021Cross-Sections.dwg Folder: D:\EnglobeProjects\2025\02506021.000S Monday, November 10, 2025 @ 14:24 by Harkiran Kaur

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Appendix B
Analytical Tables

ENGLOBE

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH1 S1	BH1 S6	DUP-S-3	RPD (%)	BH2 S2
					Date and Time	23-Jul-2025 9:10	23-Jul-2025 9:50	23-Jul-2025 0:00		23-Jul-2025 10:10
					Laboratory ID	WT2521286-001	WT2521286-002	WT2521286-045		WT2521286-003
					Sample Depth (mbgs)	0.0-0.6	3.8-4.4	Field Duplicate		0.8-1.4
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	NC	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	NC	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	<10	**13**	**22**	NC	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	78	61	NC	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	NC	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	NC	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	NC	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH2 S4	BH2 S7	BH3 S2	BH3 S6	BH4 S2
					Date and Time	23-Jul-2025 10:22	23-Jul-2025 10:25	23-Jul-2025 11:05	23-Jul-2025 11:35	23-Jul-2025 12:10
					Laboratory ID	WT2521286-004	WT2521286-005	WT2521286-006	WT2521286-007	WT2521286-008
					Sample Depth (mbgs)	2.3-2.9	4.6-5.2	0.8-1.4	3.8-4.4	0.8-1.4
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	**15**	**13**	<10	**20**	<10
F3 (C16-C34)	240	240	300	50	µg/g	65	56	<50	60	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location			RPD (%)		
					Sample ID	BH4 S7	DUP-S-1		BH5 S1	BH5 S6
					Date and Time	23-Jul-2025 12:50	23-Jul-2025 0:00		23-Jul-2025 13:05	23-Jul-2025 13:40
					Laboratory ID	WT2521286-009	WT2521286-043		WT2521286-010	WT2521286-011
					Sample Depth (mbgs)	4.6-5.2	Field Duplicate		0.0-0.6	3.8-4.4
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	NC	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	NC	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	NC	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	NC	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	NC	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	NC	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	10	**20**	NC	<10	**11**
F3 (C16-C34)	240	240	300	50	µg/g	51	77	NC	<50	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	NC	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	NC	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	NC	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH6 S1+2	BH6 S4	BH6 S7	BH7 S1	BH7 S3
					Date and Time	23-Jul-2025 14:05	23-Jul-2025 14:25	23-Jul-2025 14:40	24-Jul-2025 8:10	24-Jul-2025 8:20
					Laboratory ID	WT2521286-012	WT2521286-013	WT2521286-014	WT2521286-015	WT2521286-016
					Sample Depth (mbgs)	0.0-1.4	2.3-2.9	4.6-5.2	0.0-0.6	1.5-2.1
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	<10	<10	<10	<10	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	<50	56	<50	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH7 S5	BH7 S6	BH7 S7	BH7 S8	BH7 S9
					Date and Time	24-Jul-2025 8:40	24-Jul-2025 8:50	24-Jul-2025 9:00	24-Jul-2025 9:15	24-Jul-2025 9:25
					Laboratory ID	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020	WT2521286-021
					Sample Depth (mbgs)	3.0-3.7	3.8-4.4	4.6-5.2	6.1-6.7	6.9-7.5
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	<10	<10	<10	<10	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	<50	<50	<50	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH8 S1	BH8 S2	BH8 S3	BH8 S4	BH8 S5
					Date and Time	24-Jul-2025 9:55	24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15	24-Jul-2025 10:25
					Laboratory ID	WT2521286-022	WT2521286-023	WT2521286-024	WT2521286-025	WT2521286-026
					Sample Depth (mbgs)	0.0-0.6	0.8-1.4	1.5-2.1	2.3-2.9	3.0-3.7
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	<10	<10	<10	<10	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	<50	<50	<50	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH8 S6	BH8 S7	BH9 S1	BH9 S2	BH9 S3
					Date and Time	24-Jul-2025 10:35	24-Jul-2025 10:45	24-Jul-2025 10:55	24-Jul-2025 11:00	24-Jul-2025 11:10
					Laboratory ID	WT2521286-027	WT2521286-028	WT2521286-029	WT2521286-030	WT2521286-031
					Sample Depth (mbgs)	3.8-4.4	4.6-5.2	0.0-0.6	0.8-1.4	1.5-2.1
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	<10	<10	<10	<10	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	<50	<50	<50	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location		RPD (%)			
					Sample ID	DUP-S-2		BH9 S4	BH9 S5	BH9 S6
					Date and Time	24-Jul-2025 0:00		24-Jul-2025 11:15	24-Jul-2025 11:25	24-Jul-2025 11:35
					Laboratory ID	WT2521286-044		WT2521286-032	WT2521286-033	WT2521286-034
					Sample Depth (mbgs)	Field Duplicate		2.3-2.9	3.0-3.7	3.8-4.4
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	NC	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	NC	<0.015	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	NC	<0.050	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	NC	<0.050	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	NC	<5.0	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	NC	<5.0	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	<10	NC	<10	<10	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	NC	<50	<50	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	NC	<50	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	NC	YES	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	NC	-	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH9 S7	BH10 S1	BH10 S2	BH10 S3	BH10 S4
					Date and Time	24-Jul-2025 11:45	24-Jul-2025 11:50	24-Jul-2025 11:55	24-Jul-2025 12:05	24-Jul-2025 12:15
					Laboratory ID	WT2521286-035	WT2521286-036	WT2521286-037	WT2521286-038	WT2521286-039
					Sample Depth (mbgs)	4.6-5.2	0.0-0.6	0.8-1.4	1.5-2.1	2.3-2.9
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	<10	<10	<10	<10	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	<50	<50	<50	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	-	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 1

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Residential / Parkland / Institutional Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					
					Sample ID	BH10 S5	BH10 S6	DUP-S-4	RPD (%)	BH10 S7
					Date and Time	24-Jul-2025 12:25	24-Jul-2025 12:35	24-Jul-2025 0:00		24-Jul-2025 12:45
					Laboratory ID	WT2521286-040	WT2521286-041	WT2521286-046		WT2521286-042
					Sample Depth (mbgs)	3.0-3.7	3.8-4.4	Field Duplicate		4.6-5.2
					Laboratory Units					
Benzene	0.02	0.02	0.21	0.0050	µg/g	<0.0050	<0.0050	<0.0050	NC	<0.0050
Ethylbenzene	0.05	0.05	1.1	0.015	µg/g	<0.015	<0.015	<0.015	NC	<0.015
Toluene	0.2	0.2	2.3	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050
Xylenes (Total)	0.05	0.091	3.1	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050
F1 (C6-C10)	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0
F1-BTEX	17	25	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0
F2 (C10-C16)	10	26	98	10	µg/g	10	<10	<10	NC	<10
F3 (C16-C34)	240	240	300	50	µg/g	<50	<50	<50	NC	<50
F4 (C34-C50)	120	3300	2800	50	µg/g	<50	<50	<50	NC	<50
Chrom. to baseline at nC50	-	-	-		-	YES	YES	YES	NC	YES
F4G-SG (GHH-Silica)	120	3300	2800	-	-	-	-	-	NC	-

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.

- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 2

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location									
					Sample ID	BH1 S1	BH1 S6	DUP-S-3	RPD (%)	BH2 S2	BH2 S4	BH2 S7	BH3 S2
					Date and Time	23-Jul-2025 9:10	23-Jul-2025 9:50	23-Jul-2025 0:00		23-Jul-2025 10:10	23-Jul-2025 10:22	23-Jul-2025 10:25	23-Jul-2025 11:05
					Laboratory ID	WT2521286-001	WT2521286-002	WT2521286-045		WT2521286-003	WT2521286-004	WT2521286-005	WT2521286-006
					Sample Depth (mbgs)	0.0-0.6	3.8-4.4	X.X-X.X		0.8-1.4	2.3-2.9	4.6-5.2	0.8-1.4
					Laboratory Units								
Calculated Parameters													
SAR	1	12	12	0.10	-	0.12	**1.10**	**1.12**	1.80	0.22	0.55	**1.32**	0.53
Inorganics													
Conductivity	0.47	1.4	1.4	0.00500	mS/cm	0.212	0.417	0.374	10.87	0.147	0.220	0.341	0.320
pH*	5 to 9 and 5 to 11	5 to 9 and 5 to 11	5 to 9 and 5 to 11	0.10	pH units	7.34	7.69	7.75	0.06	7.68	7.65	7.89	7.63
Cyanide, Weak Acid Dissociabl	0.051	0.051	0.051	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	0.66	8	8	0.10	µg/g	<0.10	<0.10	<0.10	NC	0.12	0.14	<0.10	0.13
Metals													
Boron (B), Hot Water Ext.	-	2	2	0.10	µg/g	0.31	0.62	0.54	13.79	<0.10	0.35	0.82	0.11
Antimony (Sb)	1	40	40	0.10	µg/g	<0.10	0.19	0.18	NC	0.15	0.18	0.18	0.18
Arsenic (As)	11	18	18	0.10	µg/g	2.25	5.50	4.22	26.34	4.24	4.04	4.76	4.54
Barium (Ba)	210	670	670	0.50	µg/g	43.8	143	152	6.10	83.3	147	126	158
Beryllium (Be)	2.5	8	8	0.10	µg/g	0.39	0.94	0.83	12.43	0.60	0.85	0.87	1.02
Boron (B)	36	120	120	5.0	µg/g	<5.0	24.2	21.3	NC	14.2	22.4	23.8	20.2
Cadmium (Cd)	1	1.9	1.9	0.020	µg/g	0.143	0.104	0.091	NC	0.090	0.097	0.098	0.100
Chromium (Cr)	67	160	160	0.50	µg/g	12.6	31.5	29.8	5.55	21.0	29.1	30.6	31.6
Cobalt (Co)	19	80	80	0.10	µg/g	4.48	13.6	12.7	6.84	11.0	12.2	13.1	14.4
Copper (Cu)	62	230	230	0.50	µg/g	8.27	22.9	22.3	2.65	18.5	22.1	23.2	22.6
Lead (Pb)	45	120	120	0.50	µg/g	8.46	11.1	10.9	1.82	8.61	10.4	10.5	11.2
Mercury (Hg)	0.16	0.27	3.9	0.0050	µg/g	0.0218	0.0140	0.0127	NC	0.0105	0.0141	0.0136	0.0129
Molybdenum (Mo)	2	40	40	0.10	µg/g	0.56	1.17	1.06	9.87	0.58	1.14	1.03	0.72
Nickel (Ni)	37	270	270	0.50	µg/g	9.48	30.8	29.5	4.31	22.7	27.4	30.6	31.3
Selenium (Se)	1.2	5.5	5.5	0.20	µg/g	<0.20	<0.20	<0.20	NC	<0.20	0.24	<0.20	<0.20
Silver (Ag)	0.5	40	40	0.10	µg/g	<0.10	<0.10	<0.10	NC	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	1	3.3	3.3	0.050	µg/g	0.082	0.204	0.184	NC	0.136	0.156	0.166	0.197
Uranium (U)	1.9	33	33	0.050	µg/g	0.617	0.999	0.985	1.41	0.572	0.925	0.937	0.816
Vanadium (V)	86	86	86	0.20	µg/g	18.4	41.6	38.9	6.71	30.7	39.5	40.1	43.7
Zinc (Zn)	290	340	340	2.0	µg/g	34.4	63.8	61.4	3.83	45.3	59.6	63.8	64.4

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.
- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.
- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conductivity (mS/cm)].
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

ENGLOBE

TABLE 2

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH3 S6	BH4 S2	BH4 S7	DUP-S-1	RPD (%)	BH5 S1	BH5 S6	BH6 S1+2	BH6 S4
					23-Jul-2025 11:35	23-Jul-2025 12:10	23-Jul-2025 12:50	23-Jul-2025 0:00		23-Jul-2025 13:05	23-Jul-2025 13:40	23-Jul-2025 14:05	23-Jul-2025 14:25
					WT2521286-007	WT2521286-008	WT2521286-009	WT2521286-043		WT2521286-010	WT2521286-011	WT2521286-012	WT2521286-013
					3.8-4.4	0.8-1.4	4.6-5.2	X.X-X.X		0.0-0.6	3.8-4.4	0.0-0.6	2.3-2.9
Calculated Parameters													
SAR	1	12	12	0.10	0.80	0.52	**1.57**	**1.48**	5.90	0.42	**1.45**	0.26	0.54
Inorganics													
Conductivity	0.47	1.4	1.4	0.00500	0.377	0.324	**0.747**	**0.769**	2.90	0.276	**0.868**	0.260	0.174
pH*	5 to 9 and 5 to 11	5 to 9 and 5 to 11	5 to 9 and 5 to 11	0.10	7.71	7.62	7.75	7.77	0.02	7.51	7.80	7.30	7.73
Cyanide, Weak Acid Dissociabl	0.051	0.051	0.051	0.050	<0.050	<0.050	<0.050	<0.050	NC	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	0.66	8	8	0.10	<0.10	0.17	<0.10	<0.10	NC	0.15	<0.10	<0.10	0.12
Metals													
Boron (B), Hot Water Ext.	-	2	2	0.10	0.59	<0.10	0.85	0.74	13.84	0.24	0.59	0.16	0.24
Antimony (Sb)	1	40	40	0.10	0.18	0.18	0.18	0.18	NC	0.17	0.15	0.17	0.16
Arsenic (As)	11	18	18	0.10	4.28	5.40	4.41	4.26	3.46	4.12	3.55	5.06	4.52
Barium (Ba)	210	670	670	0.50	108	133	130	137	5.24	123	124	131	105
Beryllium (Be)	2.5	8	8	0.10	0.72	0.88	0.86	0.80	7.23	0.84	0.76	1.01	0.77
Boron (B)	36	120	120	5.0	20.8	18.7	24.3	22.1	NC	12.9	21.8	17.5	20.9
Cadmium (Cd)	1	1.9	1.9	0.020	0.125	0.123	0.089	0.100	NC	0.168	0.094	0.159	0.098
Chromium (Cr)	67	160	160	0.50	26.3	29.4	30.2	28.7	5.09	27.9	27.9	33.4	28.4
Cobalt (Co)	19	80	80	0.10	12.0	13.9	12.9	12.6	2.35	11.5	11.2	13.0	11.7
Copper (Cu)	62	230	230	0.50	21.8	22.9	22.3	21.8	2.27	18.5	21.1	23.1	21.5
Lead (Pb)	45	120	120	0.50	9.96	10.6	10.4	10.1	2.93	12.2	9.67	14.0	10.1
Mercury (Hg)	0.16	0.27	3.9	0.0050	0.0138	0.0145	0.0132	0.0133	NC	0.0246	0.0132	0.0317	0.0129
Molybdenum (Mo)	2	40	40	0.10	1.64	0.68	0.98	0.96	2.06	0.61	0.86	0.84	0.96
Nickel (Ni)	37	270	270	0.50	27.8	29.7	29.5	29.0	1.71	24.4	26.5	29.0	27.3
Selenium (Se)	1.2	5.5	5.5	0.20	<0.20	<0.20	<0.20	<0.20	NC	<0.20	<0.20	0.27	<0.20
Silver (Ag)	0.5	40	40	0.10	<0.10	<0.10	<0.10	<0.10	NC	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	1	3.3	3.3	0.050	0.166	0.175	0.180	0.167	NC	0.160	0.154	0.222	0.187
Uranium (U)	1.9	33	33	0.050	1.07	0.792	1.07	1.05	1.89	0.727	1.07	0.802	0.873
Vanadium (V)	86	86	86	0.20	33.2	42.2	39.7	37.4	5.97	38.7	36.5	44.8	38.0
Zinc (Zn)	290	340	340	2.0	64.2	57.0	61.5	59.1	3.98	58.4	55.2	77.5	57.9

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.
- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.
- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conductivity (mS/cm)].
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

TABLE 2

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH6 S7	BH7 S1	BH7 S3	BH7 S5	BH7 S6	BH7 S7	BH7 S8	BH7 S9	BH8 S1
					23-Jul-2025 14:40	24-Jul-2025 8:10	24-Jul-2025 8:20	24-Jul-2025 8:40	24-Jul-2025 8:50	24-Jul-2025 9:00	24-Jul-2025 9:15	24-Jul-2025 9:25	24-Jul-2025 9:55
					WT2521286-014	WT2521286-015	WT2521286-016	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020	WT2521286-021	WT2521286-022
					4.6-5.2	0.0-0.6	1.5-2.1	3.0-3.7	3.8-4.4	4.6-5.2	6.1-6.7	6.9-7.5	0.0-0.6
Calculated Parameters													
SAR	1	12	12	0.10	**1.26**	0.17	**1.39**	**1.73**	**1.67**	**1.36**	**1.53**	**1.54**	0.37
Inorganics													
Conductivity	0.47	1.4	1.4	0.00500	0.407	0.358	**0.764**	**1.37**	**1.49**	**2.14**	**1.42**	**1.16**	0.274
pH*	5 to 9 and 5 to 11	5 to 9 and 5 to 11	5 to 9 and 5 to 11	0.10	7.76	7.50	7.77	7.78	7.76	7.71	7.73	7.70	7.63
Cyanide, Weak Acid Dissociabl	0.051	0.051	0.051	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	0.66	8	8	0.10	<0.10	0.26	0.18	0.14	0.17	0.20	0.15	0.12	<0.10
Metals													
Boron (B), Hot Water Ext.	-	2	2	0.10	0.59	0.15	0.14	0.46	0.65	0.74	0.84	0.83	0.11
Antimony (Sb)	1	40	40	0.10	0.17	0.18	0.19	0.20	0.19	0.22	0.18	0.15	0.17
Arsenic (As)	11	18	18	0.10	4.08	4.75	5.56	7.44	6.74	9.57	4.03	7.74	4.41
Barium (Ba)	210	670	670	0.50	127	129	139	122	102	115	133	134	134
Beryllium (Be)	2.5	8	8	0.10	0.82	0.98	0.71	0.91	0.92	0.84	0.87	0.77	0.96
Boron (B)	36	120	120	5.0	23.2	12.2	19.0	23.5	25.1	24.2	25.1	21.7	12.2
Cadmium (Cd)	1	1.9	1.9	0.020	0.090	0.170	0.102	0.102	0.102	0.109	0.131	0.075	0.199
Chromium (Cr)	67	160	160	0.50	29.0	32.1	27.0	31.4	31.0	30.1	30.8	28.5	30.8
Cobalt (Co)	19	80	80	0.10	12.3	13.4	12.6	14.6	13.8	13.1	13.1	12.4	13.0
Copper (Cu)	62	230	230	0.50	21.8	20.2	21.9	24.3	23.4	23.5	23.0	22.3	20.1
Lead (Pb)	45	120	120	0.50	10.3	15.2	10.5	11.3	10.4	10.7	10.4	9.72	13.7
Mercury (Hg)	0.16	0.27	3.9	0.0050	0.0132	0.0360	0.0142	0.0132	0.0141	0.0137	0.0136	0.0141	0.0624
Molybdenum (Mo)	2	40	40	0.10	0.91	0.68	1.87	1.94	1.34	1.49	1.11	1.05	0.64
Nickel (Ni)	37	270	270	0.50	28.4	26.4	29.0	32.6	30.3	31.0	31.6	28.0	26.5
Selenium (Se)	1.2	5.5	5.5	0.20	<0.20	0.26	<0.20	<0.20	<0.20	<0.20	0.23	<0.20	0.23
Silver (Ag)	0.5	40	40	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.12
Thallium (Tl)	1	3.3	3.3	0.050	0.168	0.208	0.208	0.249	0.222	0.223	0.185	0.147	0.193
Uranium (U)	1.9	33	33	0.050	1.17	0.671	1.17	1.11	1.18	1.36	0.924	0.750	0.678
Vanadium (V)	86	86	86	0.20	38.4	45.5	35.2	42.4	41.5	40.6	40.8	37.5	43.9
Zinc (Zn)	290	340	340	2.0	59.6	68.7	55.8	66.3	65.0	64.8	61.6	59.2	67.9

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.
- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.
- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conductivity (mS/cm)].
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

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TABLE 2

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH8 S2	BH8 S3	BH8 S4	BH8 S5	BH8 S6	BH8 S7	BH9 S1	BH9 S2	BH9 S3
					24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15	24-Jul-2025 10:25	24-Jul-2025 10:35	24-Jul-2025 10:45	24-Jul-2025 10:55	24-Jul-2025 11:00	24-Jul-2025 11:10
					WT2521286-023	WT2521286-024	WT2521286-025	WT2521286-026	WT2521286-027	WT2521286-028	WT2521286-029	WT2521286-030	WT2521286-031
					0.8-1.4	1.5-2.1	2.3-2.9	3.0-3.7	3.8-4.4	4.6-5.2	0.0-0.6	0.8-1.4	1.5-2.1
Calculated Parameters													
SAR	1	12	12	0.10	**1.22**	**1.34**	**1.52**	**1.50**	**1.47**	**1.29**	0.56	**1.33**	0.73
Inorganics													
Conductivity	0.47	1.4	1.4	0.00500	0.439	**0.475**	**0.667**	**0.735**	**0.882**	**1.05**	0.353	**0.931**	**3.23**
pH*	5 to 9 and 5 to 11	5 to 9 and 5 to 11	5 to 9 and 5 to 11	0.10	7.79	7.87	7.79	7.89	7.80	7.80	7.28	7.76	7.75
Cyanide, Weak Acid Dissociabl	0.051	0.051	0.051	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	0.66	8	8	0.10	0.12	0.12	0.14	0.13	0.13	0.18	0.28	0.11	0.13
Metals													
Boron (B), Hot Water Ext.	-	2	2	0.10	<0.10	0.16	0.34	0.41	0.51	0.68	0.13	0.13	0.30
Antimony (Sb)	1	40	40	0.10	0.15	0.14	0.18	0.16	0.18	0.17	0.20	0.17	0.16
Arsenic (As)	11	18	18	0.10	4.06	4.56	5.25	4.43	3.93	3.65	5.66	4.62	4.26
Barium (Ba)	210	670	670	0.50	146	113	118	142	168	130	157	195	132
Beryllium (Be)	2.5	8	8	0.10	0.79	0.67	0.88	0.80	0.83	0.84	1.14	0.82	0.78
Boron (B)	36	120	120	5.0	18.2	16.2	24.1	21.6	21.6	22.8	14.7	20.2	20.8
Cadmium (Cd)	1	1.9	1.9	0.020	0.098	0.104	0.097	0.094	0.104	0.098	0.197	0.113	0.101
Chromium (Cr)	67	160	160	0.50	27.0	24.0	31.3	28.3	30.2	30.3	38.5	30.9	28.8
Cobalt (Co)	19	80	80	0.10	11.7	10.9	13.1	12.8	13.4	12.4	16.2	14.6	12.0
Copper (Cu)	62	230	230	0.50	20.9	23.4	22.0	21.4	22.6	22.2	24.1	22.0	20.6
Lead (Pb)	45	120	120	0.50	9.52	9.20	10.2	9.75	10.4	9.98	16.7	10.6	9.92
Mercury (Hg)	0.16	0.27	3.9	0.0050	0.0126	0.0140	0.0138	0.0134	0.0129	0.0137	0.0333	0.0131	0.0129
Molybdenum (Mo)	2	40	40	0.10	0.60	0.87	0.99	0.98	1.02	0.88	0.94	0.81	0.88
Nickel (Ni)	37	270	270	0.50	25.7	23.3	30.0	27.4	29.8	29.0	34.2	29.4	27.3
Selenium (Se)	1.2	5.5	5.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.50	0.24	<0.20	<0.20
Silver (Ag)	0.5	40	40	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	1	3.3	3.3	0.050	0.176	0.157	0.205	0.186	0.182	0.178	0.236	0.202	0.183
Uranium (U)	1.9	33	33	0.050	1.09	0.935	1.07	0.952	0.958	0.912	0.821	0.951	1.09
Vanadium (V)	86	86	86	0.20	37.6	33.6	41.5	37.8	39.8	40.4	50.9	40.8	38.4
Zinc (Zn)	290	340	340	2.0	53.8	55.9	61.2	58.0	62.9	61.0	78.8	59.9	57.0

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.
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Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conductivity (mS/cm)].
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

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TABLE 2

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	DUP-S-2	RPD (%)	BH9 S4	BH9 S5	BH9 S6	BH9 S7	BH10 S1	BH10 S2	BH10 S3
					24-Jul-2025 0:00		24-Jul-2025 11:15	24-Jul-2025 11:25	24-Jul-2025 11:35	24-Jul-2025 11:45	24-Jul-2025 11:50	24-Jul-2025 11:55	24-Jul-2025 12:05
					WT2521286-044		WT2521286-032	WT2521286-033	WT2521286-034	WT2521286-035	WT2521286-036	WT2521286-037	WT2521286-038
					X.X-X.X		2.3-2.9	3.0-3.7	3.8-4.4	4.6-5.2	0.0-0.6	0.8-1.4	1.5-2.1
Calculated Parameters													
SAR	1	12	12	0.10	0.81	10.39	**1.85**	**1.99**	**1.92**	**2.10**	0.13	0.34	0.48
Inorganics													
Conductivity	0.47	1.4	1.4	0.00500	**3.05**	5.73	**1.74**	**1.40**	**1.23**	**0.902**	**0.628**	0.217	0.209
pH*	5 to 9 and 5 to 11	5 to 9 and 5 to 11	5 to 9 and 5 to 11	0.10	7.85	0.10	7.82	7.80	7.84	7.75	7.04	7.32	7.66
Cyanide, Weak Acid Dissociabl	0.051	0.051	0.051	0.050	<0.050	NC	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	0.66	8	8	0.10	0.14	NC	0.13	0.16	<0.10	<0.10	0.35	0.23	0.13
Metals													
Boron (B), Hot Water Ext.	-	2	2	0.10	0.35	NC	0.57	0.60	0.79	0.86	0.17	<0.10	0.11
Antimony (Sb)	1	40	40	0.10	0.16	NC	0.17	0.17	0.17	0.17	0.13	0.18	0.19
Arsenic (As)	11	18	18	0.10	4.42	3.69	4.54	4.22	3.60	4.00	4.28	5.34	5.39
Barium (Ba)	210	670	670	0.50	140	5.88	140	136	129	115	142	130	139
Beryllium (Be)	2.5	8	8	0.10	0.87	10.91	0.77	0.80	0.78	0.89	1.16	0.93	0.94
Boron (B)	36	120	120	5.0	25.4	NC	23.3	20.7	21.8	26.3	12.6	22.9	25.5
Cadmium (Cd)	1	1.9	1.9	0.020	0.091	NC	0.100	0.089	0.099	0.099	0.183	0.134	0.104
Chromium (Cr)	67	160	160	0.50	29.4	2.06	29.8	27.9	27.8	30.8	35.9	31.3	31.8
Cobalt (Co)	19	80	80	0.10	12.5	4.08	14.3	11.8	11.6	12.8	17.1	13.7	13.3
Copper (Cu)	62	230	230	0.50	21.0	1.92	22.0	22.2	21.0	22.3	17.1	22.3	23.4
Lead (Pb)	45	120	120	0.50	9.95	0.30	10.1	9.95	9.89	10.4	14.8	10.2	10.8
Mercury (Hg)	0.16	0.27	3.9	0.0050	0.0127	NC	0.0133	0.0131	0.0126	0.0122	0.0370	0.0124	0.0124
Molybdenum (Mo)	2	40	40	0.10	0.97	9.73	1.04	1.04	1.20	0.97	0.84	0.91	1.23
Nickel (Ni)	37	270	270	0.50	27.5	0.73	29.9	27.6	27.9	29.8	29.8	28.8	31.0
Selenium (Se)	1.2	5.5	5.5	0.20	<0.20	NC	<0.20	<0.20	<0.20	<0.20	0.38	0.21	<0.20
Silver (Ag)	0.5	40	40	0.10	<0.10	NC	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	1	3.3	3.3	0.050	0.189	NC	0.179	0.185	0.159	0.170	0.210	0.200	0.229
Uranium (U)	1.9	33	33	0.050	1.08	0.92	0.972	0.802	0.946	1.02	0.877	0.963	0.978
Vanadium (V)	86	86	86	0.20	39.6	3.08	39.4	37.0	36.6	40.3	50.3	42.9	43.8
Zinc (Zn)	290	340	340	2.0	56.1	1.59	60.9	58.9	61.8	61.3	81.4	59.4	62.2

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.
- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.
- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conductivity (mS/cm)].
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

ENGLOBE

TABLE 2

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 SCS Agricultural or Other Property Use	MECP Table 2.1 ESQS Industrial / Commercial / Community Property Use	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH10 S4	BH10 S5	BH10 S6	DUP-S-4	RPD (%)	BH10 S7
					24-Jul-2025 12:15	24-Jul-2025 12:25	24-Jul-2025 12:35	24-Jul-2025 0:00		24-Jul-2025 12:45
					WT2521286-039	WT2521286-040	WT2521286-041	WT2521286-046		WT2521286-042
					2.3-2.9	3.0-3.7	3.8-4.4	X.X-X.X		4.6-5.2
Calculated Parameters										
SAR	1	12	12	0.10	0.69	0.92	**1.18**	0.94	22.64	**1.14**
Inorganics										
Conductivity	0.47	1.4	1.4	0.00500	0.239	0.281	0.458	**0.604**	27.50	**0.651**
pH*	5 to 9 and 5 to 11	5 to 9 and 5 to 11	5 to 9 and 5 to 11	0.10	7.70	7.72	7.72	7.81	0.09	7.72
Cyanide, Weak Acid Dissociabl	0.051	0.051	0.051	0.050	<0.050	<0.050	<0.050	<0.050	NC	<0.050
Chromium, Hexavalent	0.66	8	8	0.10	0.12	0.15	0.13	0.13	NC	0.11
Metals										
Boron (B), Hot Water Ext.	-	2	2	0.10	0.17	0.31	0.46	0.44	NC	0.58
Antimony (Sb)	1	40	40	0.10	0.17	0.22	0.16	0.17	NC	0.15
Arsenic (As)	11	18	18	0.10	4.51	5.49	4.09	3.78	7.88	5.68
Barium (Ba)	210	670	670	0.50	198	147	124	131	5.49	102
Beryllium (Be)	2.5	8	8	0.10	0.94	0.75	0.80	0.83	3.68	0.71
Boron (B)	36	120	120	5.0	26.9	24.5	20.8	24.6	NC	21.3
Cadmium (Cd)	1	1.9	1.9	0.020	0.107	0.097	0.104	0.105	0.96	0.087
Chromium (Cr)	67	160	160	0.50	33.1	28.5	28.3	29.9	5.50	25.7
Cobalt (Co)	19	80	80	0.10	12.7	13.1	13.0	12.8	1.55	12.0
Copper (Cu)	62	230	230	0.50	23.0	21.4	21.5	21.8	1.39	19.3
Lead (Pb)	45	120	120	0.50	10.2	10.1	9.63	10.0	3.77	8.83
Mercury (Hg)	0.16	0.27	3.9	0.0050	0.0132	0.0143	0.0121	0.0126	NC	0.0104
Molybdenum (Mo)	2	40	40	0.10	1.18	**2.31**	1.16	1.19	2.55	1.15
Nickel (Ni)	37	270	270	0.50	31.2	31.6	28.6	29.1	1.73	26.0
Selenium (Se)	1.2	5.5	5.5	0.20	<0.20	<0.20	<0.20	<0.20	NC	<0.20
Silver (Ag)	0.5	40	40	0.10	<0.10	<0.10	<0.10	<0.10	NC	<0.10
Thallium (Tl)	1	3.3	3.3	0.050	0.206	0.223	0.184	0.199	NC	0.172
Uranium (U)	1.9	33	33	0.050	1.06	1.15	0.892	0.945	5.77	0.750
Vanadium (V)	86	86	86	0.20	44.0	34.4	37.1	39.5	6.27	34.2
Zinc (Zn)	290	340	340	2.0	62.8	57.4	59.3	61.0	2.83	53.4

Notes:

- Standards from Table 1 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Background Site Condition Standards for Agricultural or Other Property Use.
- Standards from Table 2.1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 for Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition for Industrial/Commercial/Community Property Use.
- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighted exceeded the MECP Table 1 Agricultural SCS, as amended.
Test results shown in bold type and highlighed exceeded the MECP Table 2.1 ICC ESQS.
Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conductivity (mS/cm)].
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location				RPD (%)			
			Sample ID	BH1 S1	BH1 S6	DUP-S-3		BH2 S2	BH2 S4	BH2 S7
			Date and Time	23-Jul-2025 9:10	23-Jul-2025 9:50	23-Jul-2025 0:00		23-Jul-2025 10:10	23-Jul-2025 10:22	23-Jul-2025 10:25
			Laboratory ID	WT2521286-001	WT2521286-002	WT2521286-045		WT2521286-003	WT2521286-004	WT2521286-005
			Sample Depth (mbgs)	0.0-0.6	3.8-4.4	Field Duplicate		0.8-1.4	2.3-2.9	4.6-5.2
			Laboratory Units							
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	NC	<0.0050	<0.0050	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	NC	<0.015	<0.015	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050	<0.050	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050	<0.050	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0	<5.0	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0	<5.0	<5.0
F2 (C10-C16)	230	10	µg/g	<10	13	22	NC	<10	15	13
F3 (C16-C34)	1700	50	µg/g	<50	78	61	NC	<50	65	56
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	NC	<50	<50	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	NC	YES	YES	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	NC	-	-	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location							
			Sample ID	BH3 S2	BH3 S6	BH4 S2	BH4 S7	DUP-S-1	RPD (%)	BH5 S1
			Date and Time	23-Jul-2025 11:05	23-Jul-2025 11:35	23-Jul-2025 12:10	23-Jul-2025 12:50	23-Jul-2025 0:00		23-Jul-2025 13:05
			Laboratory ID	WT2521286-006	WT2521286-007	WT2521286-008	WT2521286-009	WT2521286-043		WT2521286-010
			Sample Depth (mbgs)	0.8-1.4	3.8-4.4	0.8-1.4	4.6-5.2	Field Duplicate		0.0-0.6
			Laboratory Units							
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NC	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015	NC	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	NC	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	NC	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	NC	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	NC	<5.0
F2 (C10-C16)	230	10	µg/g	<10	20	<10	10	20	NC	<10
F3 (C16-C34)	1700	50	µg/g	<50	60	<50	51	77	NC	<50
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	<50	<50	NC	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	YES	YES	NC	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	-	-	NC	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location						
			Sample ID	BH5 S6	BH6 S1+2	BH6 S4	BH6 S7	BH7 S1	BH7 S3
			Date and Time	23-Jul-2025 13:40	23-Jul-2025 14:05	23-Jul-2025 14:25	23-Jul-2025 14:40	24-Jul-2025 8:10	24-Jul-2025 8:20
			Laboratory ID	WT2521286-011	WT2521286-012	WT2521286-013	WT2521286-014	WT2521286-015	WT2521286-016
			Sample Depth (mbgs)	0.0-0.6	0.0-1.4	2.3-2.9	4.6-5.2	0.0-0.6	1.5-2.1
			Laboratory Units						
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	230	10	µg/g	11	<10	<10	<10	<10	<10
F3 (C16-C34)	1700	50	µg/g	<50	<50	<50	56	<50	<50
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	-	-	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location						
			Sample ID	BH7 S5	BH7 S6	BH7 S7	BH7 S8	BH7 S9	BH8 S1
			Date and Time	24-Jul-2025 8:40	24-Jul-2025 8:50	24-Jul-2025 9:00	24-Jul-2025 9:15	24-Jul-2025 9:25	24-Jul-2025 9:55
			Laboratory ID	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020	WT2521286-021	WT2521286-022
			Sample Depth (mbgs)	3.0-3.7	3.8-4.4	4.6-5.2	6.1-6.7	6.9-7.5	0.0-0.6
			Laboratory Units						
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	230	10	µg/g	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	1700	50	µg/g	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	-	-	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location						
			Sample ID	BH8 S2	BH8 S3	BH8 S4	BH8 S5	BH8 S6	BH8 S7
			Date and Time	24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15	24-Jul-2025 10:25	24-Jul-2025 10:35	24-Jul-2025 10:45
			Laboratory ID	WT2521286-023	WT2521286-024	WT2521286-025	WT2521286-026	WT2521286-027	WT2521286-028
			Sample Depth (mbgs)	0.8-1.4	1.5-2.1	2.3-2.9	3.0-3.7	3.8-4.4	4.6-5.2
			Laboratory Units						
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	230	10	µg/g	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	1700	50	µg/g	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	-	-	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location					RPD (%)		
			Sample ID	BH9 S1	BH9 S2	BH9 S3	DUP-S-2		BH9 S4	BH9 S5
			Date and Time	24-Jul-2025 10:55	24-Jul-2025 11:00	24-Jul-2025 11:10	24-Jul-2025 0:00		24-Jul-2025 11:15	24-Jul-2025 11:25
			Laboratory ID	WT2521286-029	WT2521286-030	WT2521286-031	WT2521286-044		WT2521286-032	WT2521286-033
			Sample Depth (mbgs)	0.0-0.6	0.8-1.4	1.5-2.1	Field Duplicate		2.3-2.9	3.0-3.7
			Laboratory Units							
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	NC	<0.0050	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	NC	<0.015	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	NC	<0.050	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	NC	<0.050	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	NC	<5.0	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	NC	<5.0	<5.0
F2 (C10-C16)	230	10	µg/g	<10	<10	<10	<10	NC	<10	<10
F3 (C16-C34)	1700	50	µg/g	<50	<50	<50	<50	NC	<50	<50
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	<50	NC	<50	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	YES	NC	YES	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	-	NC	-	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location						
			Sample ID	BH9 S6	BH9 S7	BH10 S1	BH10 S2	BH10 S3	BH10 S4
			Date and Time	24-Jul-2025 11:35	24-Jul-2025 11:45	24-Jul-2025 11:50	24-Jul-2025 11:55	24-Jul-2025 12:05	24-Jul-2025 12:15
			Laboratory ID	WT2521286-034	WT2521286-035	WT2521286-036	WT2521286-037	WT2521286-038	WT2521286-039
			Sample Depth (mbgs)	3.8-4.4	4.6-5.2	0.0-0.6	0.8-1.4	1.5-2.1	2.3-2.9
			Laboratory Units						
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	230	10	µg/g	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	1700	50	µg/g	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	<50	<50	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	YES	YES	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	-	-	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 3

PETROLEUM HYDROCARBON (PHC) FRACTIONS F1 to F4 AND BTEX ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location				RPD (%)	
			Sample ID	BH10 S5	BH10 S6	DUP-S-4		BH10 S7
			Date and Time	24-Jul-2025 12:25	24-Jul-2025 12:35	24-Jul-2025 0:00		24-Jul-2025 12:45
			Laboratory ID	WT2521286-040	WT2521286-041	WT2521286-046		WT2521286-042
			Sample Depth (mbgs)	3.0-3.7	3.8-4.4	Field Duplicate		4.6-5.2
			Laboratory Units					
Benzene	0.32	0.0050	µg/g	<0.0050	<0.0050	<0.0050	NC	<0.0050
Ethylbenzene	1.1	0.015	µg/g	<0.015	<0.015	<0.015	NC	<0.015
Toluene	6.4	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050
Xylenes (Total)	26	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050
F1 (C6-C10)	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0
F1-BTEX	55	5.0	µg/g	<5.0	<5.0	<5.0	NC	<5.0
F2 (C10-C16)	230	10	µg/g	10	<10	<10	NC	<10
F3 (C16-C34)	1700	50	µg/g	<50	<50	<50	NC	<50
F4 (C34-C50)	3300	50	µg/g	<50	<50	<50	NC	<50
Chrom. to baseline at nC50	-		-	YES	YES	YES	NC	YES
F4G-SG (GHH-Silica)	3300	-	-	-	-	-	NC	-

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

  Test results shown in bold type and highlighted exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
  Laboratory detection limits for the test results shown in bold type and highlighted exceeded the applicable standards.
- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- All Standards and results shown in µg/g.
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- Tests carried out by: ALS Global

TABLE 4

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	Sample Location				RPD (%)				
			Sample ID	BH1 S1	BH1 S6	DUP-S-3		BH2 S2	BH2 S4	BH2 S7	BH3 S2
			Date and Time	23-Jul-2025 9:10	23-Jul-2025 9:50	23-Jul-2025 0:00		23-Jul-2025 10:10	23-Jul-2025 10:22	23-Jul-2025 10:25	23-Jul-2025 11:05
			Laboratory ID	WT2521286-001	WT2521286-002	WT2521286-045		WT2521286-003	WT2521286-004	WT2521286-005	WT2521286-006
			Sample Depth (mbgs)	0.0-0.6	3.8-4.4	Field Duplicate		0.8-1.4	2.3-2.9	4.6-5.2	0.8-1.4
			Laboratory Units								
Calculated Parameters											
SAR	12	0.10	-	0.12	1.10	1.12	1.80	0.22	0.55	1.32	0.53
Inorganics											
Conductivity	1.4	0.00500	mS/cm	0.212	0.417	0.374	10.87	0.147	0.220	0.341	0.320
pH*	5 to 9 and 5 to 11	0.10	pH units	7.34	7.69	7.75	0.06	7.68	7.65	7.89	7.63
Cyanide, Weak Acid Dissociabl	0.051	0.050	µg/g	<0.050	<0.050	<0.050	NC	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	8	0.10	µg/g	<0.10	<0.10	<0.10	NC	0.12	0.14	<0.10	0.13
Metals											
Boron (B), Hot Water Ext.	2	0.10	µg/g	0.31	0.62	0.54	13.79	<0.10	0.35	0.82	0.11
Antimony (Sb)	40	0.10	µg/g	<0.10	0.19	0.18	NC	0.15	0.18	0.18	0.18
Arsenic (As)	18	0.10	µg/g	2.25	5.50	4.22	26.34	4.24	4.04	4.76	4.54
Barium (Ba)	670	0.50	µg/g	43.8	143	152	6.10	83.3	147	126	158
Beryllium (Be)	8	0.10	µg/g	0.39	0.94	0.83	12.43	0.60	0.85	0.87	1.02
Boron (B)	120	5.0	µg/g	<5.0	24.2	21.3	NC	14.2	22.4	23.8	20.2
Cadmium (Cd)	1.9	0.020	µg/g	0.143	0.104	0.091	NC	0.090	0.097	0.098	0.100
Chromium (Cr)	160	0.50	µg/g	12.6	31.5	29.8	5.55	21.0	29.1	30.6	31.6
Cobalt (Co)	80	0.10	µg/g	4.48	13.6	12.7	6.84	11.0	12.2	13.1	14.4
Copper (Cu)	230	0.50	µg/g	8.27	22.9	22.3	2.65	18.5	22.1	23.2	22.6
Lead (Pb)	120	0.50	µg/g	8.46	11.1	10.9	1.82	8.61	10.4	10.5	11.2
Mercury (Hg)	3.9	0.0050	µg/g	0.0218	0.0140	0.0127	NC	0.0105	0.0141	0.0136	0.0129
Molybdenum (Mo)	40	0.10	µg/g	0.56	1.17	1.06	9.87	0.58	1.14	1.03	0.72
Nickel (Ni)	270	0.50	µg/g	9.48	30.8	29.5	4.31	22.7	27.4	30.6	31.3
Selenium (Se)	5.5	0.20	µg/g	<0.20	<0.20	<0.20	NC	<0.20	0.24	<0.20	<0.20
Silver (Ag)	40	0.10	µg/g	<0.10	<0.10	<0.10	NC	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	3.3	0.050	µg/g	0.082	0.204	0.184	NC	0.136	0.156	0.166	0.197
Uranium (U)	33	0.050	µg/g	0.617	0.999	0.985	1.41	0.572	0.925	0.937	0.816
Vanadium (V)	86	0.20	µg/g	18.4	41.6	38.9	6.71	30.7	39.5	40.1	43.7
Zinc (Zn)	340	2.0	µg/g	34.4	63.8	61.4	3.83	45.3	59.6	63.8	64.4

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Depth Generic Site Condition Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/Coarse Textured Soil.

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse Soils), as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil duplicate samples of the Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conductivity (mS/cm)].
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

ENGLOBE

TABLE 4

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH3 S6	BH4 S2	BH4 S7	DUP-S-1	RPD (%)	BH5 S1	BH5 S6	BH6 S1+2	BH6 S4
			23-Jul-2025 11:35	23-Jul-2025 12:10	23-Jul-2025 12:50	23-Jul-2025 0:00		23-Jul-2025 13:05	23-Jul-2025 13:40	23-Jul-2025 14:05	23-Jul-2025 14:25
			WT2521286-007	WT2521286-008	WT2521286-009	WT2521286-043		WT2521286-010	WT2521286-011	WT2521286-012	WT2521286-013
			3.8-4.4	0.8-1.4	4.6-5.2	Field Duplicate		0.0-0.6	3.8-4.4	0.0-1.4	2.3-2.9
Calculated Parameters											
SAR	12	0.10	0.80	0.52	1.57	1.48	5.90	0.42	1.45	0.26	0.54
Inorganics											
Conductivity	1.4	0.00500	0.377	0.324	0.747	0.769	2.90	0.276	0.868	0.260	0.174
pH*	5 to 9 and 5 to 11	0.10	7.71	7.62	7.75	7.77	0.02	7.51	7.80	7.30	7.73
Cyanide, Weak Acid Dissociabl	0.051	0.050	<0.050	<0.050	<0.050	<0.050	NC	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	8	0.10	<0.10	0.17	<0.10	<0.10	NC	0.15	<0.10	<0.10	0.12
Metals											
Boron (B), Hot Water Ext.	2	0.10	0.59	<0.10	0.85	0.74	13.84	0.24	0.59	0.16	0.24
Antimony (Sb)	40	0.10	0.18	0.18	0.18	0.18	NC	0.17	0.15	0.17	0.16
Arsenic (As)	18	0.10	4.28	5.40	4.41	4.26	3.46	4.12	3.55	5.06	4.52
Barium (Ba)	670	0.50	108	133	130	137	5.24	123	124	131	105
Beryllium (Be)	8	0.10	0.72	0.88	0.86	0.80	7.23	0.84	0.76	1.01	0.77
Boron (B)	120	5.0	20.8	18.7	24.3	22.1	NC	12.9	21.8	17.5	20.9
Cadmium (Cd)	1.9	0.020	0.125	0.123	0.089	0.100	NC	0.168	0.094	0.159	0.098
Chromium (Cr)	160	0.50	26.3	29.4	30.2	28.7	5.09	27.9	27.9	33.4	28.4
Cobalt (Co)	80	0.10	12.0	13.9	12.9	12.6	2.35	11.5	11.2	13.0	11.7
Copper (Cu)	230	0.50	21.8	22.9	22.3	21.8	2.27	18.5	21.1	23.1	21.5
Lead (Pb)	120	0.50	9.96	10.6	10.4	10.1	2.93	12.2	9.67	14.0	10.1
Mercury (Hg)	3.9	0.0050	0.0138	0.0145	0.0132	0.0133	NC	0.0246	0.0132	0.0317	0.0129
Molybdenum (Mo)	40	0.10	1.64	0.68	0.98	0.96	2.06	0.61	0.86	0.84	0.96
Nickel (Ni)	270	0.50	27.8	29.7	29.5	29.0	1.71	24.4	26.5	29.0	27.3
Selenium (Se)	5.5	0.20	<0.20	<0.20	<0.20	<0.20	NC	<0.20	<0.20	0.27	<0.20
Silver (Ag)	40	0.10	<0.10	<0.10	<0.10	<0.10	NC	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	3.3	0.050	0.166	0.175	0.180	0.167	NC	0.160	0.154	0.222	0.187
Uranium (U)	33	0.050	1.07	0.792	1.07	1.05	1.89	0.727	1.07	0.802	0.873
Vanadium (V)	86	0.20	33.2	42.2	39.7	37.4	5.97	38.7	36.5	44.8	38.0
Zinc (Zn)	340	2.0	64.2	57.0	61.5	59.1	3.98	58.4	55.2	77.5	57.9

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Unde
  Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Dep
  Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse S
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the ap

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil dupli
  Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessme
  Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conducti
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

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TABLE 4

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH6 S7	BH7 S1	BH7 S3	BH7 S5	BH7 S6	BH7 S7	BH7 S8	BH7 S9
			23-Jul-2025 14:40	24-Jul-2025 8:10	24-Jul-2025 8:20	24-Jul-2025 8:40	24-Jul-2025 8:50	24-Jul-2025 9:00	24-Jul-2025 9:15	24-Jul-2025 9:25
			WT2521286-014	WT2521286-015	WT2521286-016	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020	WT2521286-021
			4.6-5.2	0.0-0.6	1.5-2.1	3.0-3.7	3.8-4.4	4.6-5.2	6.1-6.7	6.9-7.5
Calculated Parameters										
SAR	12	0.10	1.26	0.17	1.39	1.73	1.67	1.36	1.53	1.54
Inorganics										
Conductivity	1.4	0.00500	0.407	0.358	0.764	1.37	**1.49**	**2.14**	**1.42**	1.16
pH*	5 to 9 and 5 to 11	0.10	7.76	7.50	7.77	7.78	7.76	7.71	7.73	7.70
Cyanide, Weak Acid Dissociabl	0.051	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	8	0.10	<0.10	0.26	0.18	0.14	0.17	0.20	0.15	0.12
Metals										
Boron (B), Hot Water Ext.	2	0.10	0.59	0.15	0.14	0.46	0.65	0.74	0.84	0.83
Antimony (Sb)	40	0.10	0.17	0.18	0.19	0.20	0.19	0.22	0.18	0.15
Arsenic (As)	18	0.10	4.08	4.75	5.56	7.44	6.74	9.57	4.03	7.74
Barium (Ba)	670	0.50	127	129	139	122	102	115	133	134
Beryllium (Be)	8	0.10	0.82	0.98	0.71	0.91	0.92	0.84	0.87	0.77
Boron (B)	120	5.0	23.2	12.2	19.0	23.5	25.1	24.2	25.1	21.7
Cadmium (Cd)	1.9	0.020	0.090	0.170	0.102	0.102	0.102	0.109	0.131	0.075
Chromium (Cr)	160	0.50	29.0	32.1	27.0	31.4	31.0	30.1	30.8	28.5
Cobalt (Co)	80	0.10	12.3	13.4	12.6	14.6	13.8	13.1	13.1	12.4
Copper (Cu)	230	0.50	21.8	20.2	21.9	24.3	23.4	23.5	23.0	22.3
Lead (Pb)	120	0.50	10.3	15.2	10.5	11.3	10.4	10.7	10.4	9.72
Mercury (Hg)	3.9	0.0050	0.0132	0.0360	0.0142	0.0132	0.0141	0.0137	0.0136	0.0141
Molybdenum (Mo)	40	0.10	0.91	0.68	1.87	1.94	1.34	1.49	1.11	1.05
Nickel (Ni)	270	0.50	28.4	26.4	29.0	32.6	30.3	31.0	31.6	28.0
Selenium (Se)	5.5	0.20	<0.20	0.26	<0.20	<0.20	<0.20	<0.20	0.23	<0.20
Silver (Ag)	40	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	3.3	0.050	0.168	0.208	0.208	0.249	0.222	0.223	0.185	0.147
Uranium (U)	33	0.050	1.17	0.671	1.17	1.11	1.18	1.36	0.924	0.750
Vanadium (V)	86	0.20	38.4	45.5	35.2	42.4	41.5	40.6	40.8	37.5
Zinc (Zn)	340	2.0	59.6	68.7	55.8	66.3	65.0	64.8	61.6	59.2

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Unde
  Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Dep
  Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse S
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the ap

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil dupli
  Laboratory Services Branch MECP 2021 "Protocol for Analytical Methods Used in the Assessme
  Part XV.1 of the Environmental Protection Act and Excess Soil Quality" Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conducti
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

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TABLE 4

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH8 S1	BH8 S2	BH8 S3	BH8 S4	BH8 S5	BH8 S6	BH8 S7	BH9 S1
			24-Jul-2025 9:55	24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15	24-Jul-2025 10:25	24-Jul-2025 10:35	24-Jul-2025 10:45	24-Jul-2025 10:55
			WT2521286-022	WT2521286-023	WT2521286-024	WT2521286-025	WT2521286-026	WT2521286-027	WT2521286-028	WT2521286-029
			0.0-0.6	0.8-1.4	1.5-2.1	2.3-2.9	3.0-3.7	3.8-4.4	4.6-5.2	0.0-0.6
Calculated Parameters										
SAR	12	0.10	0.37	1.22	1.34	1.52	1.50	1.47	1.29	0.56
Inorganics										
Conductivity	1.4	0.00500	0.274	0.439	0.475	0.667	0.735	0.882	1.05	0.353
pH*	5 to 9 and 5 to 11	0.10	7.63	7.79	7.87	7.79	7.89	7.80	7.80	7.28
Cyanide, Weak Acid Dissociabl	0.051	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	8	0.10	<0.10	0.12	0.12	0.14	0.13	0.13	0.18	0.28
Metals										
Boron (B), Hot Water Ext.	2	0.10	0.11	<0.10	0.16	0.34	0.41	0.51	0.68	0.13
Antimony (Sb)	40	0.10	0.17	0.15	0.14	0.18	0.16	0.18	0.17	0.20
Arsenic (As)	18	0.10	4.41	4.06	4.56	5.25	4.43	3.93	3.65	5.66
Barium (Ba)	670	0.50	134	146	113	118	142	168	130	157
Beryllium (Be)	8	0.10	0.96	0.79	0.67	0.88	0.80	0.83	0.84	1.14
Boron (B)	120	5.0	12.2	18.2	16.2	24.1	21.6	21.6	22.8	14.7
Cadmium (Cd)	1.9	0.020	0.199	0.098	0.104	0.097	0.094	0.104	0.098	0.197
Chromium (Cr)	160	0.50	30.8	27.0	24.0	31.3	28.3	30.2	30.3	38.5
Cobalt (Co)	80	0.10	13.0	11.7	10.9	13.1	12.8	13.4	12.4	16.2
Copper (Cu)	230	0.50	20.1	20.9	23.4	22.0	21.4	22.6	22.2	24.1
Lead (Pb)	120	0.50	13.7	9.52	9.20	10.2	9.75	10.4	9.98	16.7
Mercury (Hg)	3.9	0.0050	0.0624	0.0126	0.0140	0.0138	0.0134	0.0129	0.0137	0.0333
Molybdenum (Mo)	40	0.10	0.64	0.60	0.87	0.99	0.98	1.02	0.88	0.94
Nickel (Ni)	270	0.50	26.5	25.7	23.3	30.0	27.4	29.8	29.0	34.2
Selenium (Se)	5.5	0.20	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	0.50	0.24
Silver (Ag)	40	0.10	0.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	3.3	0.050	0.193	0.176	0.157	0.205	0.186	0.182	0.178	0.236
Uranium (U)	33	0.050	0.678	1.09	0.935	1.07	0.952	0.958	0.912	0.821
Vanadium (V)	86	0.20	43.9	37.6	33.6	41.5	37.8	39.8	40.4	50.9
Zinc (Zn)	340	2.0	67.9	53.8	55.9	61.2	58.0	62.9	61.0	78.8

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Unde
  Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Dep
  Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse S
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the ap

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil dupli
  Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessme
  Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conducti
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

TABLE 4

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH9 S2	BH9 S3	DUP-S-2	RPD (%)	BH9 S4	BH9 S5	BH9 S6	BH9 S7	BH10 S1
			24-Jul-2025 11:00	24-Jul-2025 11:10	24-Jul-2025 0:00		24-Jul-2025 11:15	24-Jul-2025 11:25	24-Jul-2025 11:35	24-Jul-2025 11:45	24-Jul-2025 11:50
			WT2521286-030	WT2521286-031	WT2521286-044		WT2521286-032	WT2521286-033	WT2521286-034	WT2521286-035	WT2521286-036
			0.8-1.4	1.5-2.1	Field Duplicate		2.3-2.9	3.0-3.7	3.8-4.4	4.6-5.2	0.0-0.6
Calculated Parameters											
SAR	12	0.10	1.33	0.73	0.81	10.39	1.85	1.99	1.92	2.10	0.13
Inorganics											
Conductivity	1.4	0.00500	0.931	**3.23**	**3.05**	5.73	**1.74**	1.40	1.23	0.902	0.628
pH*	5 to 9 and 5 to 11	0.10	7.76	7.75	7.85	0.10	7.82	7.80	7.84	7.75	7.04
Cyanide, Weak Acid Dissociabl	0.051	0.050	<0.050	<0.050	<0.050	NC	<0.050	<0.050	<0.050	<0.050	<0.050
Chromium, Hexavalent	8	0.10	0.11	0.13	0.14	NC	0.13	0.16	<0.10	<0.10	0.35
Metals											
Boron (B), Hot Water Ext.	2	0.10	0.13	0.30	0.35	NC	0.57	0.60	0.79	0.86	0.17
Antimony (Sb)	40	0.10	0.17	0.16	0.16	NC	0.17	0.17	0.17	0.17	0.13
Arsenic (As)	18	0.10	4.62	4.26	4.42	3.69	4.54	4.22	3.60	4.00	4.28
Barium (Ba)	670	0.50	195	132	140	5.88	140	136	129	115	142
Beryllium (Be)	8	0.10	0.82	0.78	0.87	10.91	0.77	0.80	0.78	0.89	1.16
Boron (B)	120	5.0	20.2	20.8	25.4	NC	23.3	20.7	21.8	26.3	12.6
Cadmium (Cd)	1.9	0.020	0.113	0.101	0.091	NC	0.100	0.089	0.099	0.099	0.183
Chromium (Cr)	160	0.50	30.9	28.8	29.4	2.06	29.8	27.9	27.8	30.8	35.9
Cobalt (Co)	80	0.10	14.6	12.0	12.5	4.08	14.3	11.8	11.6	12.8	17.1
Copper (Cu)	230	0.50	22.0	20.6	21.0	1.92	22.0	22.2	21.0	22.3	17.1
Lead (Pb)	120	0.50	10.6	9.92	9.95	0.30	10.1	9.95	9.89	10.4	14.8
Mercury (Hg)	3.9	0.0050	0.0131	0.0129	0.0127	NC	0.0133	0.0131	0.0126	0.0122	0.0370
Molybdenum (Mo)	40	0.10	0.81	0.88	0.97	9.73	1.04	1.04	1.20	0.97	0.84
Nickel (Ni)	270	0.50	29.4	27.3	27.5	0.73	29.9	27.6	27.9	29.8	29.8
Selenium (Se)	5.5	0.20	<0.20	<0.20	<0.20	NC	<0.20	<0.20	<0.20	<0.20	0.38
Silver (Ag)	40	0.10	<0.10	<0.10	<0.10	NC	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium (Tl)	3.3	0.050	0.202	0.183	0.189	NC	0.179	0.185	0.159	0.170	0.210
Uranium (U)	33	0.050	0.951	1.09	1.08	0.92	0.972	0.802	0.946	1.02	0.877
Vanadium (V)	86	0.20	40.8	38.4	39.6	3.08	39.4	37.0	36.6	40.3	50.3
Zinc (Zn)	340	2.0	59.9	57.0	56.1	1.59	60.9	58.9	61.8	61.3	81.4

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Unde
  Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Dep
  Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/

Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse S
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the ap

- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil dupli
  Laboratory Services Branch MECP 2021 “Protocol for Analytical Methods Used in the Assessme
  Part XV.1 of the Environmental Protection Act and Excess Soil Quality” Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conducti
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

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TABLE 4

O.REG. 153/04 METALS AND INORGANICS ANALYSIS - SOIL

Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 2 SCS Industrial / Commercial / Community Property Use - Coarse Soils	Laboratory Detection Limit	BH10 S2	BH10 S3	BH10 S4	BH10 S5	BH10 S6	DUP-S-4	RPD (%)	BH10 S7
			24-Jul-2025 11:55	24-Jul-2025 12:05	24-Jul-2025 12:15	24-Jul-2025 12:25	24-Jul-2025 12:35	24-Jul-2025 0:00		24-Jul-2025 12:45
			WT2521286-037	WT2521286-038	WT2521286-039	WT2521286-040	WT2521286-041	WT2521286-046		WT2521286-042
			0.8-1.4	1.5-2.1	2.3-2.9	3.0-3.7	3.8-4.4	Field Duplicate		4.6-5.2
Calculated Parameters										
SAR	12	0.10	0.34	0.48	0.69	0.92	1.18	0.94	22.64	1.14
Inorganics										
Conductivity	1.4	0.00500	0.217	0.209	0.239	0.281	0.458	0.604	27.50	0.651
pH*	5 to 9 and 5 to 11	0.10	7.32	7.66	7.70	7.72	7.72	7.81	0.09	7.72
Cyanide, Weak Acid Dissociabl	0.051	0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NC	<0.050
Chromium, Hexavalent	8	0.10	0.23	0.13	0.12	0.15	0.13	0.13	NC	0.11
Metals										
Boron (B), Hot Water Ext.	2	0.10	<0.10	0.11	0.17	0.31	0.46	0.44	NC	0.58
Antimony (Sb)	40	0.10	0.18	0.19	0.17	0.22	0.16	0.17	NC	0.15
Arsenic (As)	18	0.10	5.34	5.39	4.51	5.49	4.09	3.78	7.88	5.68
Barium (Ba)	670	0.50	130	139	198	147	124	131	5.49	102
Beryllium (Be)	8	0.10	0.93	0.94	0.94	0.75	0.80	0.83	3.68	0.71
Boron (B)	120	5.0	22.9	25.5	26.9	24.5	20.8	24.6	NC	21.3
Cadmium (Cd)	1.9	0.020	0.134	0.104	0.107	0.097	0.104	0.105	0.96	0.087
Chromium (Cr)	160	0.50	31.3	31.8	33.1	28.5	28.3	29.9	5.50	25.7
Cobalt (Co)	80	0.10	13.7	13.3	12.7	13.1	13.0	12.8	1.55	12.0
Copper (Cu)	230	0.50	22.3	23.4	23.0	21.4	21.5	21.8	1.39	19.3
Lead (Pb)	120	0.50	10.2	10.8	10.2	10.1	9.63	10.0	3.77	8.83
Mercury (Hg)	3.9	0.0050	0.0124	0.0124	0.0132	0.0143	0.0121	0.0126	NC	0.0104
Molybdenum (Mo)	40	0.10	0.91	1.23	1.18	2.31	1.16	1.19	2.55	1.15
Nickel (Ni)	270	0.50	28.8	31.0	31.2	31.6	28.6	29.1	1.73	26.0
Selenium (Se)	5.5	0.20	0.21	<0.20	<0.20	<0.20	<0.20	<0.20	NC	<0.20
Silver (Ag)	40	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NC	<0.10
Thallium (Tl)	3.3	0.050	0.200	0.229	0.206	0.223	0.184	0.199	NC	0.172
Uranium (U)	33	0.050	0.963	0.978	1.06	1.15	0.892	0.945	5.77	0.750
Vanadium (V)	86	0.20	42.9	43.8	44.0	34.4	37.1	39.5	6.27	34.2
Zinc (Zn)	340	2.0	59.4	62.2	62.8	57.4	59.3	61.0	2.83	53.4

Notes:

- Standards from Table 2 of the MECP Soil, Ground Water and Sediment Standards for Use Unde
  Environmental Protection Act, April 15, 2011, O. Reg. 153/04 as amended document for Full Dep
  Standards for Industrial/Commercial/Community Property Use - Potable Groundwater Condition/

  Test results shown in bold type and highlighed exceeded the MECP Table 2 ICC SCS (Coarse S
  Laboratory detection limits for the test results shown in bold type and highlighed exceeded the ap
- Relative Percent Difference (RPD) shown in bold red type exceed the alert criterion for soil dupli
  Laboratory Services Branch MECP 2021 "Protocol for Analytical Methods Used in the Assessme
  Part XV.1 of the Environmental Protection Act and Excess Soil Quality" Version 3.1.
- *The RPD for pH is an absolute differencce and shown in pH units.
- All Standards and results shown in µg/g [exceptions, SAR (unitless), pH (pH units) and Conducti
- "-" Standard not available or parameter not analyzed.
- "NC" RPD not calculable / not valid.
- mbgs - metres below ground surface.
- pH criteria refers to surface and subsurface soils, respectively.
- Tests carried out by: ALS Global

Table 5
O. REG. 406 MODIFIED SYNTHETIC PRECIPITATION LEACHING PROCEDURE ANALYSIS (mSPLP)
Glencoe Industrial Park
Glencoe, Ontario

Parameters	MECP Table 1 LSL Residential / Parkland / Institutional / Industrial / Commercial / Community Property Use	MECP Table 2.1 LSL Industrial / Commercial / Community Property Use	Laboratory Detection Limit	Sample Location	BH1	BH2	BH3	BH5	BH7
				Sample ID	BH1 S6	BH2 S4	BH3 S6	BH5 S6	BH7 S6
				Date and Time	23-Jul-2025 9:50	23-Jul-2025 10:22	23-Jul-2025 11:35	23-Jul-2025 13:40	24-Jul-2025 8:50
				Laboratory ID	WT2521286-002	WT2521286-004	WT2521286-007	WT2521286-011	WT2521286-018
				Sample Depth (mbgs)	3.8-4.4	2.3-2.9	3.8-4.4	3.8-4.4	3.8-4.4
				Laboratory Units					
Metals and Inorganics									
Antimony (Sb)	-	6	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic (As)	-	-	1.0	µg/L	<1.0	<1.0	1.0	<1.0	<1.0
Barium (Ba)	-	1000	2	µg/L	17	15	39	38	4
Beryllium (Be)	-	4	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50
Boron (B)	-	5000	10	µg/L	16	12	18	19	14
Cadmium (Cd)	-	0.5	0.10	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Chromium (Cr)	-	50	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Cobalt (Co)	-	3.8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Copper (Cu)	-	14	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Lead (Pb)	-	-	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Molybdenum (Mo)	23	23	0.50	µg/L	6.73	3.32	3.31	1.54	14.3
Nickel (Ni)	-	78	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Selenium (Se)	-	10	1.0	µg/L	1.3	1.2	1.9	1.4	<1.0
Silver (Ag)	0.3	0.3	0.25	µg/L	<0.25	<0.25	<0.25	<0.25	<0.25
Thallium (Tl)	2	2	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium (U)	-	20	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Vanadium (V)	-	-	0.50	µg/L	1.71	5.44	4.04	3.08	0.71
Zinc (Zn)	-	180	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0

Notes:

Standards from Table 1 of the MECP Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, cc. E.19 - Leachate Screening Levels for Excess Soil Reuse for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use.

Test results shown in bold type exceeded the MECP Table 1 RPIICC LSLs, as amended.
Laboratory detection limits for the test results shown in bold type and highlighed exceeded the applicable standards.
All Standards and results shown in µg/L.
"-" Standard not available or parameter not analyzed.
mbgs - metres below ground surface.
Tests carried out by: ALS Global

BH7	BH8	BH9	BH10	BH10
BH7 S7	BH8 S6	BH9 S3	BH10 S5	BH10 S6
24-Jul-2025 9:00	24-Jul-2025 10:35	24-Jul-2025 11:10	24-Jul-2025 12:25	24-Jul-2025 12:35
WT2521286-019	WT2521286-027	WT2521286-031	WT2521286-040	WT2521286-041
4.6-5.2	3.8-4.4	1.5-2.1	3.0-3.7	3.8-4.4
<0.50	<0.50	<0.50	<0.50	<0.50
<1.0	<1.0	<1.0	<1.0	<1.0
24	20	16	14	16
<0.50	<0.50	<0.50	<0.50	<0.50
20	16	<10	11	13
<0.10	<0.10	<0.10	<0.10	<0.10
<5.0	<5.0	<5.0	<5.0	<5.0
<1.0	<1.0	<1.0	<1.0	<1.0
<5.0	<5.0	<5.0	<5.0	<5.0
<1.0	<1.0	<1.0	<1.0	<1.0
13.3	9.23	5.37	11.2	10.9
<1.0	<1.0	<1.0	<1.0	<1.0
<1.0	<1.0	<1.0	<1.0	<1.0
<0.25	<0.25	<0.25	<0.25	<0.25
<0.50	<0.50	<0.50	<0.50	<0.50
<2.0	<2.0	<2.0	<2.0	<2.0
<0.50	<0.50	<0.50	<0.50	<0.50
<5.0	<5.0	<5.0	<5.0	<5.0

Appendix C
Certificates of Analysis

ENGLOBE

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **WT2521286**		
Client	: **Englobe Corp.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Emily Brook	Account Manager	: Gayle Braun
Address	: 417 Exeter Road London Ontario Canada N6E 2Z3	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
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PO	: ----	Date Samples Received	: 01-Aug-2025 16:40
C-O-C number	: 20-1075399	Date Analysis Commenced	: 06-Aug-2025
Sampler	: CLIENT	Issue Date	: 12-Aug-2025 16:05
Site	: ----		
Quote number	: Excess Soils Q87721 Kitchener/London		
No. of samples received	: 46		
No. of samples analysed	: 46		

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
- Surrogate Control Limits

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*
Andrea Armstrong		VOC, Waterloo, Ontario
Danielle Gravel		Organics, Waterloo, Ontario
Greg Pokocky		Metals, Waterloo, Ontario
Greg Pokocky		Inorganics, Waterloo, Ontario
Jeremy Gingras		Organics, Waterloo, Ontario
Josphin Masihi		Centralized Prep, Waterloo, Ontario
Niral Patel		Centralized Prep, 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*
-	no units
%	percent
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
mS/cm	millisiemens per centimetre
pH units	pH units

<: 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.

Qualifiers

Qualifier	Description
DLIS	Detection Limit Adjusted due to insufficient sample.
FR5	As per applicable reference method(s), soil:water ratio for Fixed Ratio Leach was modified to 1:5 due to high soil organic content

Analytical Results

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

Analyte	CAS Number	Method/Lab	LOR	Unit	BH1 S1 ----	BH1 S6 ----	BH2 S2 ----	BH2 S4 ----	BH2 S7 ----
				Client sampling date / time	23-Jul-2025 09:10	23-Jul-2025 09:50	23-Jul-2025 10:10	23-Jul-2025 10:22	23-Jul-2025 10:25
					WT2521286-001	WT2521286-002	WT2521286-003	WT2521286-004	WT2521286-005
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.212	0.417	0.147	0.220	0.341
Moisture	----	E144/WT	0.25	%	12.2	19.6	15.1	15.7	19.3
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.34	7.69	7.68	7.65	7.89
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	13.1	15.6	4.09	6.40	9.77
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	1.25	11.5	1.17	2.84	6.52
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	1.68	23.6	1.99	6.69	21.8
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	0.12	1.10	0.22	0.55	1.32
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	<0.10	0.19	0.15	0.18	0.18
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	2.25	5.50	4.24	4.04	4.76
Barium	7440-39-3	E440C/WT	0.50	mg/kg	43.8	143	83.3	147	126
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.39	0.94	0.60	0.85	0.87
Boron	7440-42-8	E440C/WT	5.0	mg/kg	<5.0	24.2	14.2	22.4	23.8
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.31	0.62	<0.10	0.35	0.82
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.143	0.104	0.090	0.097	0.098
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	12.6	31.5	21.0	29.1	30.6
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	4.48	13.6	11.0	12.2	13.1
Copper	7440-50-8	E440C/WT	0.50	mg/kg	8.27	22.9	18.5	22.1	23.2

Analytical Results

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

				Client sample ID	BH1 S1 ----	BH1 S6 ----	BH2 S2 ----	BH2 S4 ----	BH2 S7 ----
				Client sampling date / time	23-Jul-2025 09:10	23-Jul-2025 09:50	23-Jul-2025 10:10	23-Jul-2025 10:22	23-Jul-2025 10:25
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-001	WT2521286-002	WT2521286-003	WT2521286-004	WT2521286-005
					Result	Result	Result	Result	Result
Metals									
Lead	7439-92-1	E440C/WT	0.50	mg/kg	8.46	11.1	8.61	10.4	10.5
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0218	0.0140	0.0105	0.0141	0.0136
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	0.56	1.17	0.58	1.14	1.03
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	9.48	30.8	22.7	27.4	30.6
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	<0.20	<0.20	0.24	<0.20
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.082	0.204	0.136	0.156	0.166
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	0.617	0.999	0.572	0.925	0.937
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	18.4	41.6	30.7	39.5	40.1
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	34.4	63.8	45.3	59.6	63.8
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	<0.10	<0.10	0.12	0.14	<0.10
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH1 S1 ----	BH1 S6 ----	BH2 S2 ----	BH2 S4 ----	BH2 S7 ----
				Client sampling date / time	23-Jul-2025 09:10	23-Jul-2025 09:50	23-Jul-2025 10:10	23-Jul-2025 10:22	23-Jul-2025 10:25
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-001	WT2521286-002	WT2521286-003	WT2521286-004	WT2521286-005
					Result	Result	Result	Result	Result
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	13	<10	15	13
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	78	<50	65	56
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	91	<80	80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	82.4	83.3	78.7	84.3	82.6
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	78.8	93.0	87.7	79.4	82.0
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	95.2	105	95.0	94.3	92.2
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	86.8	94.2	85.4	86.6	81.6

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH3 S2 ----	BH3 S6 ----	BH4 S2 ----	BH4 S7 ----	BH5 S1 ----
				Client sampling date / time	23-Jul-2025 11:05	23-Jul-2025 11:35	23-Jul-2025 12:10	23-Jul-2025 12:50	23-Jul-2025 13:05
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-006	WT2521286-007	WT2521286-008	WT2521286-009	WT2521286-010
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.320	0.377	0.324	0.747	0.276
Moisture	----	E144/WT	0.25	%	19.1	15.7	17.0	18.4	13.7

Analytical Results

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

				Client sample ID	BH3 S2 ----	BH3 S6 ----	BH4 S2 ----	BH4 S7 ----	BH5 S1 ----
				Client sampling date / time	23-Jul-2025 11:05	23-Jul-2025 11:35	23-Jul-2025 12:10	23-Jul-2025 12:50	23-Jul-2025 13:05
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-006	WT2521286-007	WT2521286-008	WT2521286-009	WT2521286-010
					Result	Result	Result	Result	Result
Physical Tests									
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.63	7.71	7.62	7.75	7.51
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	15.5	15.2	18.4	38.9	15.9
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	5.09	10.2	5.01	28.7	2.53
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	9.38	16.5	9.74	53.1	6.90
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	0.53	0.80	0.52	1.57	0.42
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.18	0.18	0.18	0.18	0.17
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	4.54	4.28	5.40	4.41	4.12
Barium	7440-39-3	E440C/WT	0.50	mg/kg	158	108	133	130	123
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	1.02	0.72	0.88	0.86	0.84
Boron	7440-42-8	E440C/WT	5.0	mg/kg	20.2	20.8	18.7	24.3	12.9
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.11	0.59	<0.10	0.85	0.24
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.100	0.125	0.123	0.089	0.168
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	31.6	26.3	29.4	30.2	27.9
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	14.4	12.0	13.9	12.9	11.5
Copper	7440-50-8	E440C/WT	0.50	mg/kg	22.6	21.8	22.9	22.3	18.5
Lead	7439-92-1	E440C/WT	0.50	mg/kg	11.2	9.96	10.6	10.4	12.2
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0129	0.0138	0.0145	0.0132	0.0246

Analytical Results

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

				Client sample ID	BH3 S2 ----	BH3 S6 ----	BH4 S2 ----	BH4 S7 ----	BH5 S1 ----
				Client sampling date / time	23-Jul-2025 11:05	23-Jul-2025 11:35	23-Jul-2025 12:10	23-Jul-2025 12:50	23-Jul-2025 13:05
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-006	WT2521286-007	WT2521286-008	WT2521286-009	WT2521286-010
					Result	Result	Result	Result	Result
Metals									
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	0.72	1.64	0.68	0.98	0.61
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	31.3	27.8	29.7	29.5	24.4
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.197	0.166	0.175	0.180	0.160
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	0.816	1.07	0.792	1.07	0.727
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	43.7	33.2	42.2	39.7	38.7
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	64.4	64.2	57.0	61.5	58.4
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.13	<0.10	0.17	<0.10	0.15
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	20	<10	10	<10

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH3 S2 ----	BH3 S6 ----	BH4 S2 ----	BH4 S7 ----	BH5 S1 ----
				Client sampling date / time	23-Jul-2025 11:05	23-Jul-2025 11:35	23-Jul-2025 12:10	23-Jul-2025 12:50	23-Jul-2025 13:05
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-006	WT2521286-007	WT2521286-008	WT2521286-009	WT2521286-010
					Result	Result	Result	Result	Result
Hydrocarbons									
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	60	<50	51	<50
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	80	<80	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	84.5	81.4	85.2	81.7	82.8
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	92.6	104	80.7	74.6	92.8
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	90.3	103	97.5	90.0	96.9
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	80.8	93.7	87.1	82.9	88.1

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH5 S6 ----	BH6 S1+2 ----	BH6 S4 ----	BH6 S7 ----	BH7 S1 ----
				Client sampling date / time	23-Jul-2025 13:40	23-Jul-2025 14:05	23-Jul-2025 14:25	23-Jul-2025 14:40	24-Jul-2025 08:10
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-011	WT2521286-012	WT2521286-013	WT2521286-014	WT2521286-015
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.868	0.260	0.174	0.407	0.358 FR5
Moisture	----	E144/WT	0.25	%	17.8	17.0	17.4	20.2	16.3
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.80	7.30	7.73	7.76	7.50

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH5 S6 ----	BH6 S1+2 ----	BH6 S4 ----	BH6 S7 ----	BH7 S1 ----
				Client sampling date / time	23-Jul-2025 13:40	23-Jul-2025 14:05	23-Jul-2025 14:25	23-Jul-2025 14:40	24-Jul-2025 08:10
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-011	WT2521286-012	WT2521286-013	WT2521286-014	WT2521286-015
					Result	Result	Result	Result	Result
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	43.8	14.0	3.41	12.7	7.81 DLIS, FR5
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	42.4	2.78	1.85	10.8	0.94 DLIS, FR5
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	56.0	4.14	4.99	25.2	1.86 DLIS, FR5
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	1.45	0.26	0.54	1.26	0.17 DLIS, FR5
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.15	0.17	0.16	0.17	0.18
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	3.55	5.06	4.52	4.08	4.75
Barium	7440-39-3	E440C/WT	0.50	mg/kg	124	131	105	127	129
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.76	1.01	0.77	0.82	0.98
Boron	7440-42-8	E440C/WT	5.0	mg/kg	21.8	17.5	20.9	23.2	12.2
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.59	0.16	0.24	0.59	0.15
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.094	0.159	0.098	0.090	0.170
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	27.9	33.4	28.4	29.0	32.1
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	11.2	13.0	11.7	12.3	13.4
Copper	7440-50-8	E440C/WT	0.50	mg/kg	21.1	23.1	21.5	21.8	20.2
Lead	7439-92-1	E440C/WT	0.50	mg/kg	9.67	14.0	10.1	10.3	15.2
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0132	0.0317	0.0129	0.0132	0.0360
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	0.86	0.84	0.96	0.91	0.68
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	26.5	29.0	27.3	28.4	26.4

Analytical Results

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

				Client sample ID	BH5 S6 ----	BH6 S1+2 ----	BH6 S4 ----	BH6 S7 ----	BH7 S1 ----
				Client sampling date / time	23-Jul-2025 13:40	23-Jul-2025 14:05	23-Jul-2025 14:25	23-Jul-2025 14:40	24-Jul-2025 08:10
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-011	WT2521286-012	WT2521286-013	WT2521286-014	WT2521286-015
					Result	Result	Result	Result	Result
Metals									
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	0.27	<0.20	<0.20	0.26
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.154	0.222	0.187	0.168	0.208
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	1.07	0.802	0.873	1.17	0.671
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	36.5	44.8	38.0	38.4	45.5
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	55.2	77.5	57.9	59.6	68.7
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	<0.10	<0.10	0.12	<0.10	0.26
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	11	<10	<10	<10	<10
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	56	<50
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH5 S6 ----	BH6 S1+2 ----	BH6 S4 ----	BH6 S7 ----	BH7 S1 ----
				Client sampling date / time	23-Jul-2025 13:40	23-Jul-2025 14:05	23-Jul-2025 14:25	23-Jul-2025 14:40	24-Jul-2025 08:10
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-011	WT2521286-012	WT2521286-013	WT2521286-014	WT2521286-015
					Result	Result	Result	Result	Result
Hydrocarbons									
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	<80	<80	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	82.2	81.7	81.4	86.6	82.8
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	76.3	80.6	78.4	78.8	93.4
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	95.5	88.8	90.1	88.8	92.2
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	87.6	82.9	82.6	81.5	83.7

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH7 S3 ----	BH7 S5 ----	BH7 S6 ----	BH7 S7 ----	BH7 S8 ----
				Client sampling date / time	24-Jul-2025 08:20	24-Jul-2025 08:40	24-Jul-2025 08:50	24-Jul-2025 09:00	24-Jul-2025 09:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-016	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.764	1.37	1.49	2.14	1.42
Moisture	----	E144/WT	0.25	%	14.7	19.5	17.6	17.8	19.4
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.77	7.78	7.76	7.71	7.73
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050

Analytical Results

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

				Client sample ID	BH7 S3 ----	BH7 S5 ----	BH7 S6 ----	BH7 S7 ----	BH7 S8 ----
				Client sampling date / time	24-Jul-2025 08:20	24-Jul-2025 08:40	24-Jul-2025 08:50	24-Jul-2025 09:00	24-Jul-2025 09:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-016	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020
					Result	Result	Result	Result	Result
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	35.6	68.9	83.4	191	87.3
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	37.8	90.7	100	156	89.1
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	49.9	93.1	95.8	105	85.0
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	1.39	1.73	1.67	1.36	1.53
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.19	0.20	0.19	0.22	0.18
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	5.56	7.44	6.74	9.57	4.03
Barium	7440-39-3	E440C/WT	0.50	mg/kg	139	122	102	115	133
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.71	0.91	0.92	0.84	0.87
Boron	7440-42-8	E440C/WT	5.0	mg/kg	19.0	23.5	25.1	24.2	25.1
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.14	0.46	0.65	0.74	0.84
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.102	0.102	0.102	0.109	0.131
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	27.0	31.4	31.0	30.1	30.8
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	12.6	14.6	13.8	13.1	13.1
Copper	7440-50-8	E440C/WT	0.50	mg/kg	21.9	24.3	23.4	23.5	23.0
Lead	7439-92-1	E440C/WT	0.50	mg/kg	10.5	11.3	10.4	10.7	10.4
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0142	0.0132	0.0141	0.0137	0.0136
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	1.87	1.94	1.34	1.49	1.11
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	29.0	32.6	30.3	31.0	31.6
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	0.23
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10

Analytical Results

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

				Client sample ID	BH7 S3 ----	BH7 S5 ----	BH7 S6 ----	BH7 S7 ----	BH7 S8 ----
				Client sampling date / time	24-Jul-2025 08:20	24-Jul-2025 08:40	24-Jul-2025 08:50	24-Jul-2025 09:00	24-Jul-2025 09:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-016	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020
					Result	Result	Result	Result	Result
Metals									
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.208	0.249	0.222	0.223	0.185
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	1.17	1.11	1.18	1.36	0.924
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	35.2	42.4	41.5	40.6	40.8
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	55.8	66.3	65.0	64.8	61.6
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.18	0.14	0.17	0.20	0.15
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	<10	<10	<10	<10
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	<80	<80	<80	<80

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH7 S3 ----	BH7 S5 ----	BH7 S6 ----	BH7 S7 ----	BH7 S8 ----
				Client sampling date / time	24-Jul-2025 08:20	24-Jul-2025 08:40	24-Jul-2025 08:50	24-Jul-2025 09:00	24-Jul-2025 09:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-016	WT2521286-017	WT2521286-018	WT2521286-019	WT2521286-020
					Result	Result	Result	Result	Result
Hydrocarbons									
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	85.8	81.8	82.8	78.9	78.8
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	83.5	126	128	136	139
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	100	86.3	82.9	91.5	94.9
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	91.9	95.2	89.5	99.0	101

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH7 S9 ----	BH8 S1 ----	BH8 S2 ----	BH8 S3 ----	BH8 S4 ----
				Client sampling date / time	24-Jul-2025 09:25	24-Jul-2025 09:55	24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-021	WT2521286-022	WT2521286-023	WT2521286-024	WT2521286-025
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	1.16	0.274	0.439	0.475	0.667
Moisture	----	E144/WT	0.25	%	21.8	16.3	17.3	16.4	18.8
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.70	7.63	7.79	7.87	7.79
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	77.0	16.7	15.2	12.4	18.2
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	59.2	2.19	13.5	17.4	33.3

Analytical Results

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

				Client sample ID	BH7 S9 ----	BH8 S1 ----	BH8 S2 ----	BH8 S3 ----	BH8 S4 ----
				Client sampling date / time	24-Jul-2025 09:25	24-Jul-2025 09:55	24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-021	WT2521286-022	WT2521286-023	WT2521286-024	WT2521286-025
					Result	Result	Result	Result	Result
Fixed-Ratio Extractables									
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	74.1	6.05	27.1	31.3	47.3
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	1.54	0.37	1.22	1.34	1.52
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.15	0.17	0.15	0.14	0.18
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	7.74	4.41	4.06	4.56	5.25
Barium	7440-39-3	E440C/WT	0.50	mg/kg	134	134	146	113	118
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.77	0.96	0.79	0.67	0.88
Boron	7440-42-8	E440C/WT	5.0	mg/kg	21.7	12.2	18.2	16.2	24.1
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.83	0.11	<0.10	0.16	0.34
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.075	0.199	0.098	0.104	0.097
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	28.5	30.8	27.0	24.0	31.3
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	12.4	13.0	11.7	10.9	13.1
Copper	7440-50-8	E440C/WT	0.50	mg/kg	22.3	20.1	20.9	23.4	22.0
Lead	7439-92-1	E440C/WT	0.50	mg/kg	9.72	13.7	9.52	9.20	10.2
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0141	0.0624	0.0126	0.0140	0.0138
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	1.05	0.64	0.60	0.87	0.99
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	28.0	26.5	25.7	23.3	30.0
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	0.23	<0.20	<0.20	<0.20
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	0.12	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.147	0.193	0.176	0.157	0.205
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	0.750	0.678	1.09	0.935	1.07

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH7 S9 ----	BH8 S1 ----	BH8 S2 ----	BH8 S3 ----	BH8 S4 ----
				Client sampling date / time	24-Jul-2025 09:25	24-Jul-2025 09:55	24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-021	WT2521286-022	WT2521286-023	WT2521286-024	WT2521286-025
					Result	Result	Result	Result	Result
Metals									
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	37.5	43.9	37.6	33.6	41.5
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	59.2	67.9	53.8	55.9	61.2
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.12	<0.10	0.12	0.12	0.14
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	<10	<10	<10	<10
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	<80	<80	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH7 S9 ----	BH8 S1 ----	BH8 S2 ----	BH8 S3 ----	BH8 S4 ----
				Client sampling date / time	24-Jul-2025 09:25	24-Jul-2025 09:55	24-Jul-2025 10:00	24-Jul-2025 10:10	24-Jul-2025 10:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-021	WT2521286-022	WT2521286-023	WT2521286-024	WT2521286-025
					Result	Result	Result	Result	Result
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	79.4	80.1	79.1	77.5	78.7
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	124	129	126	131	129
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	84.7	89.8	85.0	86.9	84.5
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	90.9	98.0	92.2	93.8	91.0

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH8 S5 ----	BH8 S6 ----	BH8 S7 ----	BH9 S1 ----	BH9 S2 ----
				Client sampling date / time	24-Jul-2025 10:25	24-Jul-2025 10:35	24-Jul-2025 10:45	24-Jul-2025 10:55	24-Jul-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-026	WT2521286-027	WT2521286-028	WT2521286-029	WT2521286-030
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.735	0.882	1.05	0.353	0.931
Moisture	----	E144/WT	0.25	%	17.2	18.5	17.4	17.4	17.5
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.89	7.80	7.80	7.28	7.76
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	23.0	33.4	54.0	21.9	57.4
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	38.3	50.2	64.8	5.15	48.0
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	50.5	57.6	59.3	11.2	56.5
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	1.50	1.47	1.29	0.56	1.33

Analytical Results

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

				Client sample ID	BH8 S5 ----	BH8 S6 ----	BH8 S7 ----	BH9 S1 ----	BH9 S2 ----
				Client sampling date / time	24-Jul-2025 10:25	24-Jul-2025 10:35	24-Jul-2025 10:45	24-Jul-2025 10:55	24-Jul-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-026	WT2521286-027	WT2521286-028	WT2521286-029	WT2521286-030
					Result	Result	Result	Result	Result
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.16	0.18	0.17	0.20	0.17
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	4.43	3.93	3.65	5.66	4.62
Barium	7440-39-3	E440C/WT	0.50	mg/kg	142	168	130	157	195
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.80	0.83	0.84	1.14	0.82
Boron	7440-42-8	E440C/WT	5.0	mg/kg	21.6	21.6	22.8	14.7	20.2
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.41	0.51	0.68	0.13	0.13
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.094	0.104	0.098	0.197	0.113
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	28.3	30.2	30.3	38.5	30.9
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	12.8	13.4	12.4	16.2	14.6
Copper	7440-50-8	E440C/WT	0.50	mg/kg	21.4	22.6	22.2	24.1	22.0
Lead	7439-92-1	E440C/WT	0.50	mg/kg	9.75	10.4	9.98	16.7	10.6
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0134	0.0129	0.0137	0.0333	0.0131
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	0.98	1.02	0.88	0.94	0.81
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	27.4	29.8	29.0	34.2	29.4
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	<0.20	0.50	0.24	<0.20
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.186	0.182	0.178	0.236	0.202
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	0.952	0.958	0.912	0.821	0.951
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	37.8	39.8	40.4	50.9	40.8
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	58.0	62.9	61.0	78.8	59.9

Analytical Results

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

				Client sample ID	BH8 S5 ----	BH8 S6 ----	BH8 S7 ----	BH9 S1 ----	BH9 S2 ----
				Client sampling date / time	24-Jul-2025 10:25	24-Jul-2025 10:35	24-Jul-2025 10:45	24-Jul-2025 10:55	24-Jul-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-026	WT2521286-027	WT2521286-028	WT2521286-029	WT2521286-030
					Result	Result	Result	Result	Result
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.13	0.13	0.18	0.28	0.11
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	<10	<10	<10	<10
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	<80	<80	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	76.0	78.3	78.3	79.3	79.9
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	128	130	140	128	125

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH8 S5 ----	BH8 S6 ----	BH8 S7 ----	BH9 S1 ----	BH9 S2 ----
				Client sampling date / time	24-Jul-2025 10:25	24-Jul-2025 10:35	24-Jul-2025 10:45	24-Jul-2025 10:55	24-Jul-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-026	WT2521286-027	WT2521286-028	WT2521286-029	WT2521286-030
					Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	87.0	86.6	93.7	86.6	85.2
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	94.5	92.9	100	94.6	92.9

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH9 S3 ----	BH9 S4 ----	BH9 S5 ----	BH9 S6 ----	BH9 S7 ----
				Client sampling date / time	24-Jul-2025 11:10	24-Jul-2025 11:15	24-Jul-2025 11:25	24-Jul-2025 11:35	24-Jul-2025 11:45
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-031	WT2521286-032	WT2521286-033	WT2521286-034	WT2521286-035
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	3.23	1.74	1.40	1.23	0.902
Moisture	----	E144/WT	0.25	%	17.1	17.2	17.3	18.4	18.6
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.75	7.82	7.80	7.84	7.75
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	531	98.7	71.4	62.8	42.4
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	208	128	84.6	68.1	37.2
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	78.8	118	105	92.1	77.8
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	0.73	1.85	1.99	1.92	2.10
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.16	0.17	0.17	0.17	0.17
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	4.26	4.54	4.22	3.60	4.00

Analytical Results

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

				Client sample ID	BH9 S3 ----	BH9 S4 ----	BH9 S5 ----	BH9 S6 ----	BH9 S7 ----
				Client sampling date / time	24-Jul-2025 11:10	24-Jul-2025 11:15	24-Jul-2025 11:25	24-Jul-2025 11:35	24-Jul-2025 11:45
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-031	WT2521286-032	WT2521286-033	WT2521286-034	WT2521286-035
					Result	Result	Result	Result	Result
Metals									
Barium	7440-39-3	E440C/WT	0.50	mg/kg	132	140	136	129	115
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.78	0.77	0.80	0.78	0.89
Boron	7440-42-8	E440C/WT	5.0	mg/kg	20.8	23.3	20.7	21.8	26.3
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.30	0.57	0.60	0.79	0.86
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.101	0.100	0.089	0.099	0.099
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	28.8	29.8	27.9	27.8	30.8
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	12.0	14.3	11.8	11.6	12.8
Copper	7440-50-8	E440C/WT	0.50	mg/kg	20.6	22.0	22.2	21.0	22.3
Lead	7439-92-1	E440C/WT	0.50	mg/kg	9.92	10.1	9.95	9.89	10.4
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0129	0.0133	0.0131	0.0126	0.0122
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	0.88	1.04	1.04	1.20	0.97
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	27.3	29.9	27.6	27.9	29.8
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.183	0.179	0.185	0.159	0.170
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	1.09	0.972	0.802	0.946	1.02
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	38.4	39.4	37.0	36.6	40.3
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	57.0	60.9	58.9	61.8	61.3
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.13	0.13	0.16	<0.10	<0.10

Analytical Results

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

				Client sample ID	BH9 S3 ----	BH9 S4 ----	BH9 S5 ----	BH9 S6 ----	BH9 S7 ----
				Client sampling date / time	24-Jul-2025 11:10	24-Jul-2025 11:15	24-Jul-2025 11:25	24-Jul-2025 11:35	24-Jul-2025 11:45
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-031	WT2521286-032	WT2521286-033	WT2521286-034	WT2521286-035
					Result	Result	Result	Result	Result
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	<10	<10	<10	<10
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	<80	<80	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	79.3	80.6	81.9	78.4	81.6
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	128	130	129	114	106
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	84.3	87.9	83.2	98.1	90.5
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	91.1	95.6	89.7	106	100

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH10 S1 ----	BH10 S2 ----	BH10 S3 ----	BH10 S4 ----	BH10 S5 ----
				Client sampling date / time	24-Jul-2025 11:50	24-Jul-2025 11:55	24-Jul-2025 12:05	24-Jul-2025 12:15	24-Jul-2025 12:25
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-036	WT2521286-037	WT2521286-038	WT2521286-039	WT2521286-040
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.628	0.217	0.209	0.239	0.281
Moisture	----	E144/WT	0.25	%	18.5	17.7	17.1	17.5	17.3
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.04	7.32	7.66	7.70	7.72
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	80.8	9.07	6.57	6.24	6.84
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	9.16	2.23	2.70	3.85	5.81
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	4.75	4.45	5.78	8.84	13.6
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	0.13	0.34	0.48	0.69	0.92
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.13	0.18	0.19	0.17	0.22
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	4.28	5.34	5.39	4.51	5.49
Barium	7440-39-3	E440C/WT	0.50	mg/kg	142	130	139	198	147
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	1.16	0.93	0.94	0.94	0.75
Boron	7440-42-8	E440C/WT	5.0	mg/kg	12.6	22.9	25.5	26.9	24.5
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.17	<0.10	0.11	0.17	0.31
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.183	0.134	0.104	0.107	0.097
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	35.9	31.3	31.8	33.1	28.5
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	17.1	13.7	13.3	12.7	13.1

Analytical Results

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

				Client sample ID	BH10 S1 ----	BH10 S2 ----	BH10 S3 ----	BH10 S4 ----	BH10 S5 ----
				Client sampling date / time	24-Jul-2025 11:50	24-Jul-2025 11:55	24-Jul-2025 12:05	24-Jul-2025 12:15	24-Jul-2025 12:25
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-036	WT2521286-037	WT2521286-038	WT2521286-039	WT2521286-040
					Result	Result	Result	Result	Result
Metals									
Copper	7440-50-8	E440C/WT	0.50	mg/kg	17.1	22.3	23.4	23.0	21.4
Lead	7439-92-1	E440C/WT	0.50	mg/kg	14.8	10.2	10.8	10.2	10.1
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0370	0.0124	0.0124	0.0132	0.0143
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	0.84	0.91	1.23	1.18	2.31
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	29.8	28.8	31.0	31.2	31.6
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	0.38	0.21	<0.20	<0.20	<0.20
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.210	0.200	0.229	0.206	0.223
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	0.877	0.963	0.978	1.06	1.15
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	50.3	42.9	43.8	44.0	34.4
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	81.4	59.4	62.2	62.8	57.4
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.35	0.23	0.13	0.12	0.15
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH10 S1 ----	BH10 S2 ----	BH10 S3 ----	BH10 S4 ----	BH10 S5 ----
				Client sampling date / time	24-Jul-2025 11:50	24-Jul-2025 11:55	24-Jul-2025 12:05	24-Jul-2025 12:15	24-Jul-2025 12:25
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-036	WT2521286-037	WT2521286-038	WT2521286-039	WT2521286-040
					Result	Result	Result	Result	Result
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	<10	<10	<10	10
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	<80	<80	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	81.6	80.4	76.8	78.8	84.1
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	102	105	109	102	104
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	83.8	84.2	88.1	86.8	92.6
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	92.7	92.9	98.7	96.1	102

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH10 S6 ----	BH10 S7 ----	DUP-S-1 ----	DUP-S-2 ----	DUP-S-3 ----
				Client sampling date / time	24-Jul-2025 12:35	24-Jul-2025 12:45	23-Jul-2025 00:00	24-Jul-2025 00:00	23-Jul-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-041	WT2521286-042	WT2521286-043	WT2521286-044	WT2521286-045
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.458	0.651	0.769	3.05	0.374
Moisture	----	E144/WT	0.25	%	18.9	19.2	18.7	17.4	20.5

Analytical Results

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

				Client sample ID	BH10 S6 ----	BH10 S7 ----	DUP-S-1 ----	DUP-S-2 ----	DUP-S-3 ----
				Client sampling date / time	24-Jul-2025 12:35	24-Jul-2025 12:45	23-Jul-2025 00:00	24-Jul-2025 00:00	23-Jul-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-041	WT2521286-042	WT2521286-043	WT2521286-044	WT2521286-045
					Result	Result	Result	Result	Result
Physical Tests									
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.72	7.72	7.77	7.85	7.75
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	16.3	32.9	41.3	476	12.4
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	16.0	31.9	29.7	198	8.90
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	27.9	38.3	51.2	83.7	21.1
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	1.18	1.14	1.48	0.81	1.12
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.16	0.15	0.18	0.16	0.18
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	4.09	5.68	4.26	4.42	4.22
Barium	7440-39-3	E440C/WT	0.50	mg/kg	124	102	137	140	152
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.80	0.71	0.80	0.87	0.83
Boron	7440-42-8	E440C/WT	5.0	mg/kg	20.8	21.3	22.1	25.4	21.3
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.46	0.58	0.74	0.35	0.54
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.104	0.087	0.100	0.091	0.091
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	28.3	25.7	28.7	29.4	29.8
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	13.0	12.0	12.6	12.5	12.7
Copper	7440-50-8	E440C/WT	0.50	mg/kg	21.5	19.3	21.8	21.0	22.3
Lead	7439-92-1	E440C/WT	0.50	mg/kg	9.63	8.83	10.1	9.95	10.9
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0121	0.0104	0.0133	0.0127	0.0127

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH10 S6 ----	BH10 S7 ----	DUP-S-1 ----	DUP-S-2 ----	DUP-S-3 ----
				Client sampling date / time	24-Jul-2025 12:35	24-Jul-2025 12:45	23-Jul-2025 00:00	24-Jul-2025 00:00	23-Jul-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-041	WT2521286-042	WT2521286-043	WT2521286-044	WT2521286-045
					Result	Result	Result	Result	Result
Metals									
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	1.16	1.15	0.96	0.97	1.06
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	28.6	26.0	29.0	27.5	29.5
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.184	0.172	0.167	0.189	0.184
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	0.892	0.750	1.05	1.08	0.985
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	37.1	34.2	37.4	39.6	38.9
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	59.3	53.4	59.1	56.1	61.4
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.13	0.11	<0.10	0.14	<0.10
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	<10	20	<10	22

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	BH10 S6 ----	BH10 S7 ----	DUP-S-1 ----	DUP-S-2 ----	DUP-S-3 ----
				Client sampling date / time	24-Jul-2025 12:35	24-Jul-2025 12:45	23-Jul-2025 00:00	24-Jul-2025 00:00	23-Jul-2025 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-041	WT2521286-042	WT2521286-043	WT2521286-044	WT2521286-045
					Result	Result	Result	Result	Result
Hydrocarbons									
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	<50	77	<50	61
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	<80	97	<80	83
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	YES	YES	YES	YES
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	79.9	84.2	88.3	81.6	92.7
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	104	98.9	97.9	85.7	80.6
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	85.1	82.0	104	93.2	93.3
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	93.9	91.4	94.0	85.7	85.6

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

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	DUP-S-4 ----	----	----	----	----
				Client sampling date / time	24-Jul-2025 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-046	----	----	----	----
					Result	----	----	----	----
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	0.00500	mS/cm	0.604	----	----	----	----
Moisture	----	E144/WT	0.25	%	19.3	----	----	----	----
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.81	----	----	----	----

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	DUP-S-4 ----	----	----	----	----
				Client sampling date / time	24-Jul-2025 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-046	----	----	----	----
					Result	----	----	----	----
Cyanides									
Cyanide, weak acid dissociable	----	E336A/WT	0.050	mg/kg	<0.050	----	----	----	----
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	E484/WT	0.50	mg/L	30.9	----	----	----	----
Magnesium, soluble ion content	7439-95-4	E484/WT	0.50	mg/L	27.2	----	----	----	----
Sodium, soluble ion content	17341-25-2	E484/WT	0.50	mg/L	29.8	----	----	----	----
Sodium adsorption ratio [SAR]	----	E484/WT	0.10	-	0.94	----	----	----	----
Metals									
Antimony	7440-36-0	E440C/WT	0.10	mg/kg	0.17	----	----	----	----
Arsenic	7440-38-2	E440C/WT	0.10	mg/kg	3.78	----	----	----	----
Barium	7440-39-3	E440C/WT	0.50	mg/kg	131	----	----	----	----
Beryllium	7440-41-7	E440C/WT	0.10	mg/kg	0.83	----	----	----	----
Boron	7440-42-8	E440C/WT	5.0	mg/kg	24.6	----	----	----	----
Boron, hot water soluble	7440-42-8	E487/WT	0.10	mg/kg	0.44	----	----	----	----
Cadmium	7440-43-9	E440C/WT	0.020	mg/kg	0.105	----	----	----	----
Chromium	7440-47-3	E440C/WT	0.50	mg/kg	29.9	----	----	----	----
Cobalt	7440-48-4	E440C/WT	0.10	mg/kg	12.8	----	----	----	----
Copper	7440-50-8	E440C/WT	0.50	mg/kg	21.8	----	----	----	----
Lead	7439-92-1	E440C/WT	0.50	mg/kg	10.0	----	----	----	----
Mercury	7439-97-6	E510C/WT	0.0050	mg/kg	0.0126	----	----	----	----
Molybdenum	7439-98-7	E440C/WT	0.10	mg/kg	1.19	----	----	----	----
Nickel	7440-02-0	E440C/WT	0.50	mg/kg	29.1	----	----	----	----

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)				Client sample ID	DUP-S-4 ----	----	----	----	----
				Client sampling date / time	24-Jul-2025 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-046	----	----	----	----
					Result	----	----	----	----
Metals									
Selenium	7782-49-2	E440C/WT	0.20	mg/kg	<0.20	----	----	----	----
Silver	7440-22-4	E440C/WT	0.10	mg/kg	<0.10	----	----	----	----
Thallium	7440-28-0	E440C/WT	0.050	mg/kg	0.199	----	----	----	----
Uranium	7440-61-1	E440C/WT	0.050	mg/kg	0.945	----	----	----	----
Vanadium	7440-62-2	E440C/WT	0.20	mg/kg	39.5	----	----	----	----
Zinc	7440-66-6	E440C/WT	2.0	mg/kg	61.0	----	----	----	----
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	0.10	mg/kg	0.13	----	----	----	----
Volatile Organic Compounds									
Benzene	71-43-2	E611A/WT	0.0050	mg/kg	<0.0050	----	----	----	----
Ethylbenzene	100-41-4	E611A/WT	0.015	mg/kg	<0.015	----	----	----	----
Toluene	108-88-3	E611A/WT	0.050	mg/kg	<0.050	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/WT	0.030	mg/kg	<0.030	----	----	----	----
Xylene, o-	95-47-6	E611A/WT	0.030	mg/kg	<0.030	----	----	----	----
Xylenes, total	1330-20-7	E611A/WT	0.050	mg/kg	<0.050	----	----	----	----
BTEX, total	----	E611A/WT	0.10	mg/kg	<0.10	----	----	----	----
Hydrocarbons									
F1 (C6-C10)	----	E581.F1/WT	5.0	mg/kg	<5.0	----	----	----	----
F2 (C10-C16)	----	E601.SG-L/WT	10	mg/kg	<10	----	----	----	----
F3 (C16-C34)	----	E601.SG-L/WT	50	mg/kg	<50	----	----	----	----
F4 (C34-C50)	----	E601.SG-L/WT	50	mg/kg	<50	----	----	----	----

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)									
				Client sample ID	DUP-S-4 ----	----	----	----	----
				Client sampling date / time	24-Jul-2025 00:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2521286-046	----	----	----	----
					Result	----	----	----	----
Hydrocarbons									
F1-BTEX	----	EC580/WT	5.0	mg/kg	<5.0	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	80	mg/kg	<80	----	----	----	----
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	-	YES	----	----	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	1.0	%	83.4	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	1.0	%	72.2	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/WT	0.10	%	93.0	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WT	0.10	%	86.4	----	----	----	----

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2521286**	Page	: 1 of 70
Client	: **Englobe Corp.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Emily Brook	Account Manager	: Gayle Braun
Address	: 417 Exeter Road London ON Canada N6E 2Z3	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: ----	Telephone	: +1 519 886 6910
Project	: 02506021	Date Samples Received	: 01-Aug-2025 16:40
PO	: ----	Issue Date	: 12-Aug-2025 16:04
C-O-C number	: 20-1075399		
Sampler	: CLIENT		
Site	: ----		
Quote number	: Excess Soils Q87721 Kitchener/London		
No. of samples received	: 46		
No. of samples analysed	: 46		

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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- 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.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Hydrocarbons	Anonymous	Anonymous	F2 (C10-C16)	----	E601.SG-L	141 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Hydrocarbons	Anonymous	Anonymous	F3 (C16-C34)	----	E601.SG-L	128 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.
Hydrocarbons	Anonymous	Anonymous	F4 (C34-C50)	----	E601.SG-L	114 % DUP-H	40%	Duplicate RPD does not meet the DQO for this test.

Result Qualifiers

Qualifier	*Description*
DUP-H	*Duplicate results outside ALS DQO, due to sample heterogeneity.*

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
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S1	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S2	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 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
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S5	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S6	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S7	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	14 days	1 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S1	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S6	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S2	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S4	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S7	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S2	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 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
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S6	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S2	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S7	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S1	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S6	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S1+2	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S4	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S7	E336A	23-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S1	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 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
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S3	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S5	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S6	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S7	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S8	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S9	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S1	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S2	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S3	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 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
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S4	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S5	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S2	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S3	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S4	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-2	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 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
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-4	E336A	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E336A	23-Jul-2025	07-Aug-2025	14 days	15 days	✖ EHT	11-Aug-2025	14 days	4 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E336A	23-Jul-2025	07-Aug-2025	14 days	15 days	✖ EHT	11-Aug-2025	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH10 S1	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH10 S2	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH10 S3	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH10 S4	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH10 S5	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH10 S6	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 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
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH10 S7	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH7 S1	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH7 S3	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH7 S5	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH7 S6	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH7 S7	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH7 S8	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH7 S9	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
BH8 S1	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 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
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH8 S2	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH8 S3	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH8 S4	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH8 S5	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH8 S6	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH8 S7	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH9 S1	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH9 S2	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH9 S3	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 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
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH9 S4	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH9 S5	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH9 S6	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH9 S7	E581.F1	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH1 S1	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH1 S6	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH2 S2	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH2 S4	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH2 S7	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 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
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH3 S2	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH3 S6	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH4 S2	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH4 S7	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH5 S1	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH5 S6	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH6 S1+2	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH6 S4	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] BH6 S7	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 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
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
DUP-S-1	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
DUP-S-2	E581.F1	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
DUP-S-3	E581.F1	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
DUP-S-4	E581.F1	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S3	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	13 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S4	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	13 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S5	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	13 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S6	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	13 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S7	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	13 days	✓	08-Aug-2025	40 days	2 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
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	07-Aug-2025	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	07-Aug-2025	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S1	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S6	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S1	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S2	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S2	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S4	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S7	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 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
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S2	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S6	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S2	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S7	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S1	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S6	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S1+2	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S4	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S7	E601.SG-L	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 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: Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis: Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S1	E601.SG-L	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S3	E601.SG-L	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S5	E601.SG-L	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S6	E601.SG-L	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S7	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S8	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S9	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S1	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S2	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 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
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S3	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S4	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S5	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S2	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S3	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S4	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 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
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S5	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S6	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S7	E601.SG-L	24-Jul-2025	07-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-2	E601.SG-L	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-4	E601.SG-L	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	08-Aug-2025	40 days	2 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S1	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S2	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 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
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S1	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S3	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S5	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S6	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S7	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S8	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 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
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S9	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S1	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S2	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S3	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S4	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S5	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 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
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S2	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S3	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S4	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S5	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S6	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S7	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-2	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-4	E487	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S1	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 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
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S6	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S2	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S4	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S7	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S2	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S6	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S2	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S7	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S1	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 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
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S6	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S1+2	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S4	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S7	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E487	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S1	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S2	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S3	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	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
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S1	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S3	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S5	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S6	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S7	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓

Matrix: **Soil/Solid**

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S8	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S9	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S1	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S2	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S3	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S4	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S5	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	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
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S2	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S3	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S4	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S5	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S6	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S7	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-2	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-4	E510C	24-Jul-2025	11-Aug-2025	28 days	18 days	✓	11-Aug-2025	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
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S1	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S6	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S2	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S4	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S7	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S2	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S6	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S2	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S7	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S1	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S6	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S1+2	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S4	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S7	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E510C	23-Jul-2025	11-Aug-2025	28 days	19 days	✓	11-Aug-2025	28 days	0 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S1	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S2	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S1	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S3	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S5	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S6	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S7	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S8	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S9	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S1	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S2	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S3	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S4	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S5	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓

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Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S2	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S3	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S4	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S5	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S6	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S7	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-2	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 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
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-4	E440C	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	18 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S1	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S6	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S2	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S4	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S7	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S2	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S6	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S2	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 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
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S7	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S1	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S6	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S1+2	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S4	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S7	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-1	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-3	E440C	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	19 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S1	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 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
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S2	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S1	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S3	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S5	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 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
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S6	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S7	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S8	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S9	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S1	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S2	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S3	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S4	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S5	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 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
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S2	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S3	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S4	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S5	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S6	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S7	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 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
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-2	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-4	E484	24-Jul-2025	11-Aug-2025	180 days	18 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S1	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S6	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S2	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S4	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S7	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S2	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S6	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 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
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S2	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S7	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S1	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S6	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S1+2	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S4	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S7	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 days	0 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E484	23-Jul-2025	11-Aug-2025	180 days	19 days	✓	11-Aug-2025	180 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
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S1	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S2	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S1	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S3	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 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
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S5	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S6	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S7	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S8	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S9	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S1	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S2	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S3	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S4	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 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
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S5	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S6	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S7	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S1	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S2	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S3	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S4	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S5	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S6	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 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
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S7	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-2	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-4	E100-L	24-Jul-2025	11-Aug-2025	30 days	18 days	✓	11-Aug-2025	30 days	18 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S1	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH1 S6	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S2	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S4	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S7	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S2	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 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
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S6	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S2	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S7	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S1	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S6	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S1+2	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S4	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S7	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 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
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] DUP-S-3	E100-L	23-Jul-2025	11-Aug-2025	30 days	19 days	✓	11-Aug-2025	30 days	19 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S1	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S6	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S1	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S2	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	

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
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH10 S7	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S2	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S4	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH2 S7	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S2	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH3 S6	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S2	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH4 S7	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S1	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	

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
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S6	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S1+2	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S4	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S7	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S1	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S3	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S5	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S6	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S7	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	

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
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S8	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S9	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S1	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S2	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S3	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S4	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S5	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S6	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH8 S7	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	

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
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S1	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S2	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S3	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S4	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S5	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S6	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S7	E144	24-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-2	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	

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
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E144	23-Jul-2025	----	----	----		07-Aug-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-4	E144	24-Jul-2025	----	----	----		08-Aug-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S1	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S3	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S5	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S6	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S7	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S8	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S9	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 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
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S1	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S2	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S3	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S4	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S5	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S2	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 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
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S3	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S4	E108A	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	30 days	14 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S1	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S6	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S1	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S2	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 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
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S2	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S4	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S7	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S2	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S6	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S2	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S7	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 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
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S1	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH5 S6	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S1+2	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S4	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH6 S7	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S5	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S6	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
BH9 S7	E108A	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 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
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-2	E108A	24-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E108A	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-4	E108A	24-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	30 days	15 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S1	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S3	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S5	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S6	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S7	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
BH7 S8	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 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
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH7 S9	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S1	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S2	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S3	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S4	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S5	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S6	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH8 S7	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S1	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 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
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S2	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S3	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S4	E532	24-Jul-2025	07-Aug-2025	30 days	14 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S1	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S2	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S3	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S4	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S5	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S6	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 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
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH10 S7	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S5	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S6	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH9 S7	E532	24-Jul-2025	08-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	0 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S1	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH1 S6	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S2	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S4	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH2 S7	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 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
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S2	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH3 S6	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
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Glass soil jar/Teflon lined cap [ON MECP] BH4 S2	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH4 S7	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S1	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH5 S6	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S1+2	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S4	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH6 S7	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 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
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-1	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-3	E532	23-Jul-2025	07-Aug-2025	30 days	15 days	✓	08-Aug-2025	7 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-2	E532	24-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	7 days	4 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP]										
DUP-S-4	E532	24-Jul-2025	07-Aug-2025	30 days	15 days	✓	11-Aug-2025	7 days	4 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
BH10 S1	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
BH10 S2	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
BH10 S3	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
BH10 S4	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
BH10 S5	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH10 S6	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH10 S7	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH7 S1	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH7 S3	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH7 S5	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH7 S6	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH7 S7	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH7 S8	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH7 S9	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH8 S1	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH8 S2	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH8 S3	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH8 S4	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH8 S5	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH8 S6	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH8 S7	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH9 S1	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH9 S2	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH9 S3	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH9 S4	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH9 S5	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH9 S6	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH9 S7	E611A	24-Jul-2025	06-Aug-2025	14 days	13 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH1 S1	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH1 S6	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH2 S2	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH2 S4	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH2 S7	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH3 S2	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH3 S6	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH4 S2	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH4 S7	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH5 S1	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH5 S6	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH6 S1+2	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP] BH6 S4	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 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
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
BH6 S7	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
DUP-S-1	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
DUP-S-2	E611A	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
DUP-S-3	E611A	23-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
DUP-S-4	E611A	24-Jul-2025	06-Aug-2025	14 days	14 days	✓	06-Aug-2025	40 days	0 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	2146870	3	50	6.0	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2146868	3	58	5.1	5.0	✓
Moisture Content by Gravimetry	E144	2146875	4	80	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	2146866	3	53	5.6	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	2146874	3	50	6.0	5.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	2146869	3	50	6.0	5.0	✓
Boron-Hot Water Extractable by ICPOES	E487	2146871	3	50	6.0	5.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	2146873	3	50	6.0	5.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	2146867	3	58	5.1	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	2145972	3	60	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	2146644	4	52	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	2145971	3	60	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	2146870	6	50	12.0	10.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2146868	3	58	5.1	5.0	✓
Moisture Content by Gravimetry	E144	2146875	4	80	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	2146866	3	53	5.6	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	2146874	6	50	12.0	10.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	2146869	6	50	12.0	10.0	✓
Boron-Hot Water Extractable by ICPOES	E487	2146871	6	50	12.0	10.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	2146873	6	50	12.0	10.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	2146867	6	58	10.3	10.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	2145972	3	60	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	2146644	4	52	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	2145971	3	60	5.0	5.0	✓
Method Blanks (MB)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	2146870	3	50	6.0	5.0	✓
Moisture Content by Gravimetry	E144	2146875	4	80	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	2146866	3	53	5.6	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	2146874	3	50	6.0	5.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	2146869	3	50	6.0	5.0	✓
Boron-Hot Water Extractable by ICPOES	E487	2146871	3	50	6.0	5.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	2146873	3	50	6.0	5.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	2146867	3	58	5.1	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	2145972	3	60	5.0	5.0	✓

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*
Method Blanks (MB) - Continued							
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	2146644	4	52	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	2145971	3	60	5.0	5.0	✓
Matrix Spikes (MS)							
WAD Cyanide (0.01M NaOH Extraction)	E336A	2146866	3	53	5.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	2145972	3	60	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	2146644	4	52	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	2145971	3	60	5.0	5.0	✓

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").

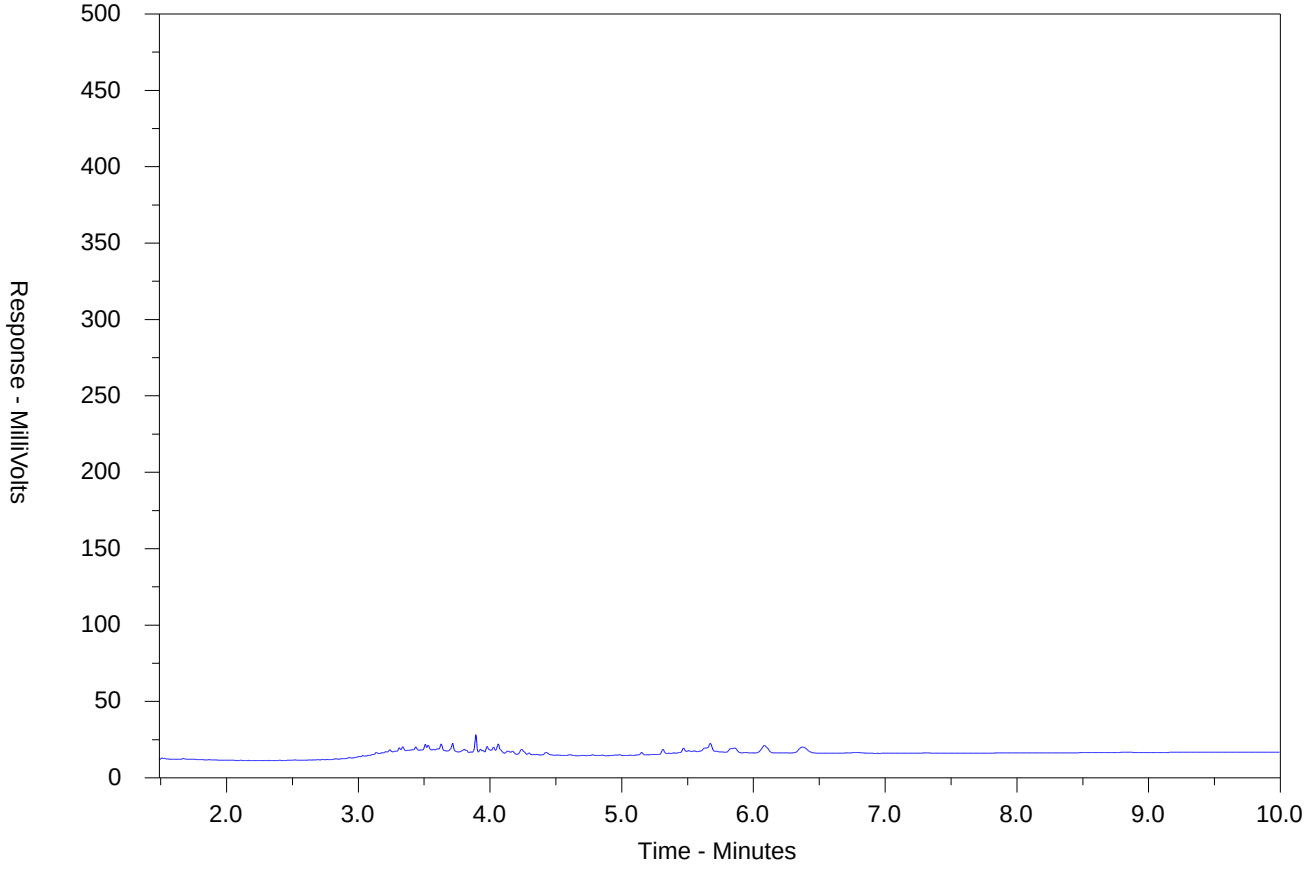
Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L ALS Environmental - Waterloo	Soil/Solid	CSSS Ch. 15 (mod)/APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is 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.
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.
WAD Cyanide (0.01M NaOH Extraction)	E336A ALS Environmental - Waterloo	Soil/Solid	APHA 4500-CN I (mod)	Weak Acid Dissociable (WAD) cyanide is determined after extraction by Continuous Flow Analyzer (CFA) with in-line distillation followed by colourmetric analysis.
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C ALS Environmental - Waterloo	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 355 µm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484 ALS Environmental - Waterloo	Soil/Solid	SW846 6010C	A dried, disaggregated solid sample is extracted with deionized water, the aqueous extract is separated from the solid, acidified and then analyzed using a ICP/OES. The concentrations of Na, Ca and Mg are reported as per CALA requirements for calculated parameters. These individual parameters are not for comparison to any guideline.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Boron-Hot Water Extractable by ICPOES	E487 ALS Environmental - Waterloo	Soil/Solid	HW EXTR, EPA 6010B	A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES. Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C ALS Environmental - Waterloo	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are sieved through a 355 µm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
Hexavalent Chromium (Cr VI) by IC	E532 ALS Environmental - Waterloo	Soil/Solid	APHA 3500-CR C	Instrumental analysis is performed by ion chromatography with UV detection.
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A ALS Environmental - Waterloo	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
F1-BTEX	EC580 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

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.
Cyanide Extraction for CFA (0.01M NaOH)	EP333A ALS Environmental - Waterloo	Soil/Solid	ON MECP E3015 (mod)	Extraction for various cyanide analysis is by rotary extraction of the soil with 0.01M Sodium Hydroxide.
Digestion for Metals and Mercury (355 µm Sieve)	EP440C ALS Environmental - Waterloo	Soil/Solid	EPA 200.2 (mod)	Samples are sieved through a 355 µm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.
Boron-Hot Water Extractable	EP487 ALS Environmental - Waterloo	Soil/Solid	HW EXTR, EPA 6010B	A dried solid sample is extracted with weak calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES. Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011)
Preparation of Hexavalent Chromium (Cr VI) for IC	EP532 ALS Environmental - Waterloo	Soil/Solid	EPA 3060A	Field moist samples are digested with a sodium hydroxide/sodium carbonate solution as described in EPA 3060A.
VOCs Methanol Extraction for Headspace Analysis	EP581 ALS Environmental - Waterloo	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-001-E601.SG-L
Client Sample ID: BH1 S1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

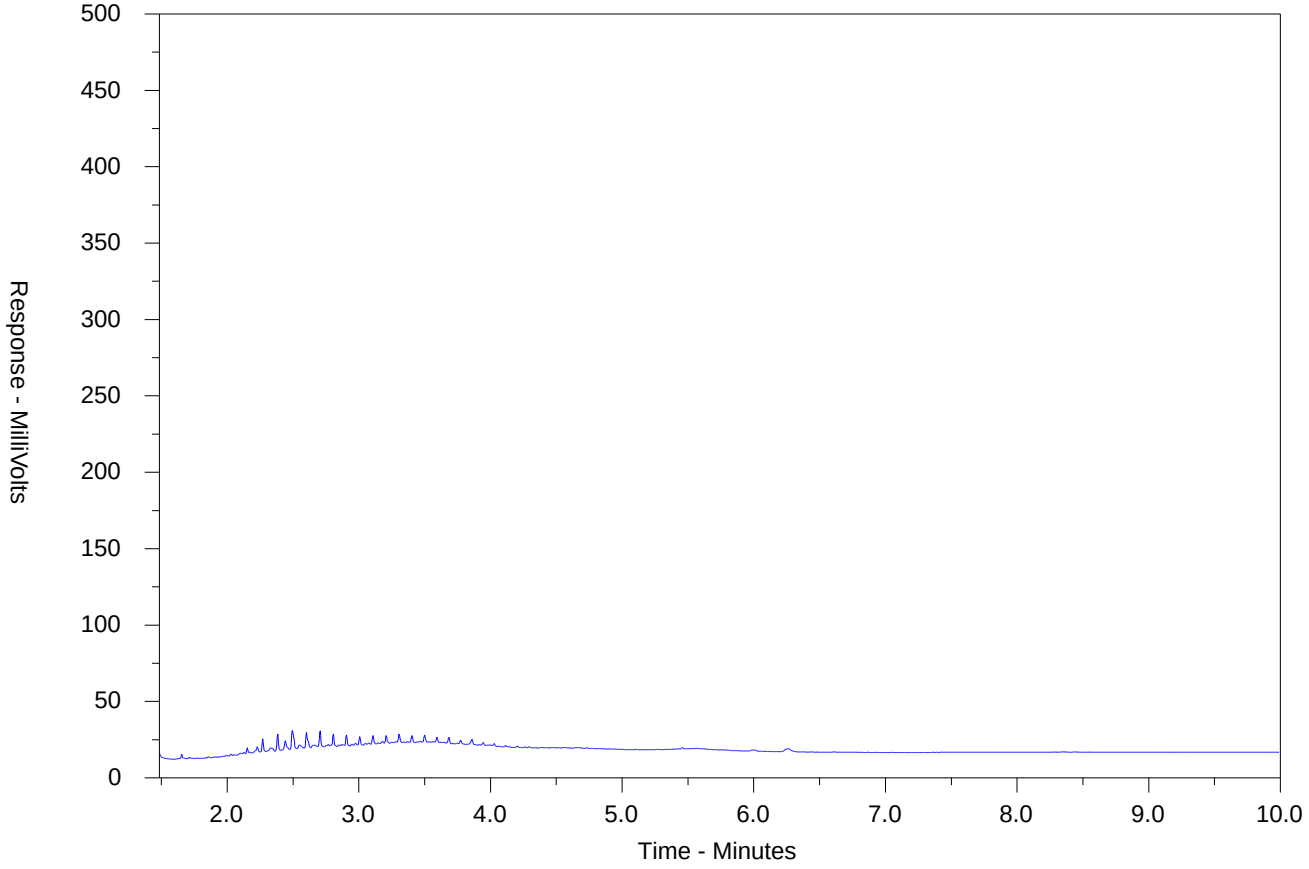
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-002-E601.SG-L
Client Sample ID: BH1 S6



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

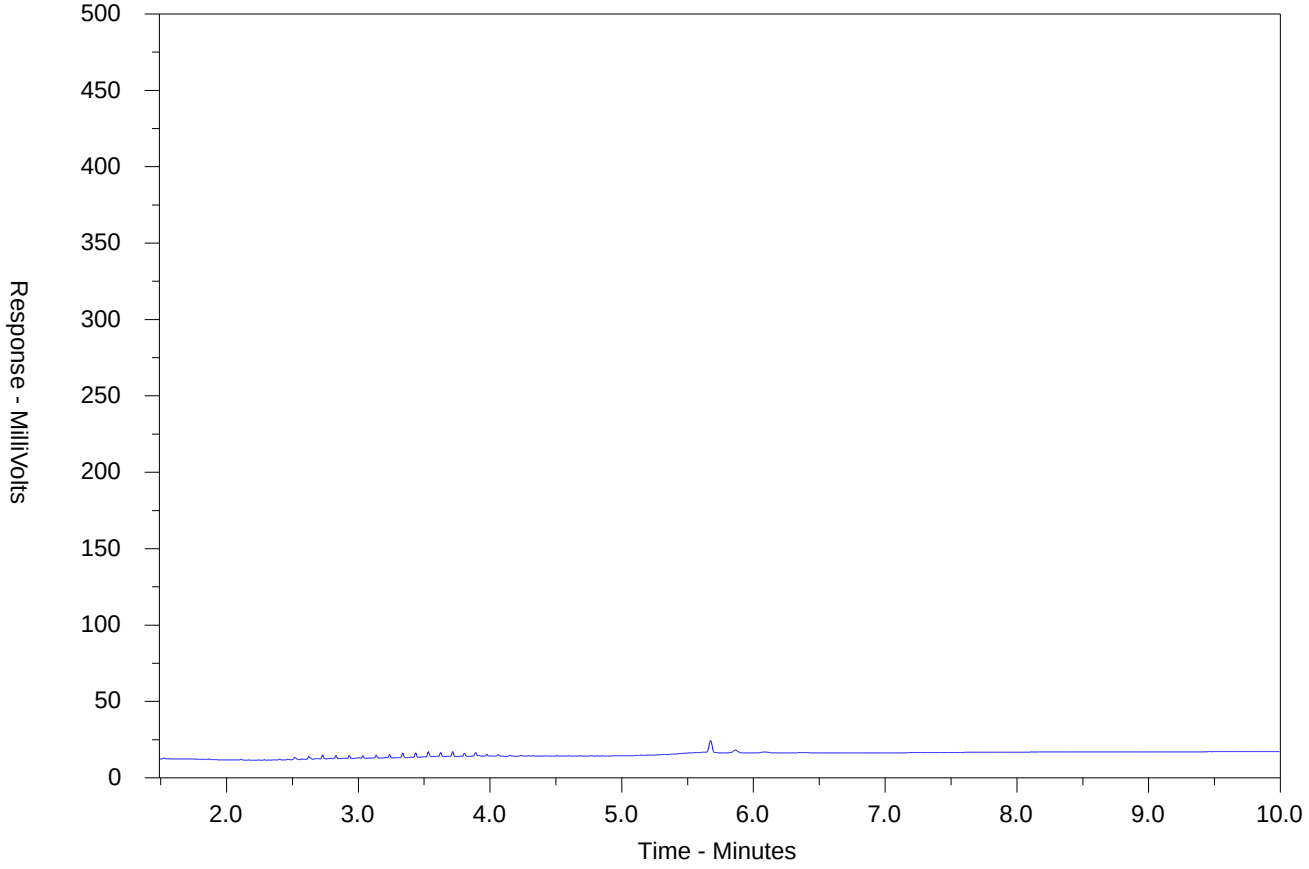
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-003-E601.SG-L
Client Sample ID: BH2 S2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

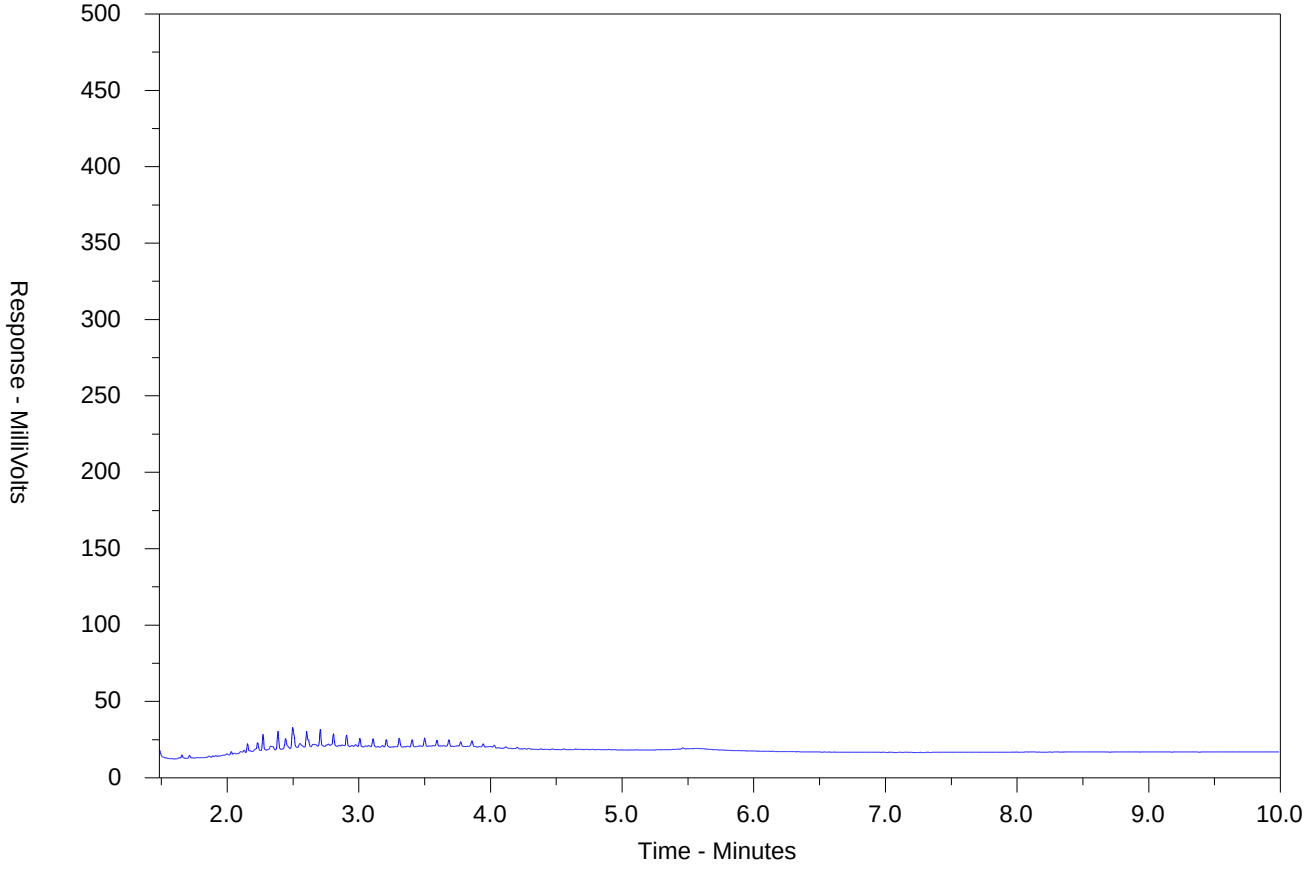
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-004-E601.SG-L
Client Sample ID: BH2 S4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

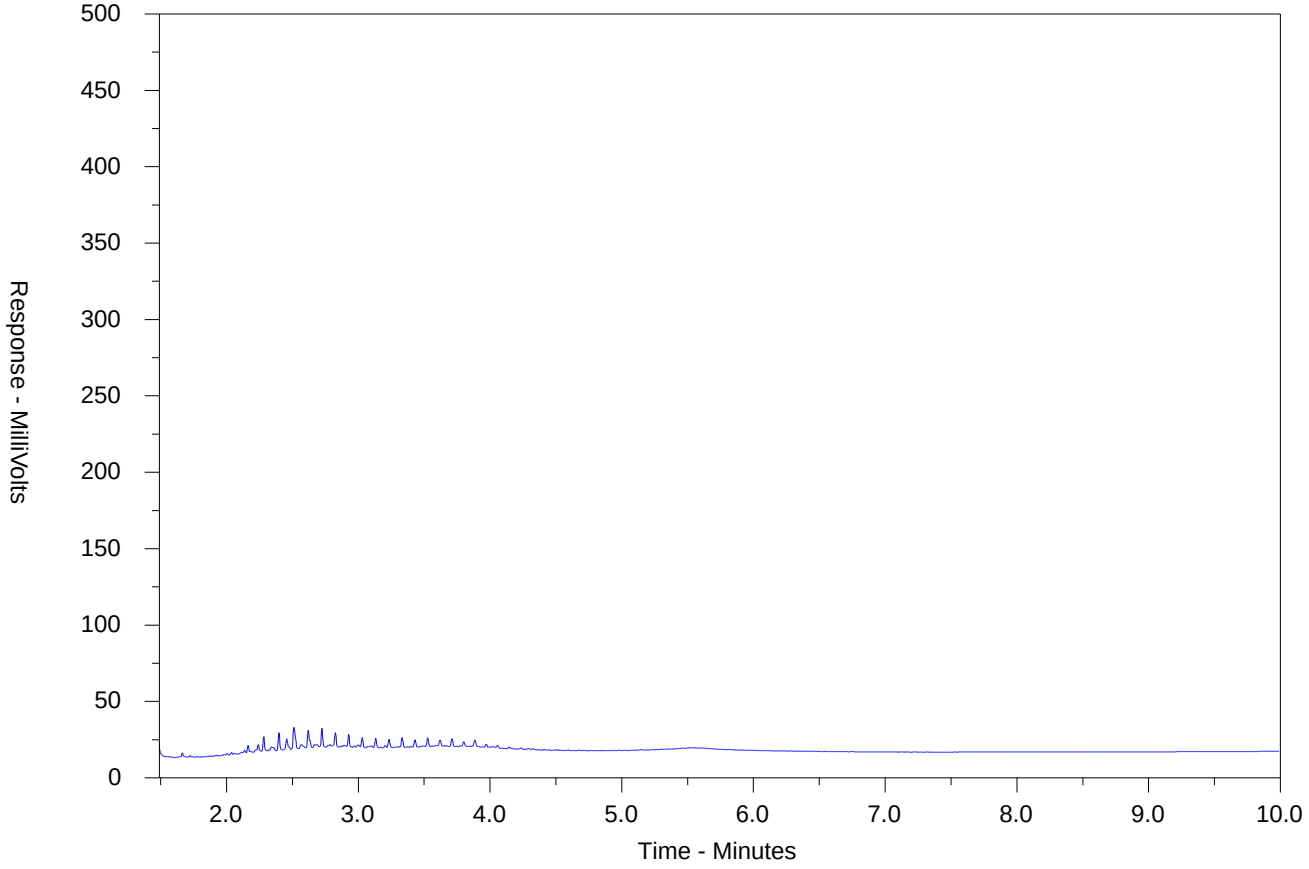
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-005-E601.SG-L
Client Sample ID: BH2 S7



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

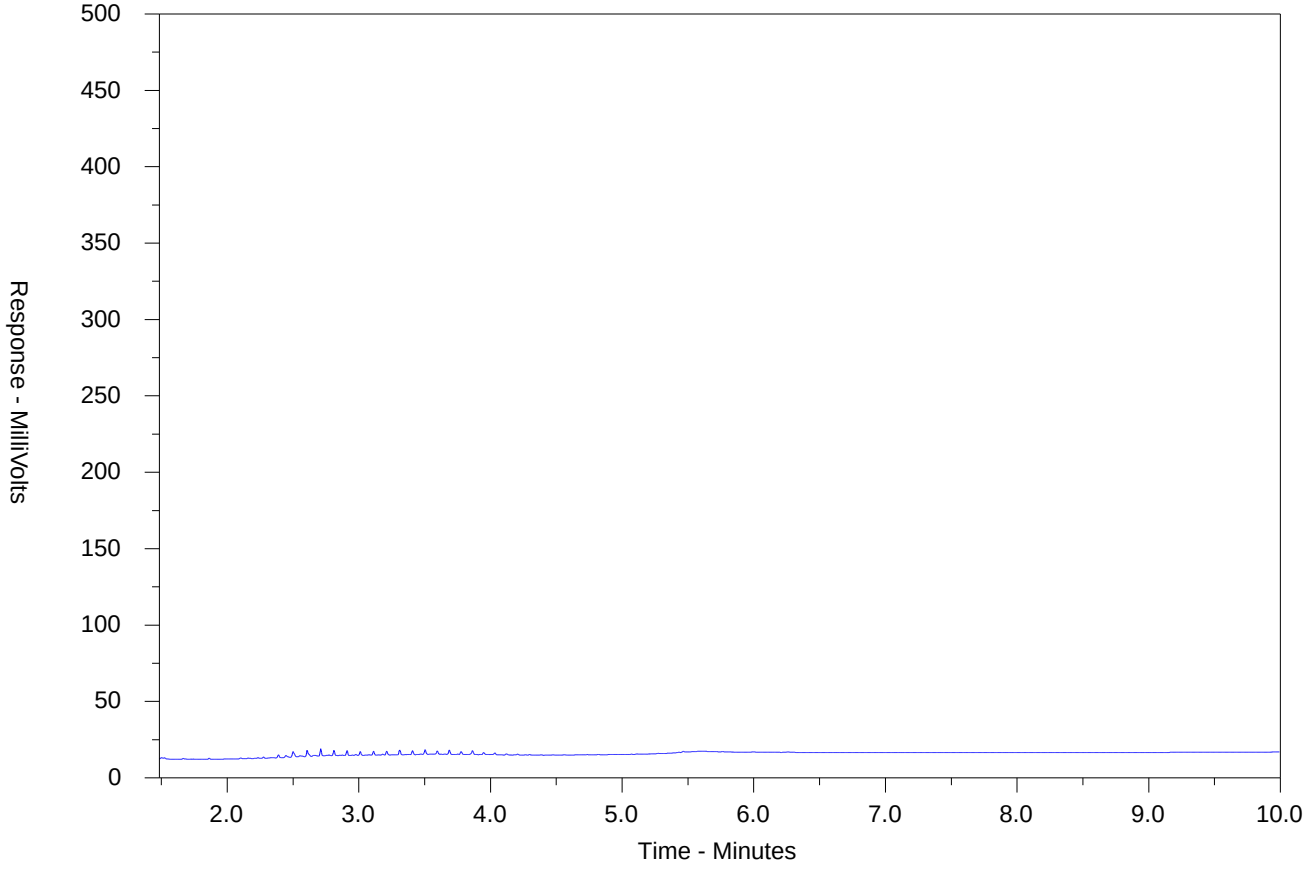
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-006-E601.SG-L
Client Sample ID: BH3 S2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

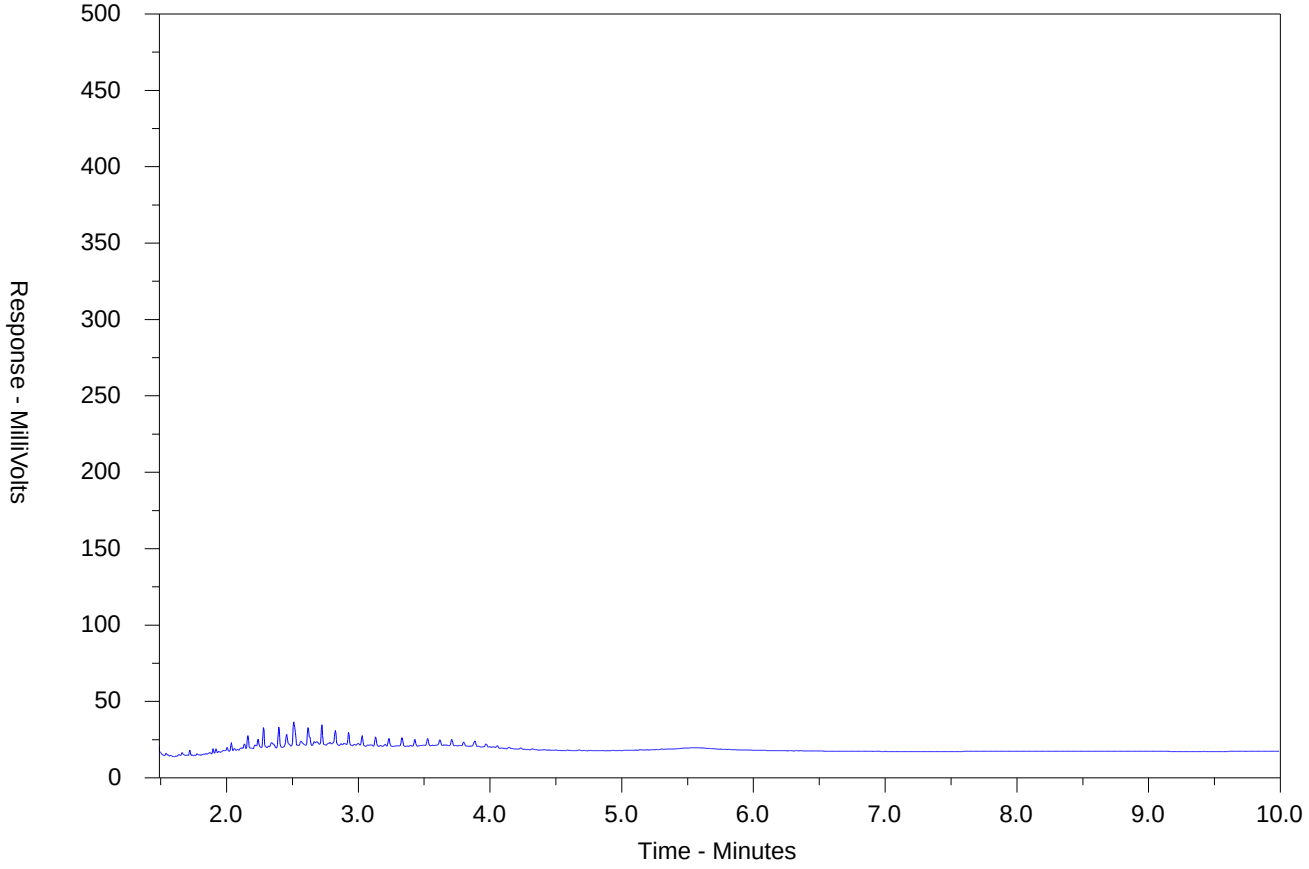
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-007-E601.SG-L
Client Sample ID: BH3 S6



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

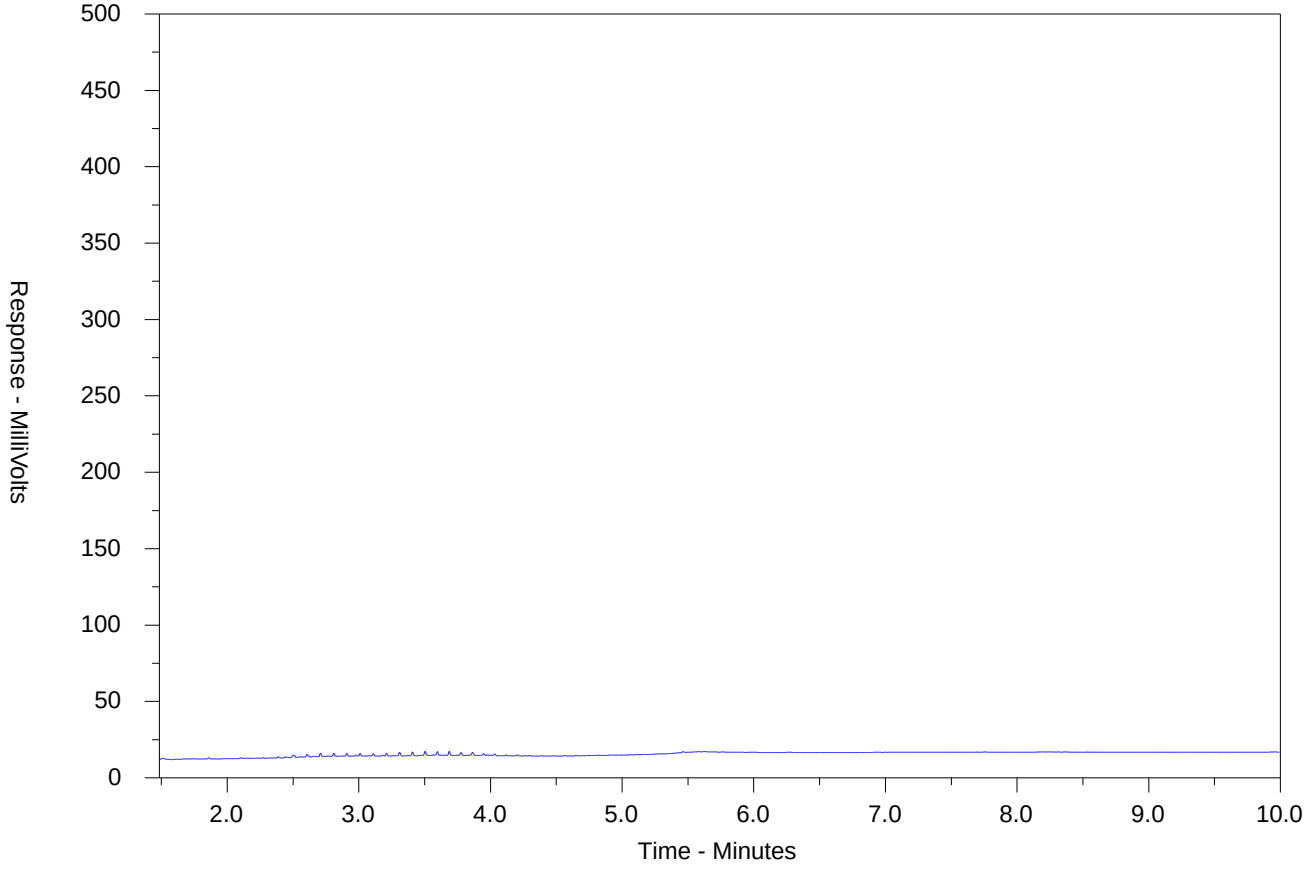
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-008-E601.SG-L
Client Sample ID: BH4 S2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

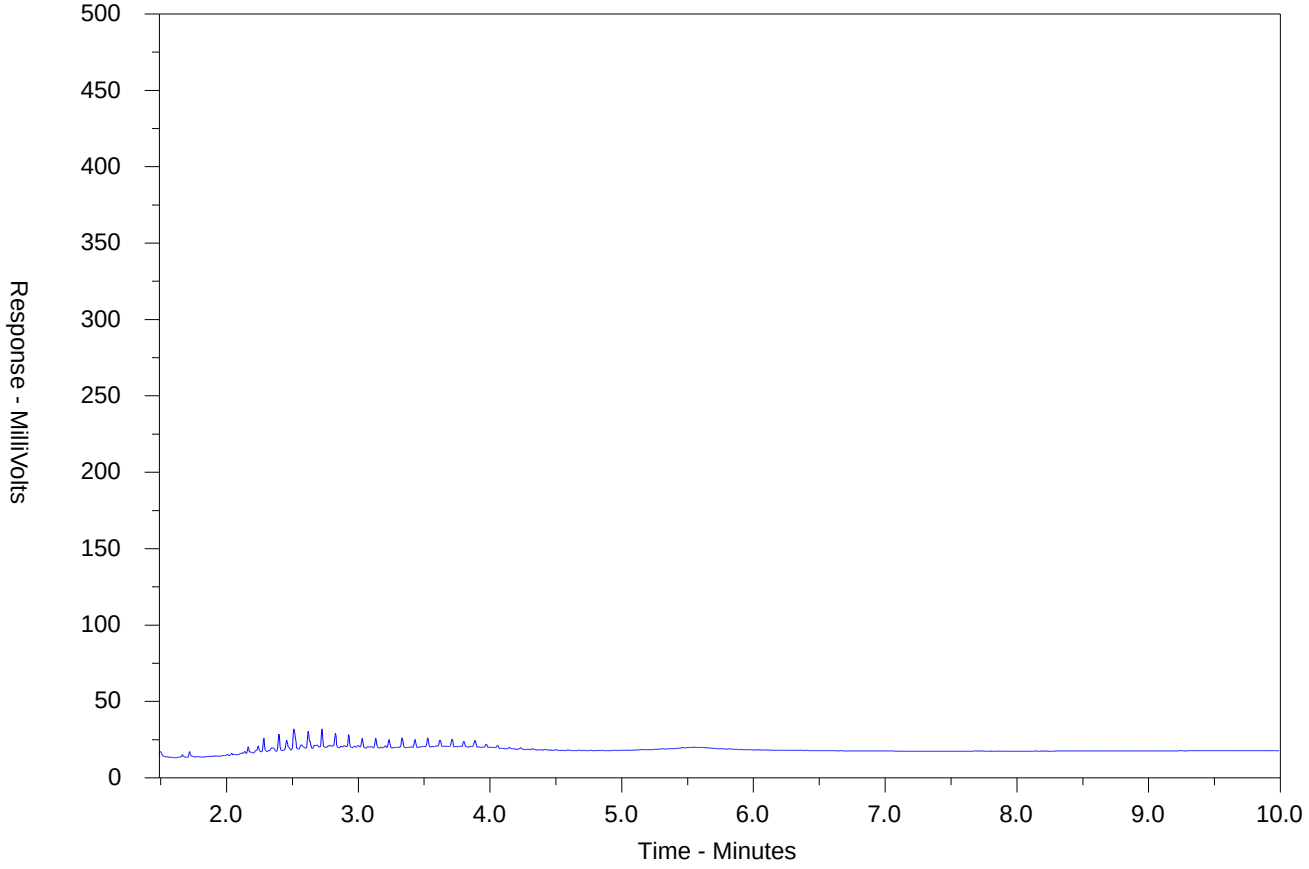
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-009-E601.SG-L
Client Sample ID: BH4 S7



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

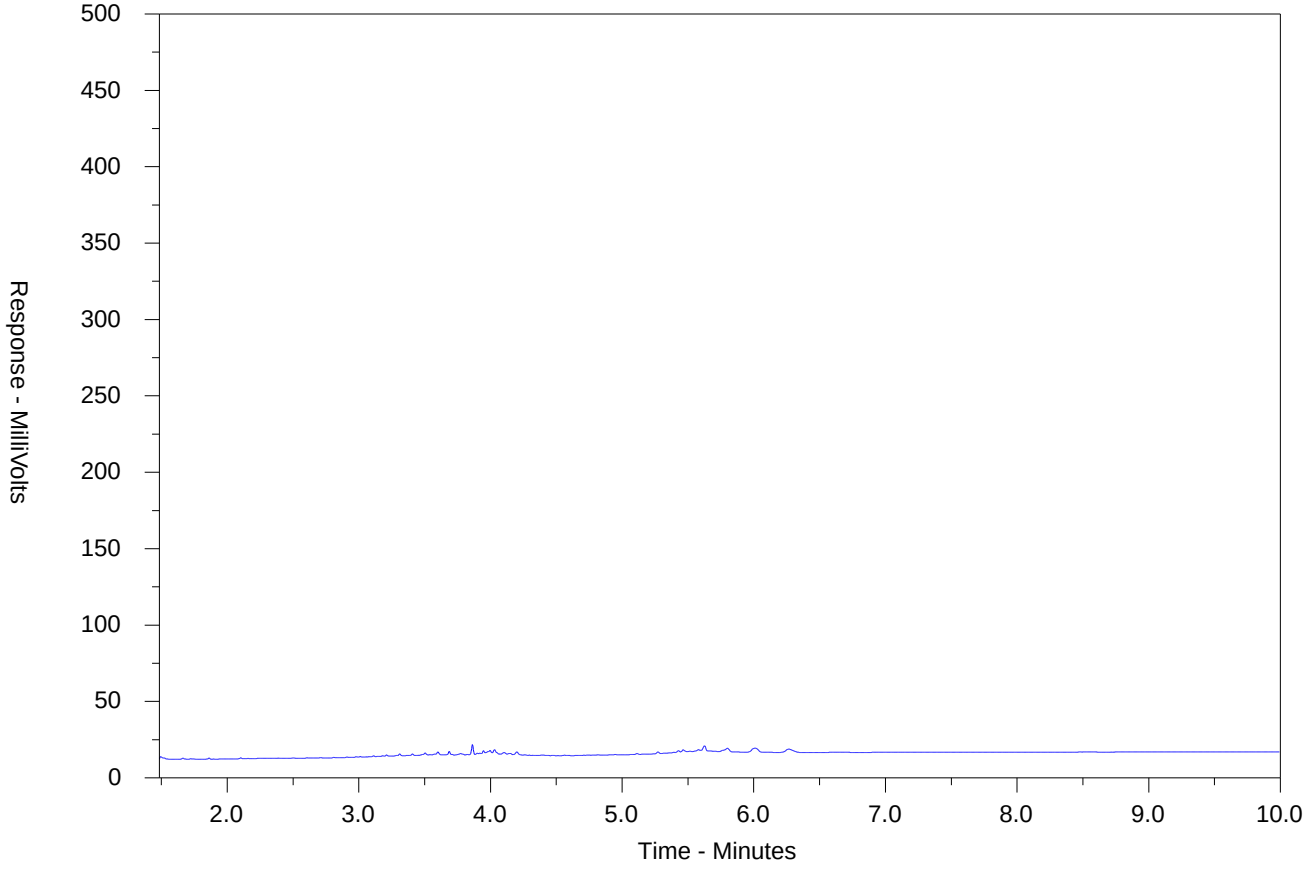
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-010-E601.SG-L
Client Sample ID: BH5 S1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

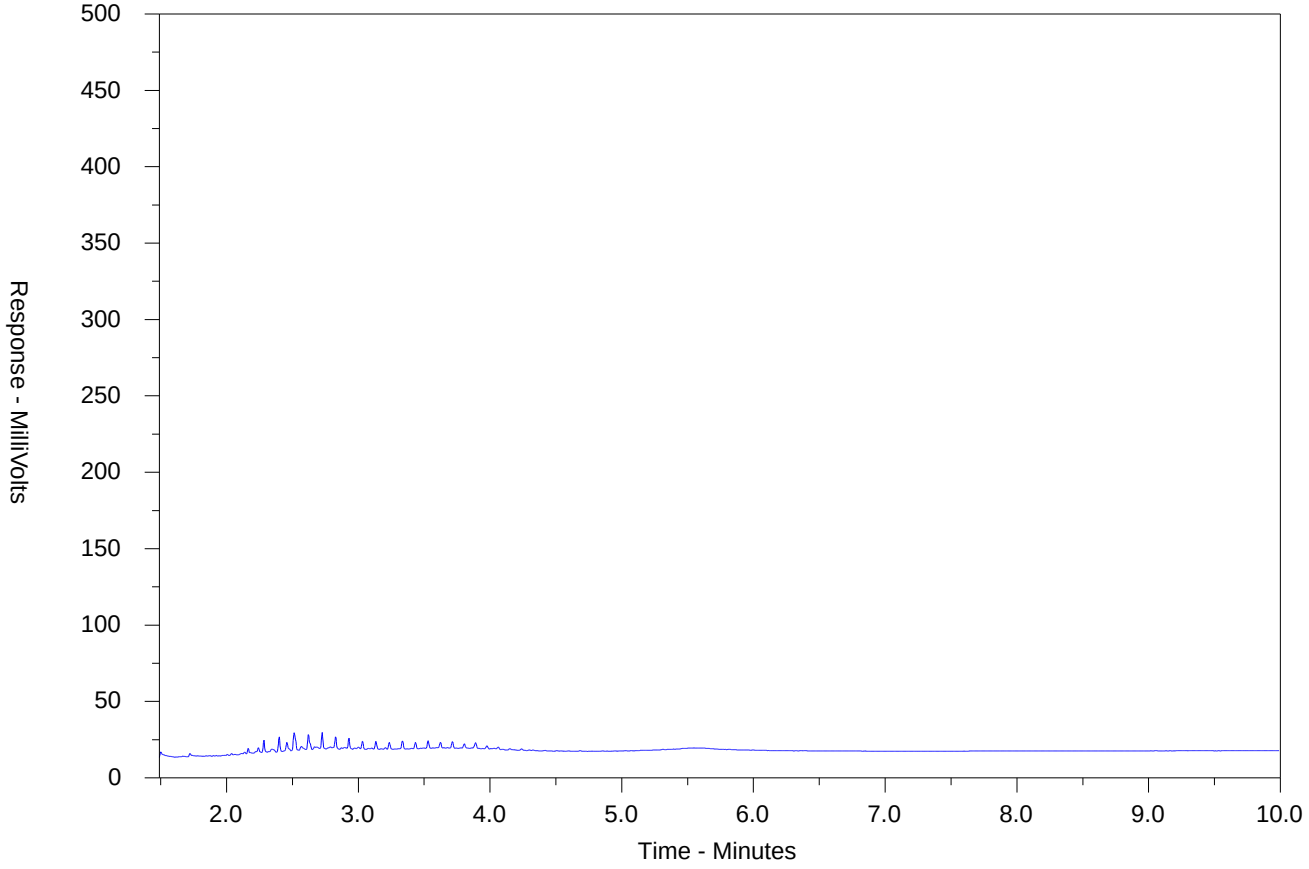
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-011-E601.SG-L
Client Sample ID: BH5 S6



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

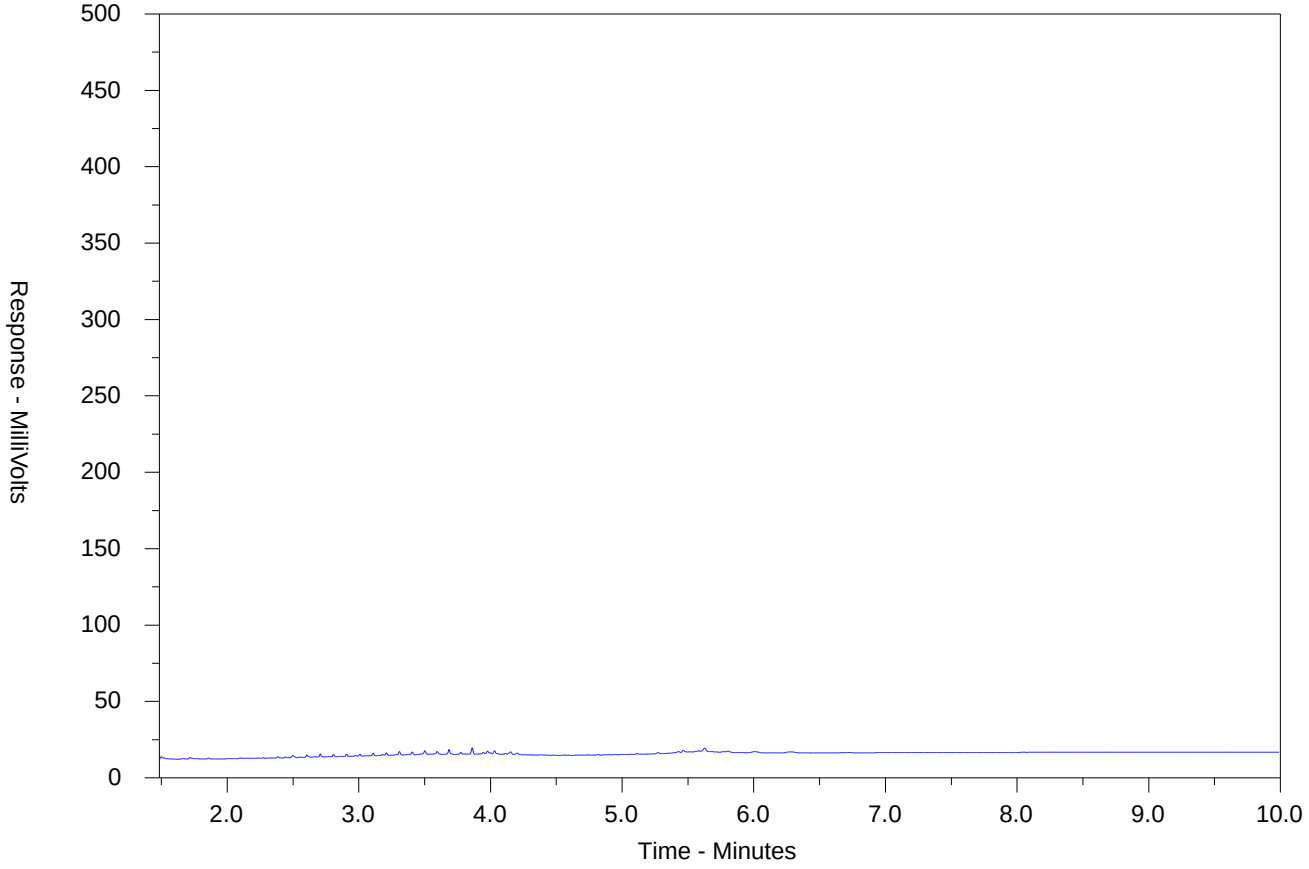
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-012-E601.SG-L
Client Sample ID: BH6 S1+2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

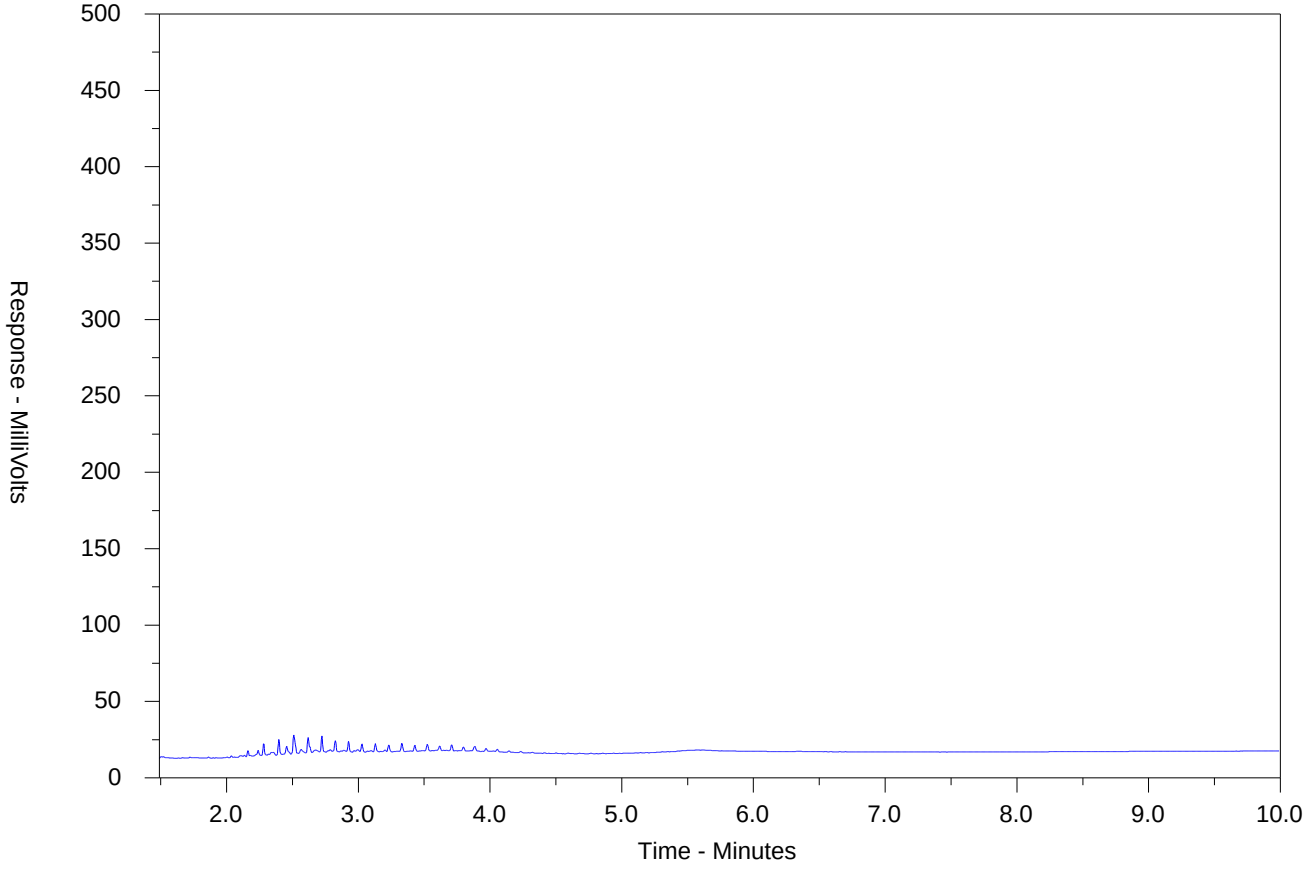
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-013-E601.SG-L
Client Sample ID: BH6 S4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

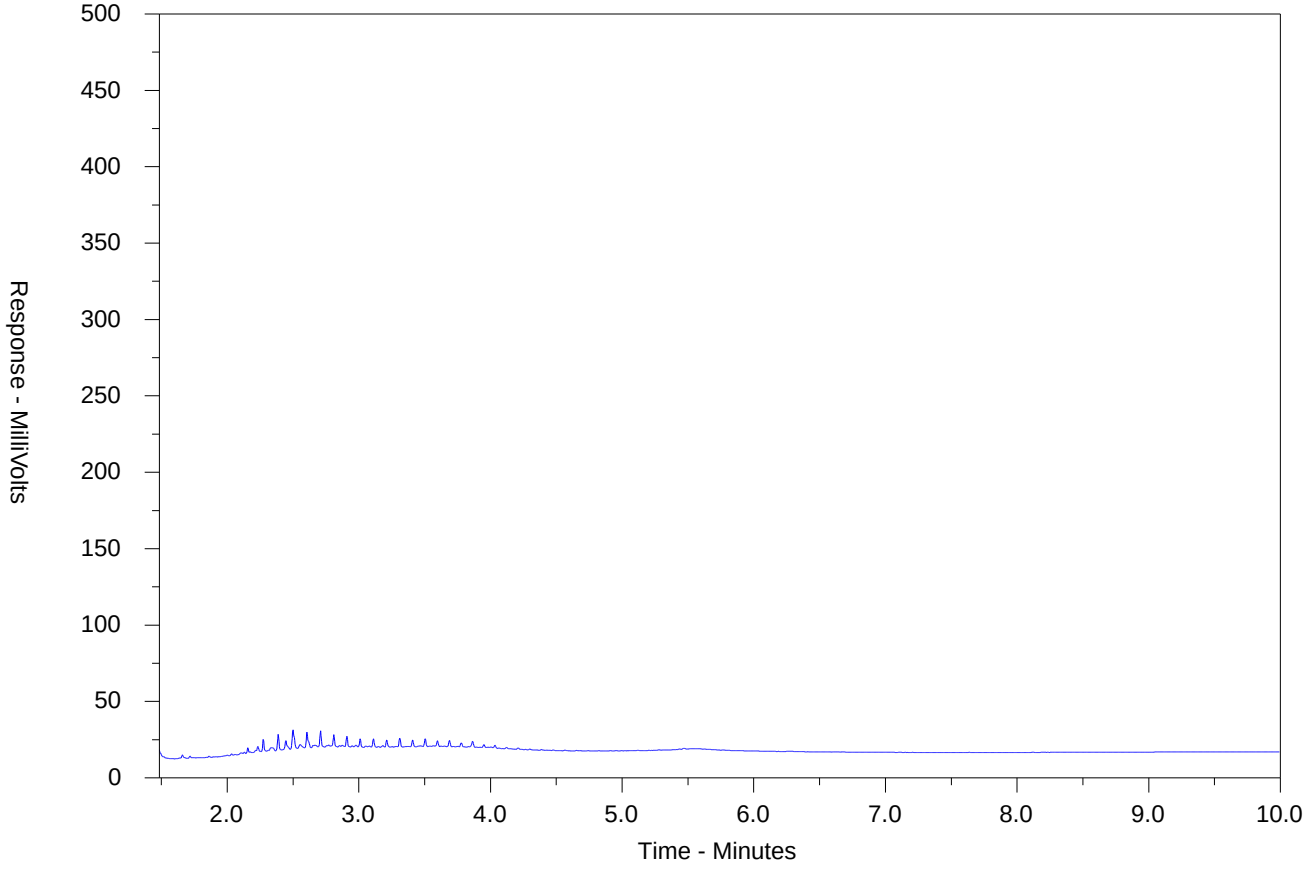
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-014-E601.SG-L
Client Sample ID: BH6 S7



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

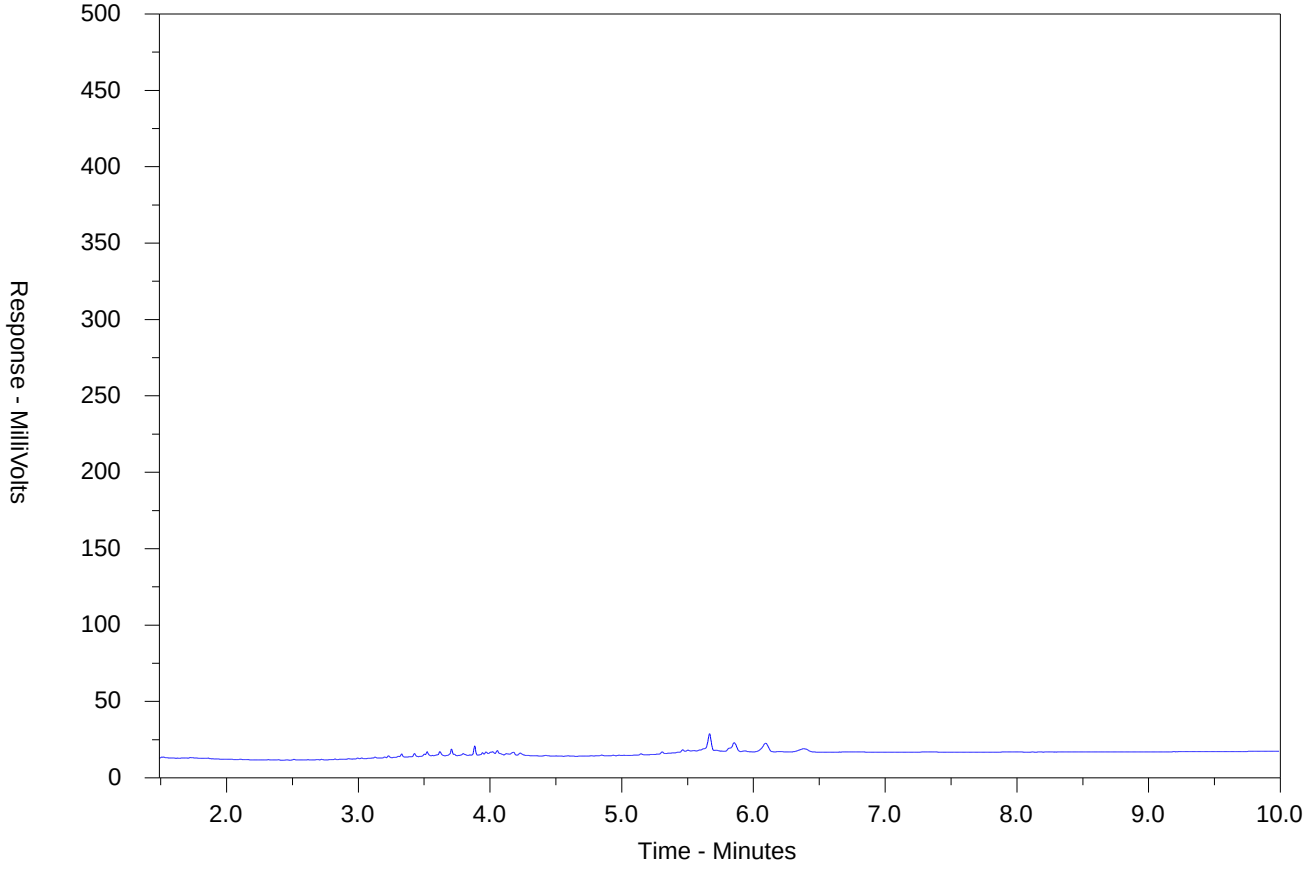
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-015-E601.SG-L
Client Sample ID: BH7 S1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

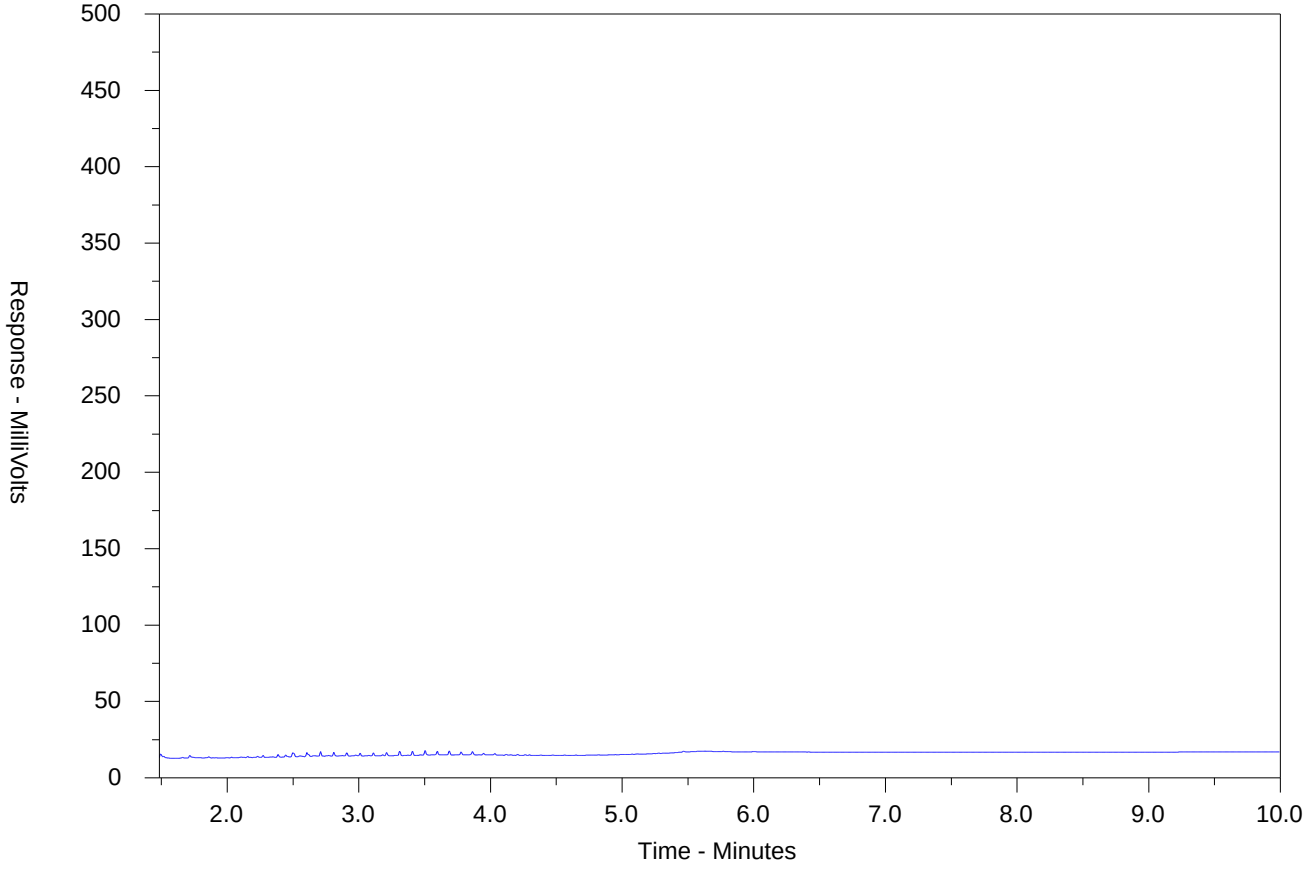
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-016-E601.SG-L
Client Sample ID: BH7 S3



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

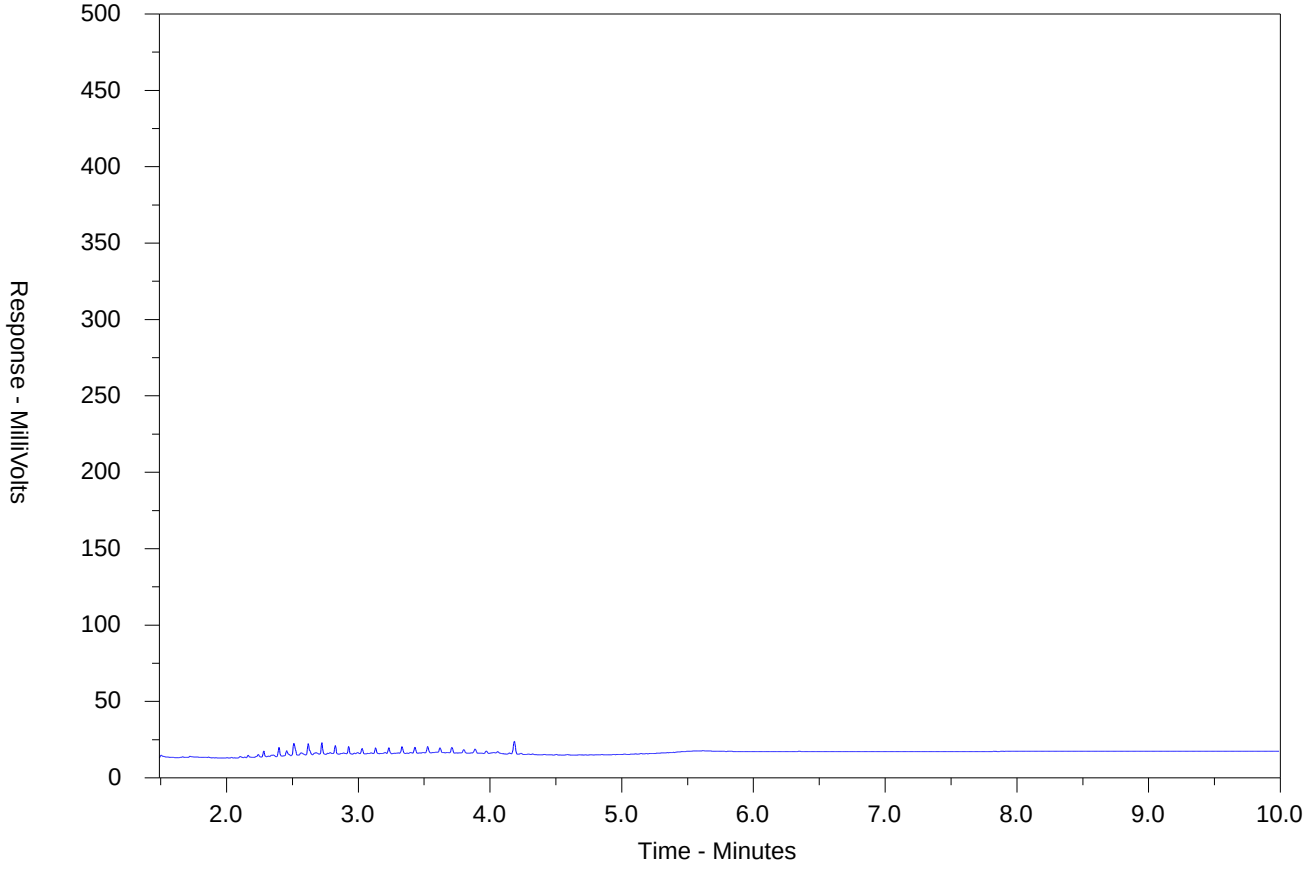
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-017-E601.SG-L
Client Sample ID: BH7 S5



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

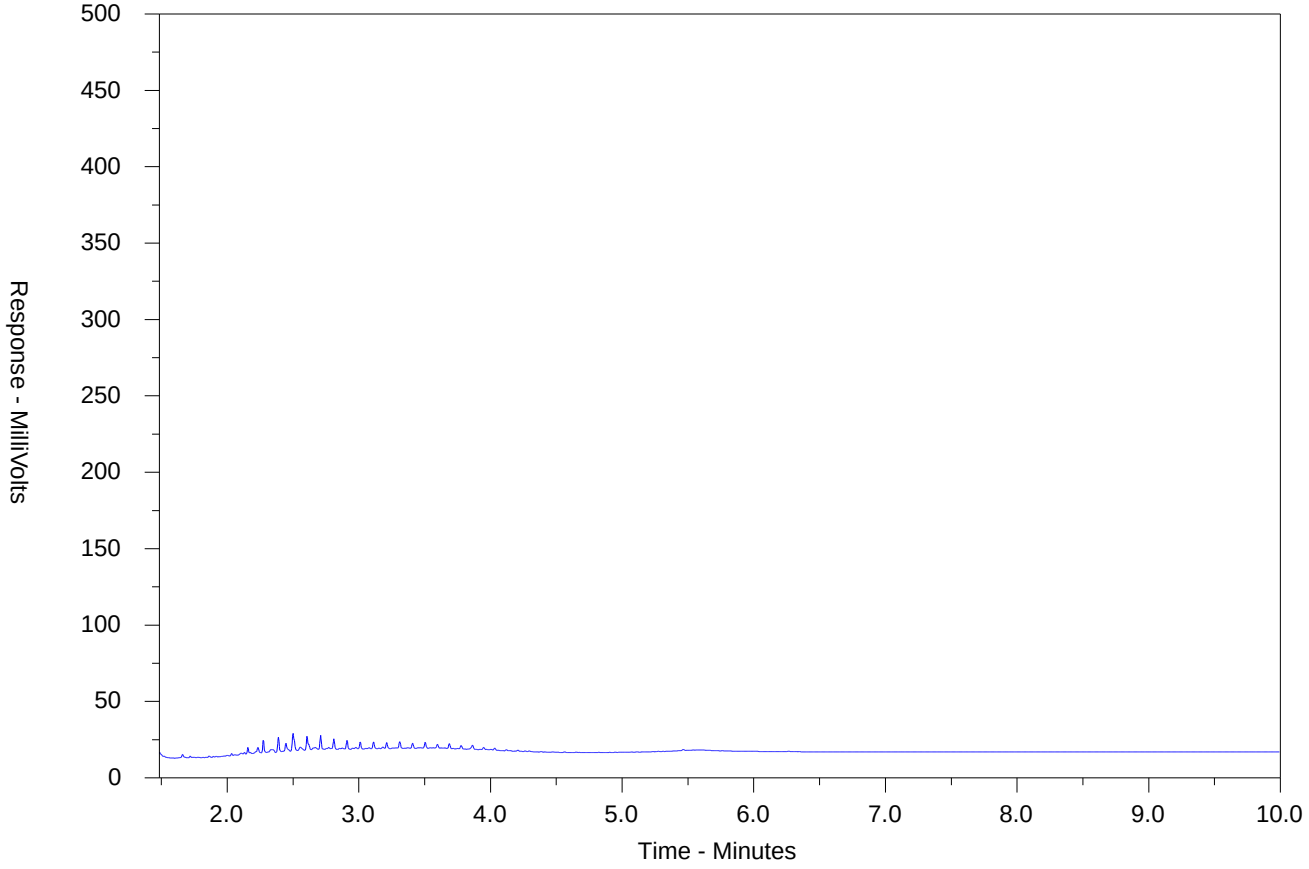
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-018-E601.SG-L
Client Sample ID: BH7 S6



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

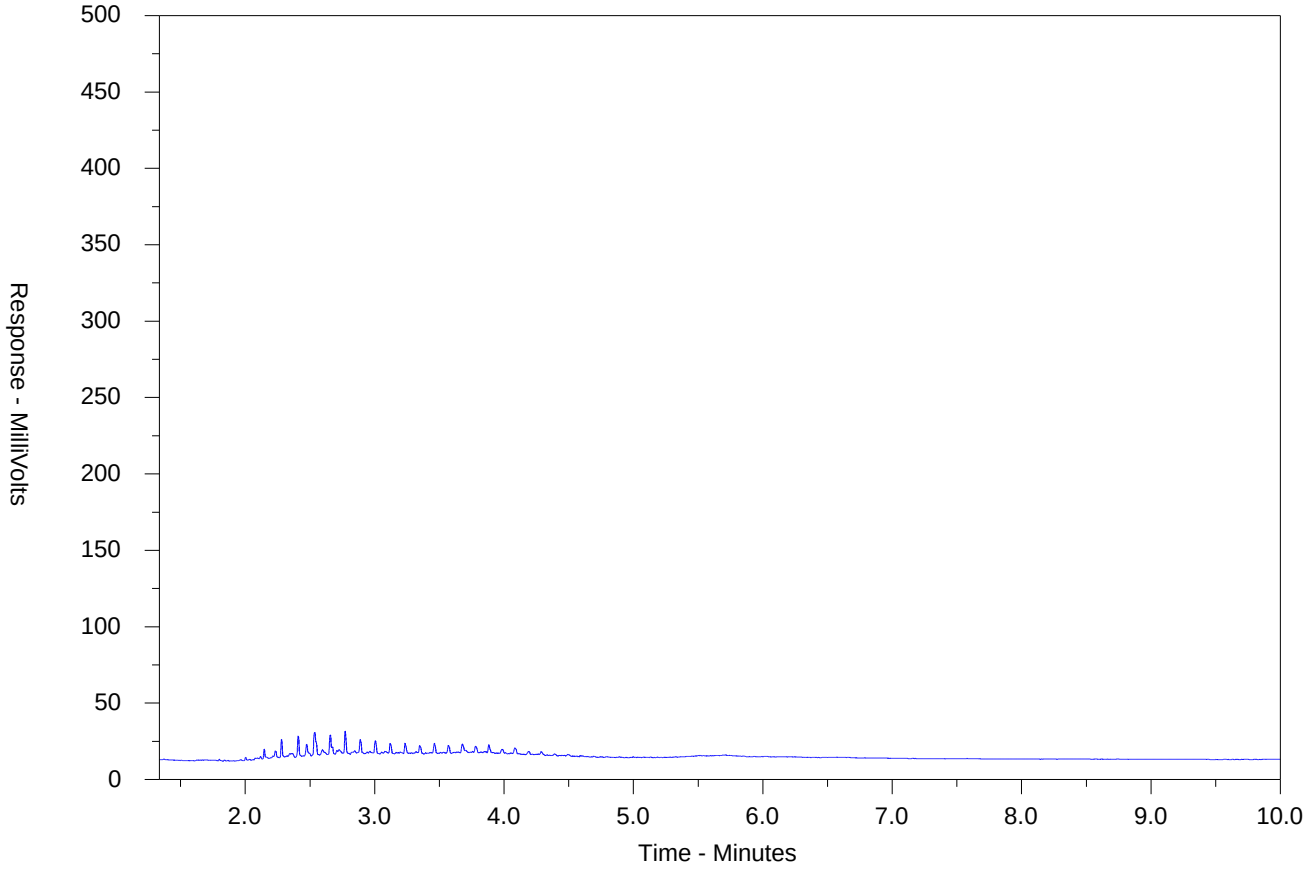
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-019-E601.SG-L
Client Sample ID: BH7 S7



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

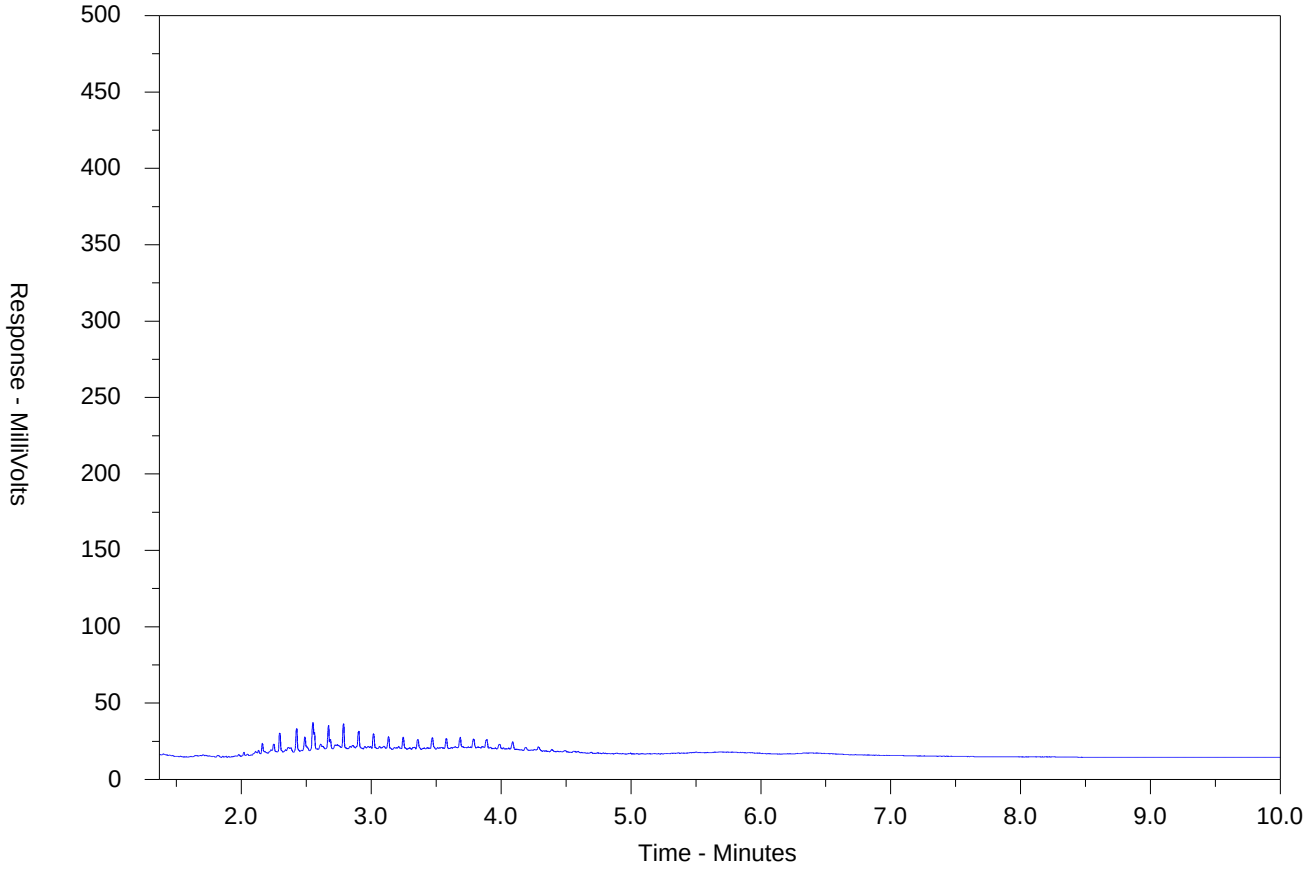
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-020-E601.SG-L
Client Sample ID: BH7 S8



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

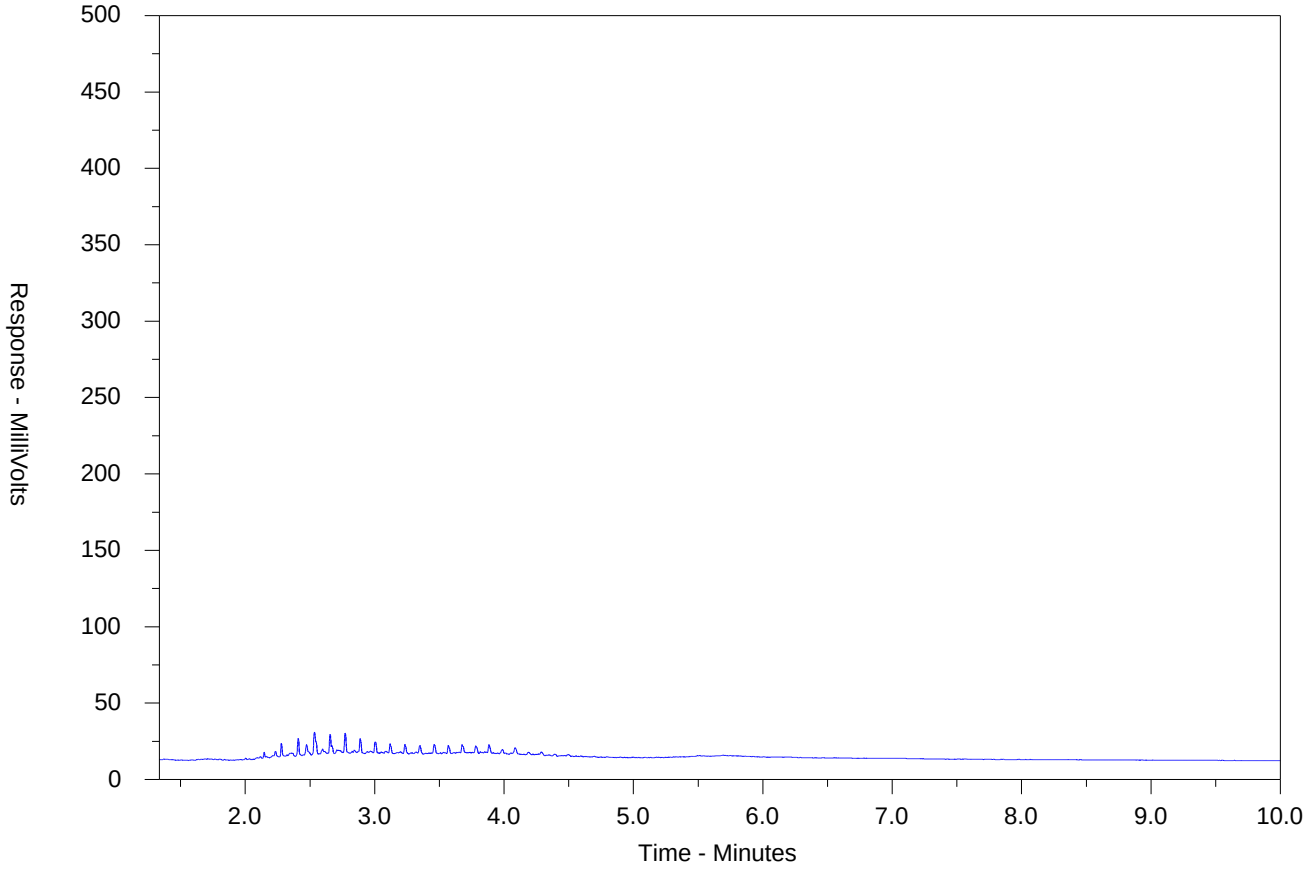
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-021-E601.SG-L
Client Sample ID: BH7 S9



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

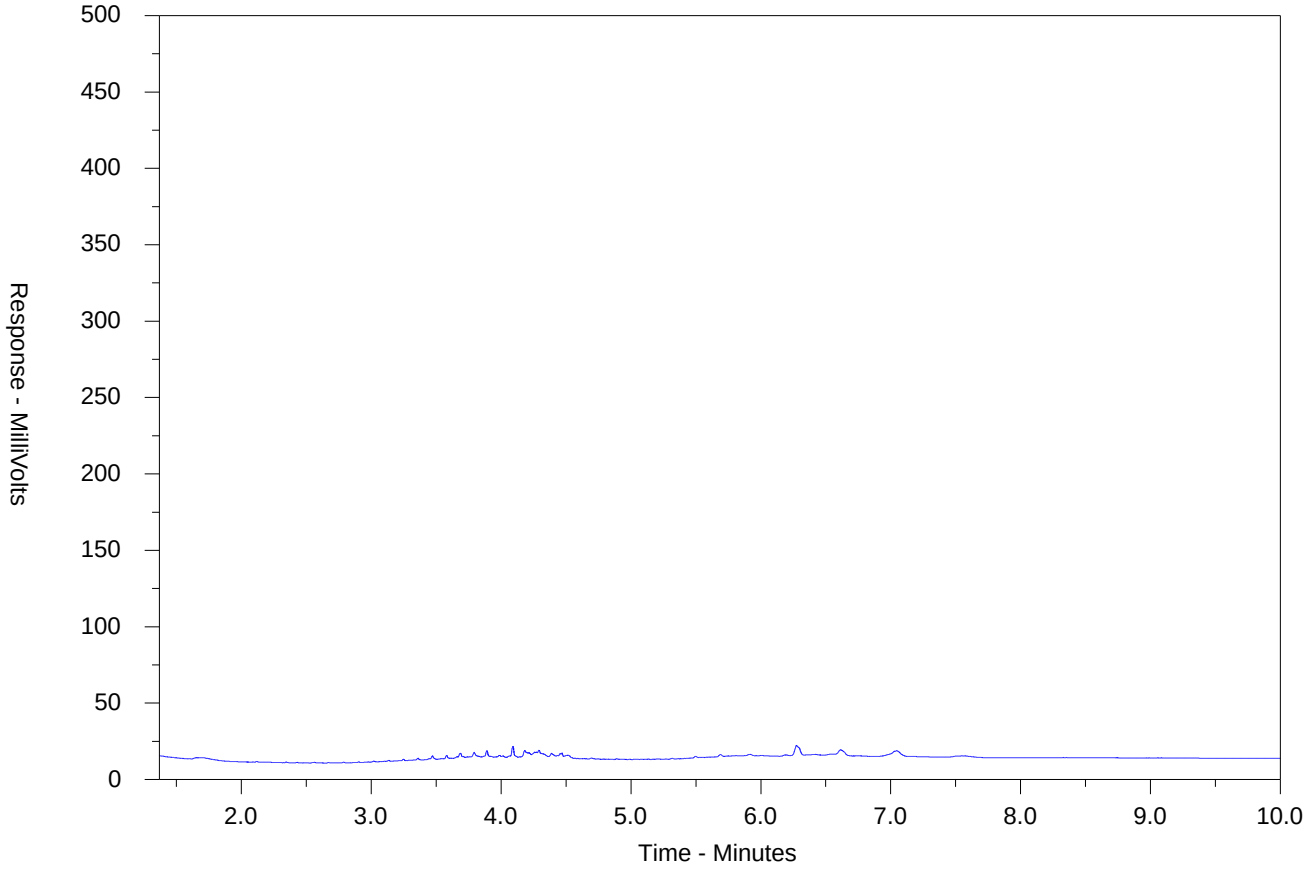
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-022-E601.SG-L
Client Sample ID: BH8 S1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

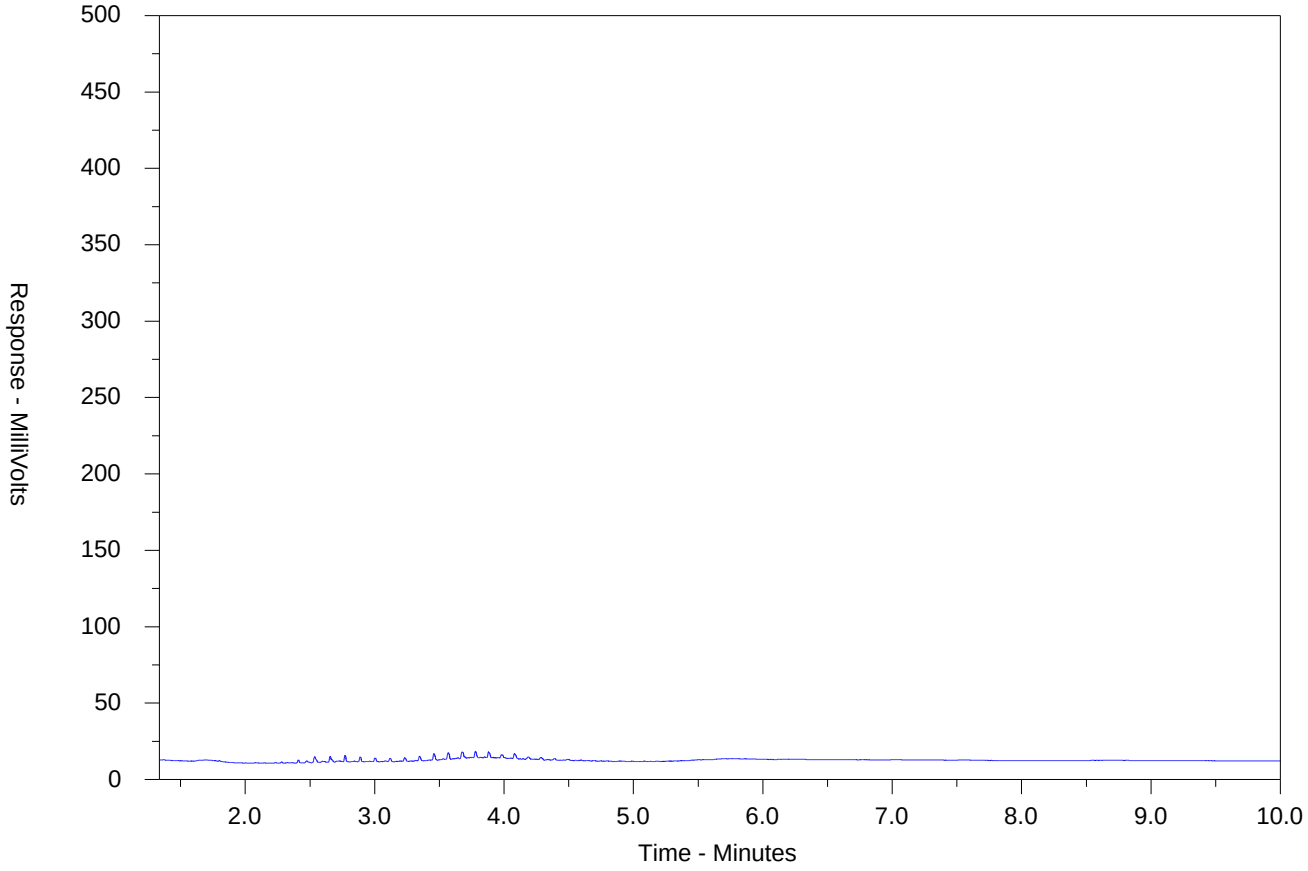
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-023-E601.SG-L
Client Sample ID: BH8 S2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

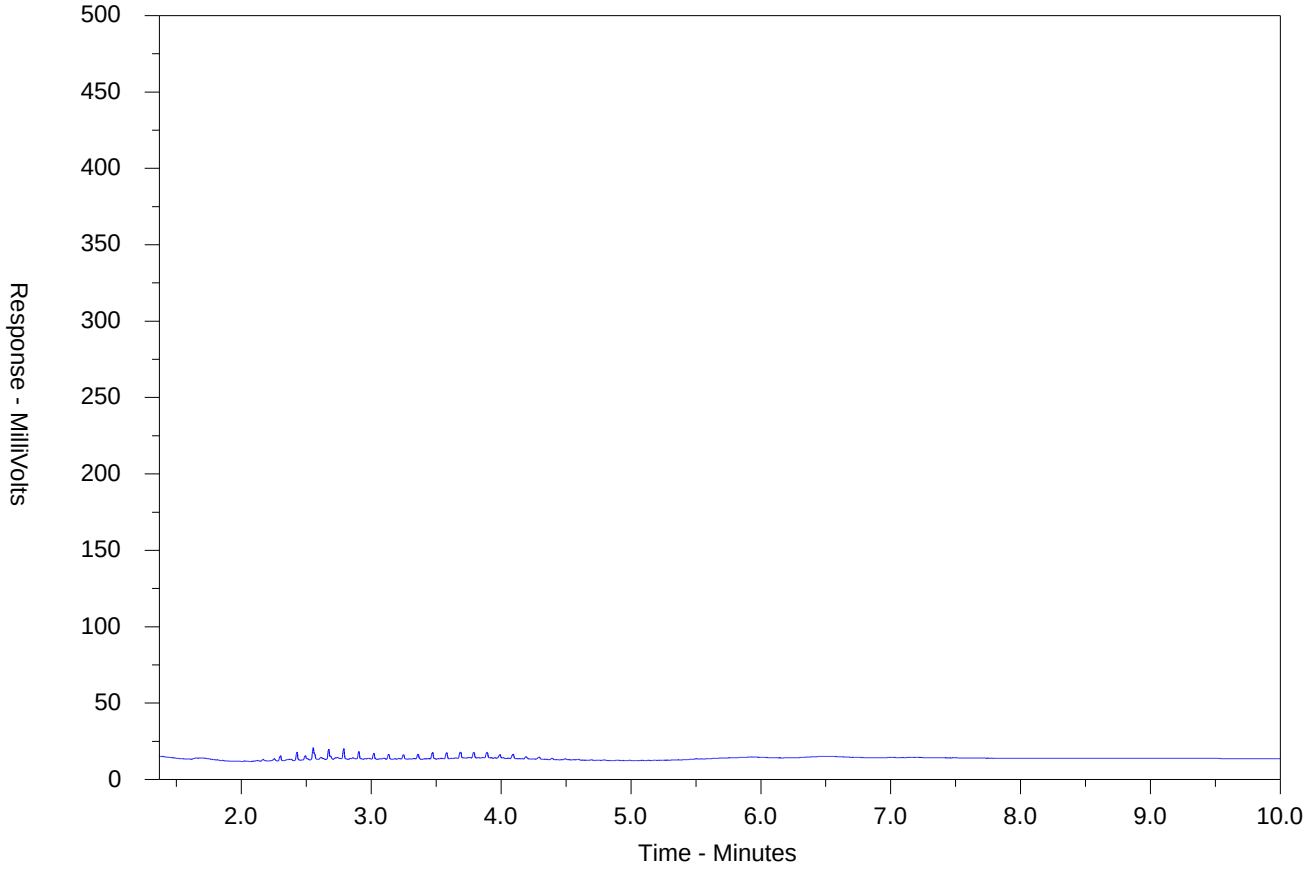
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-024-E601.SG-L
Client Sample ID: BH8 S3



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

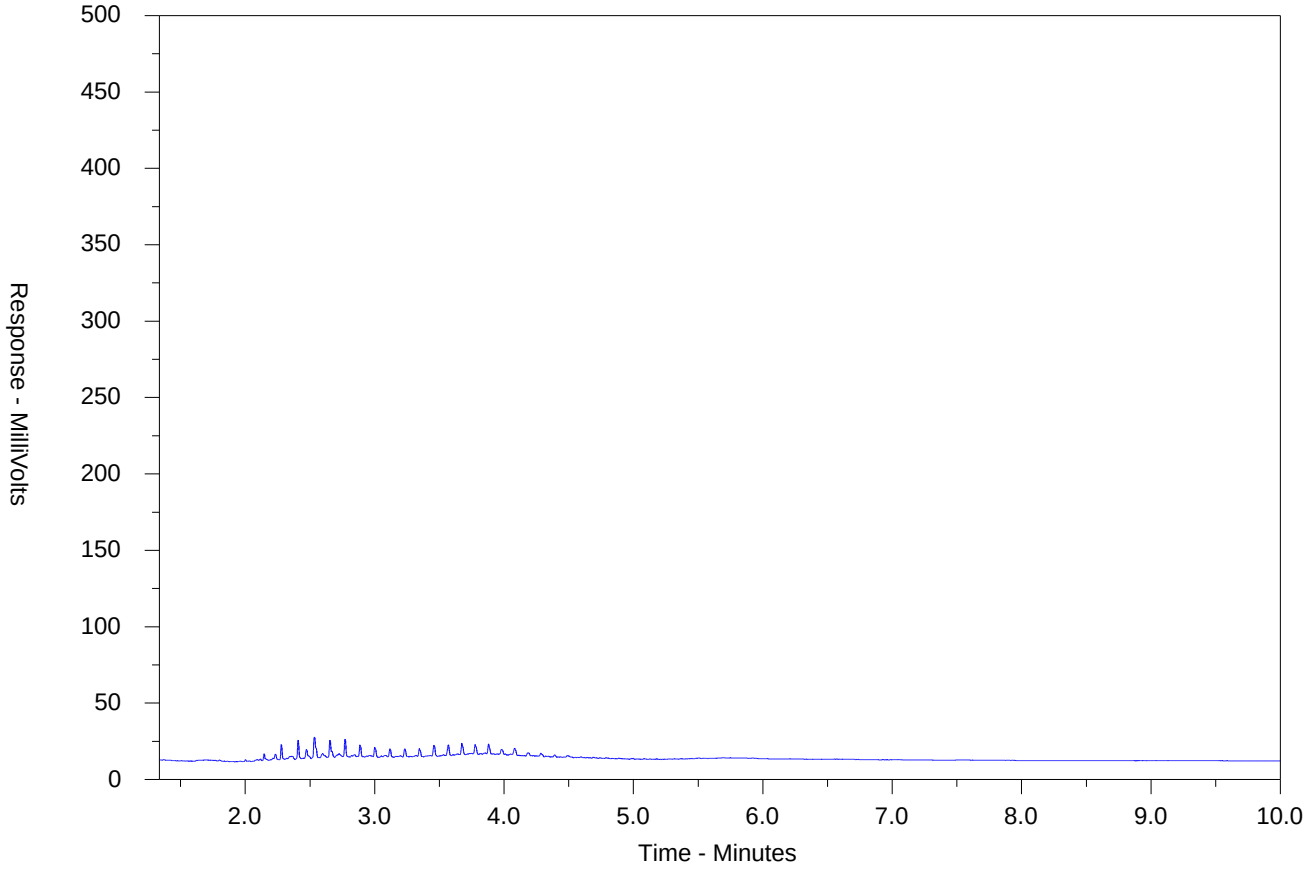
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-025-E601.SG-L
Client Sample ID: BH8 S4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

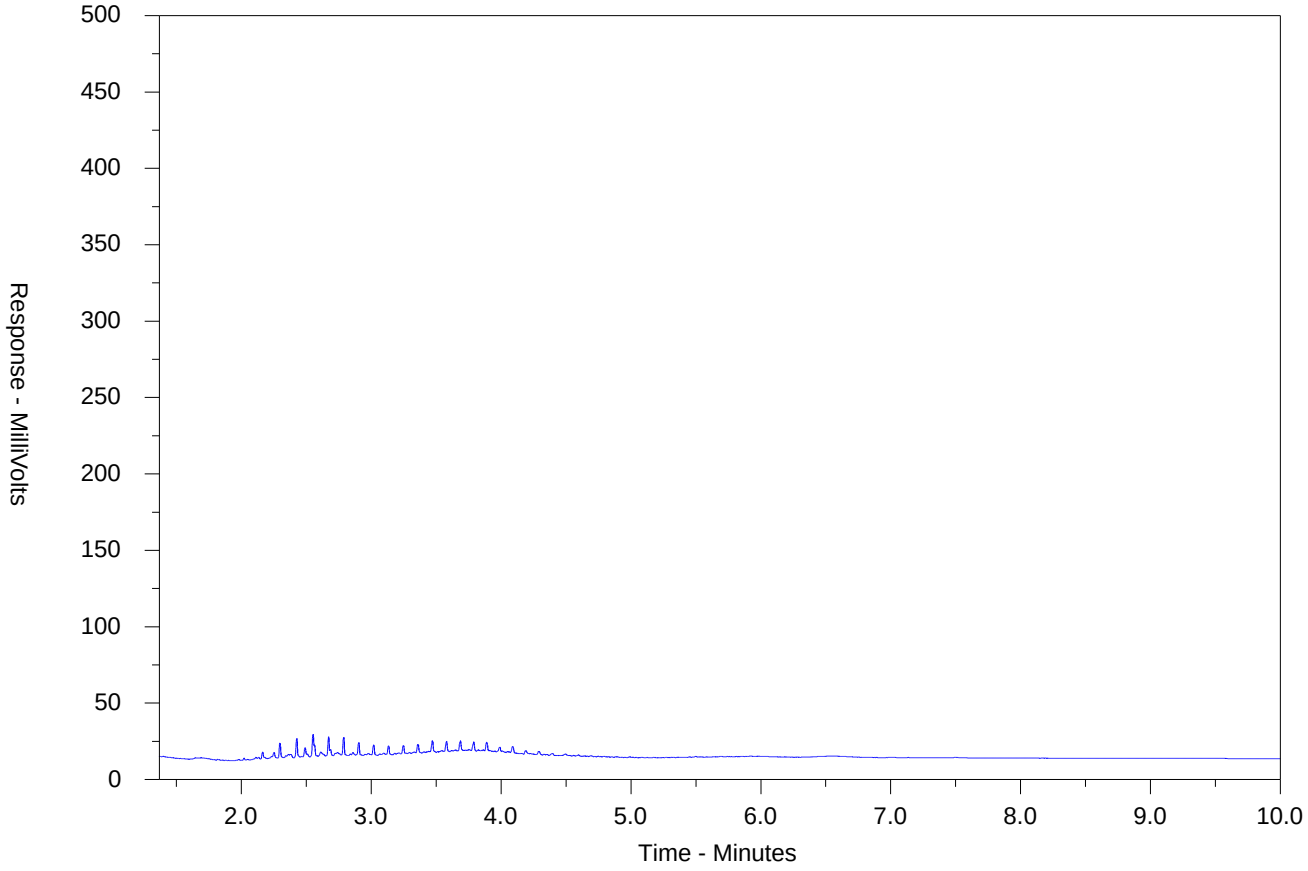
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-026-E601.SG-L
Client Sample ID: BH8 S5



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

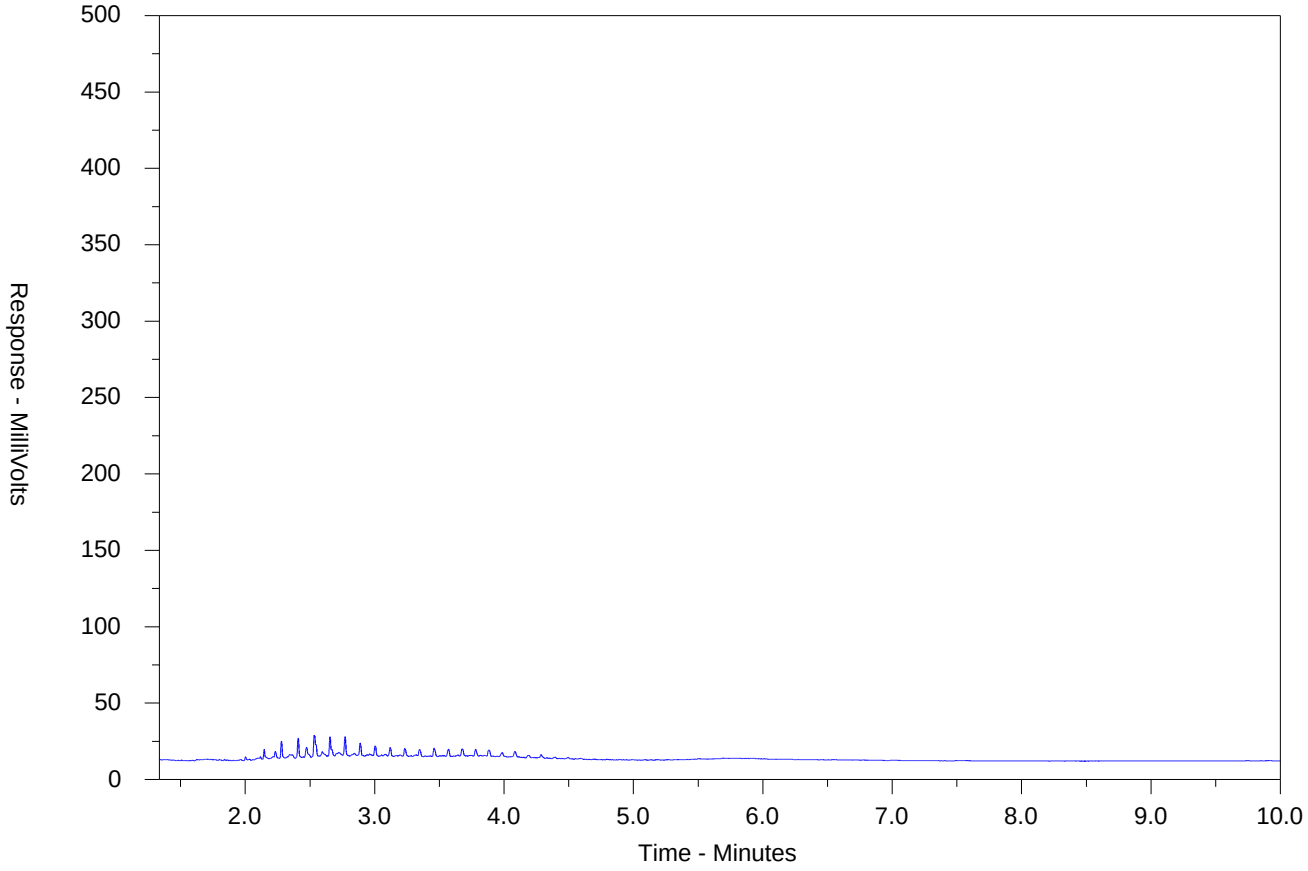
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-027-E601.SG-L
Client Sample ID: BH8 S6



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

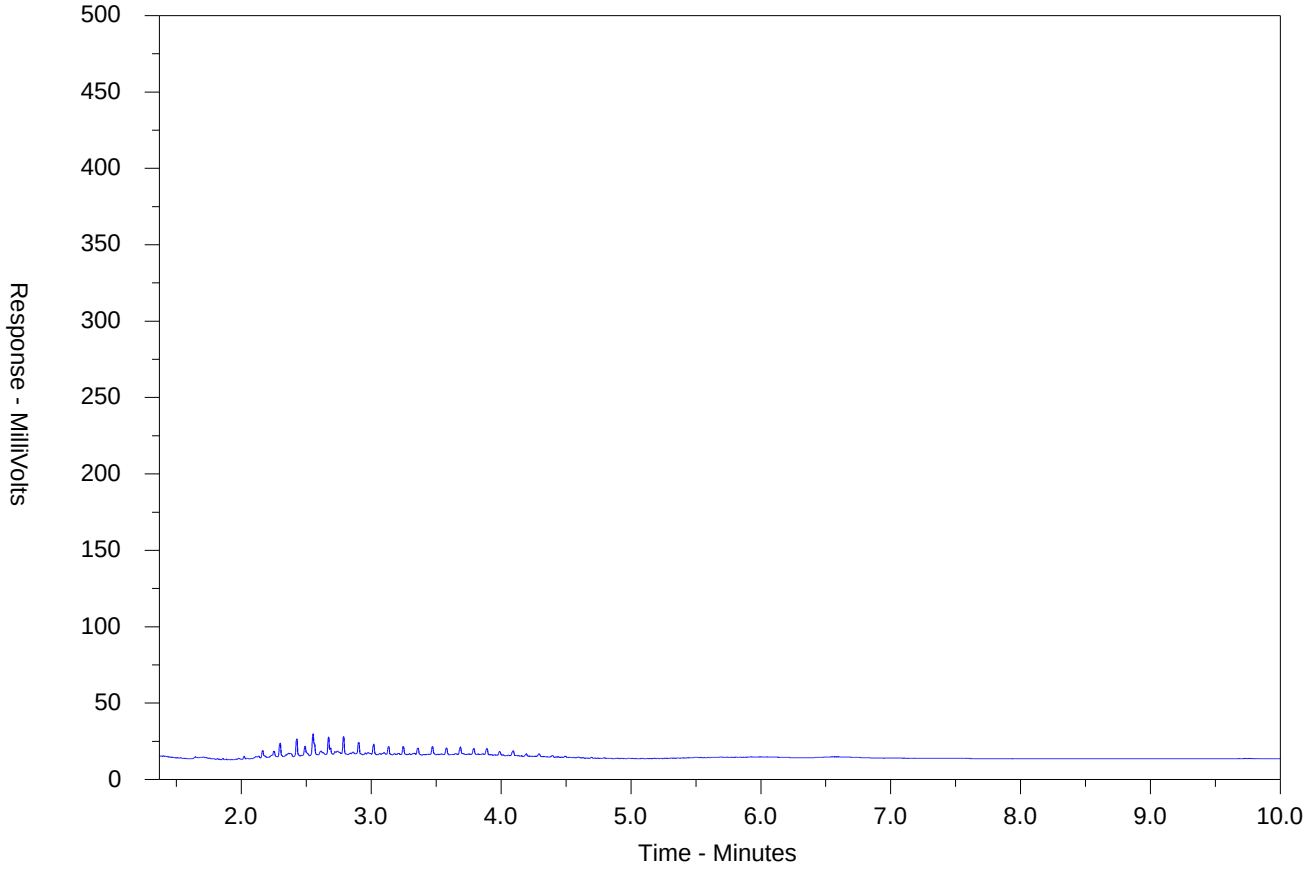
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-028-E601.SG-L
Client Sample ID: BH8 S7



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

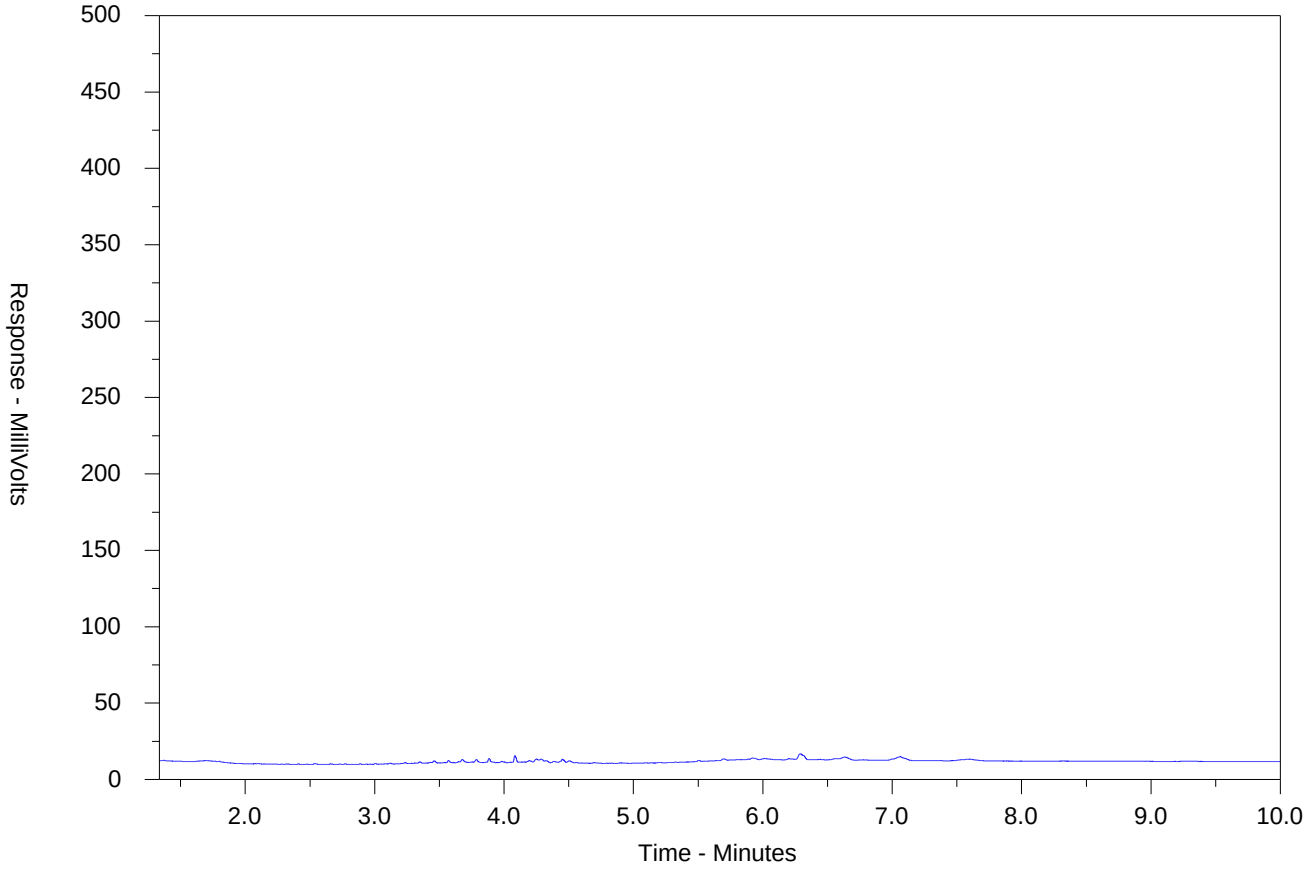
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-029-E601.SG-L
Client Sample ID: BH9 S1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

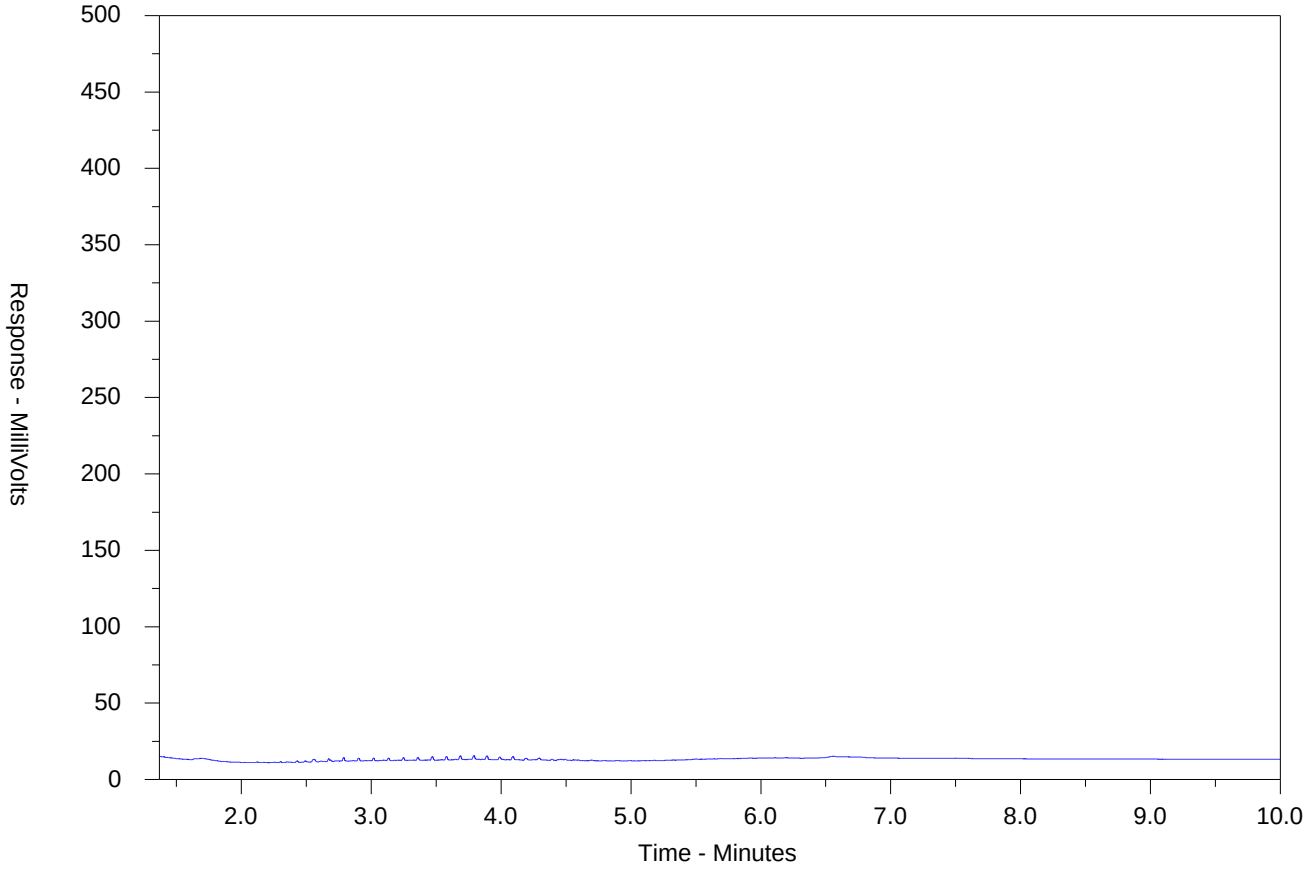
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-030-E601.SG-L
Client Sample ID: BH9 S2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

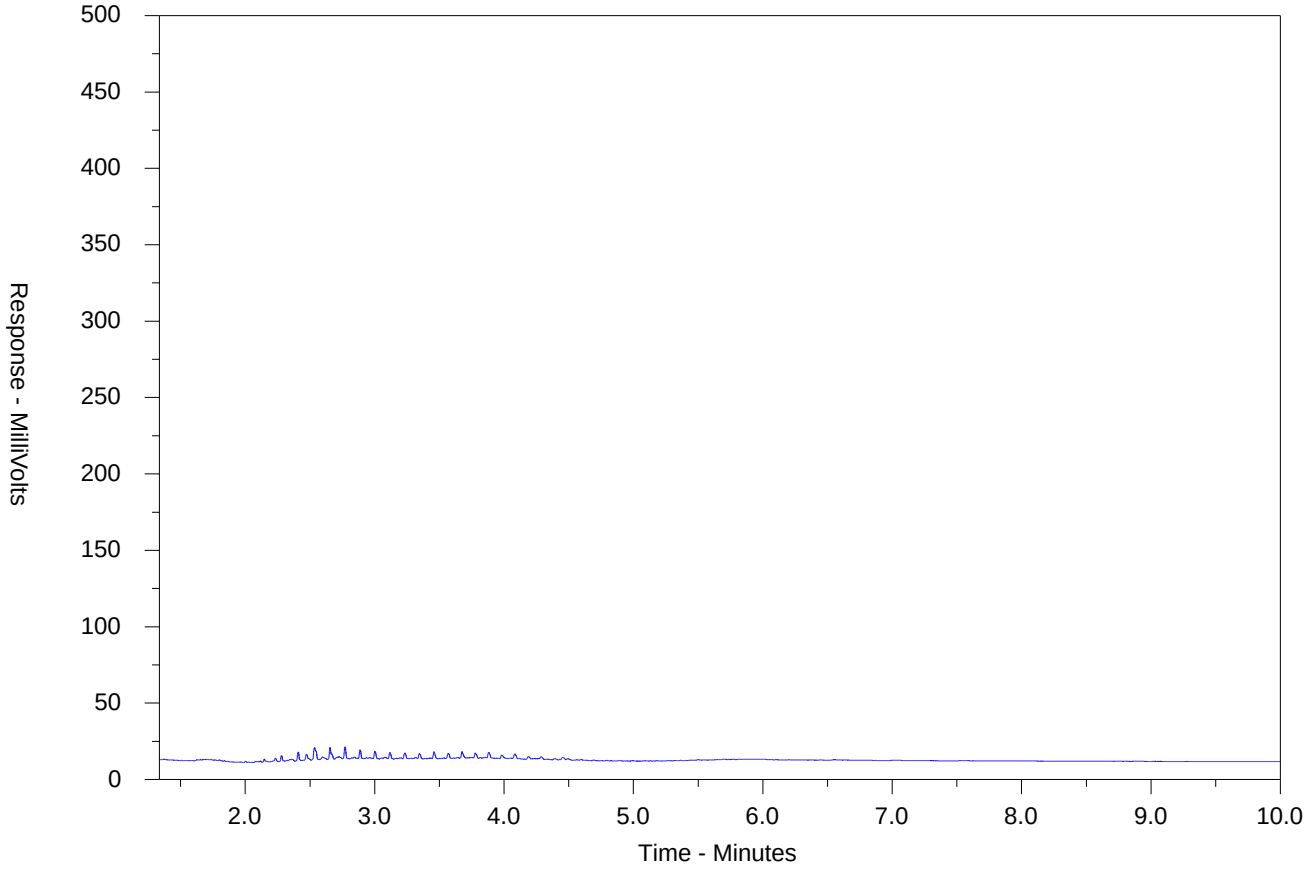
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-031-E601.SG-L
Client Sample ID: BH9 S3



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

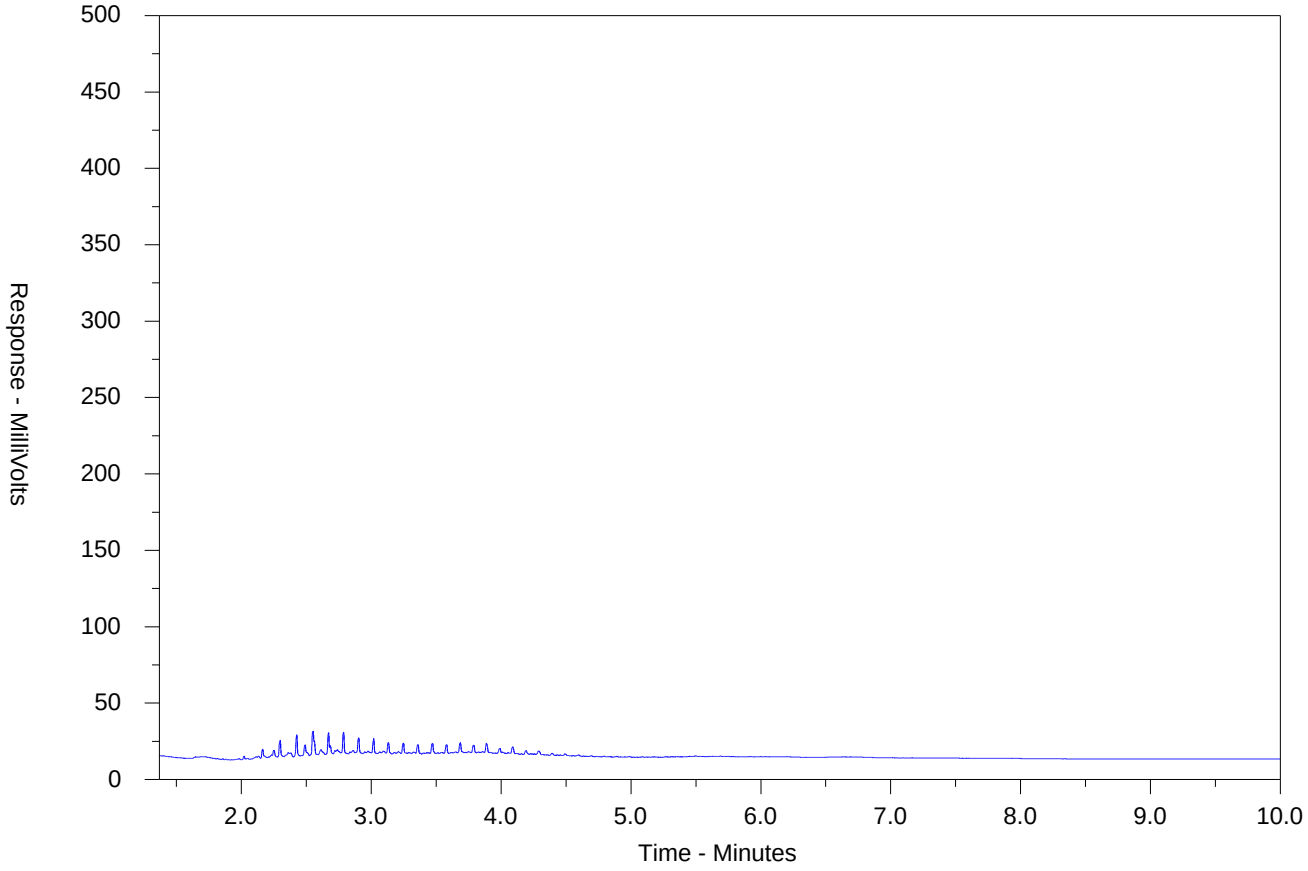
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-032-E601.SG-L
Client Sample ID: BH9 S4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

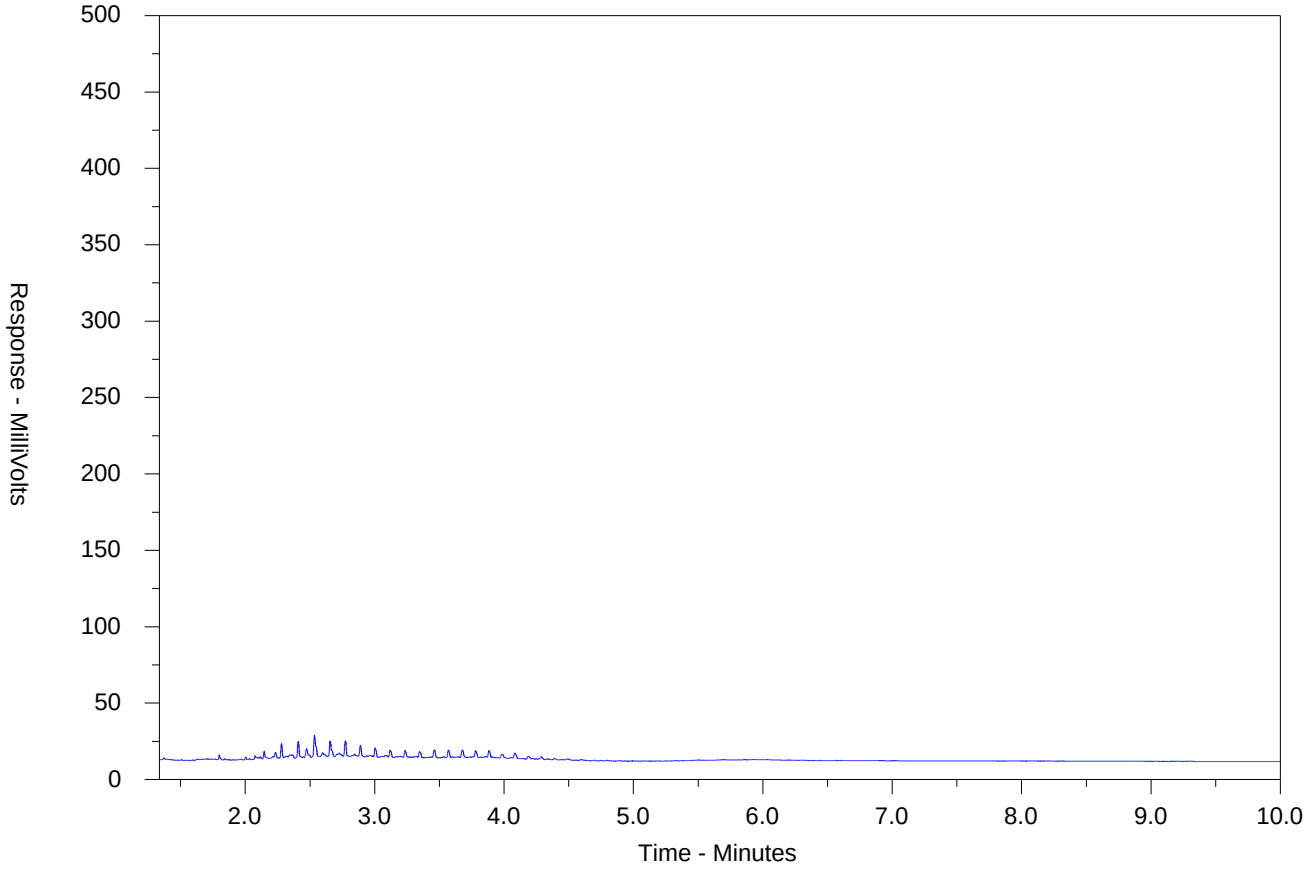
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-033-E601.SG-L
Client Sample ID: BH9 S5



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

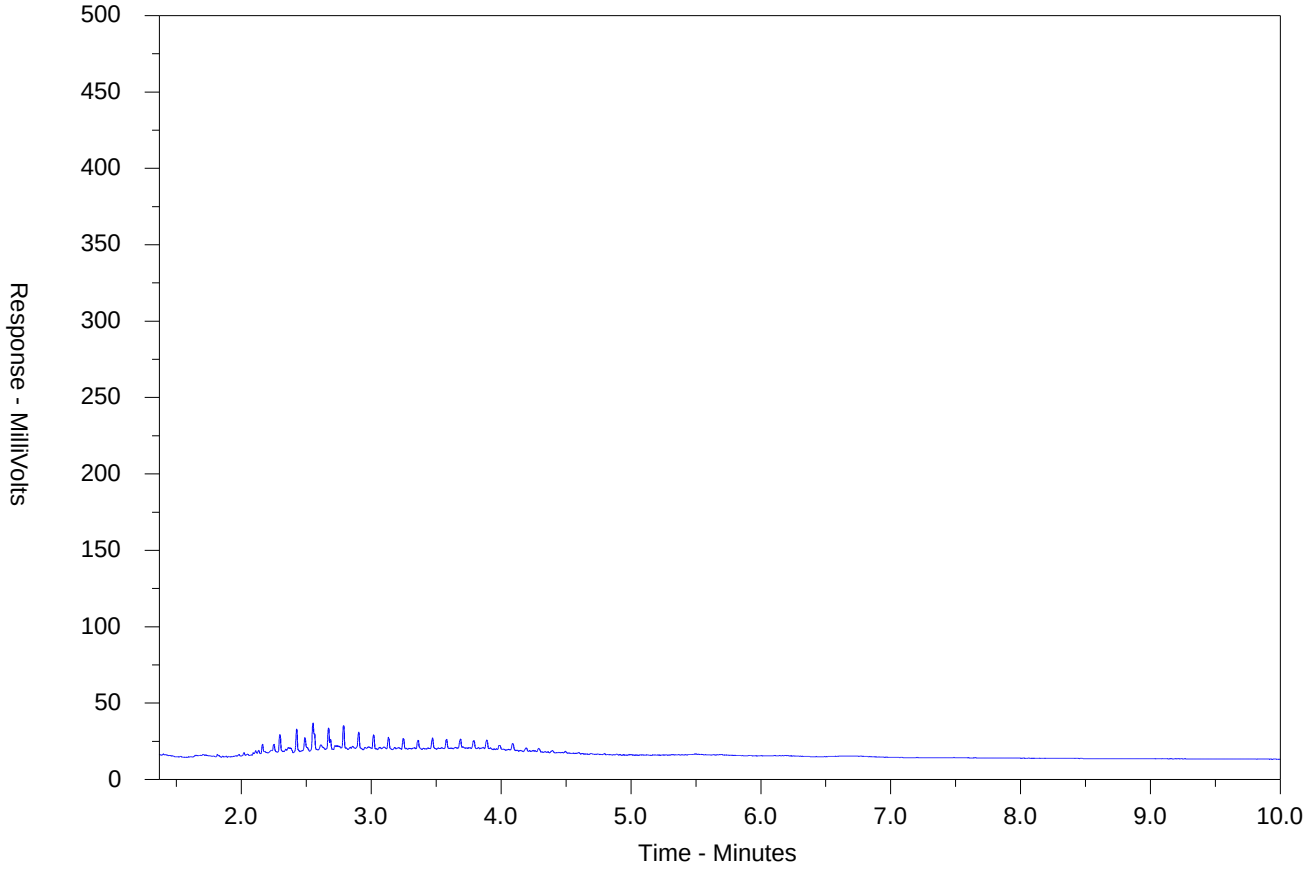
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-034-E601.SG-L
Client Sample ID: BH9 S6



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

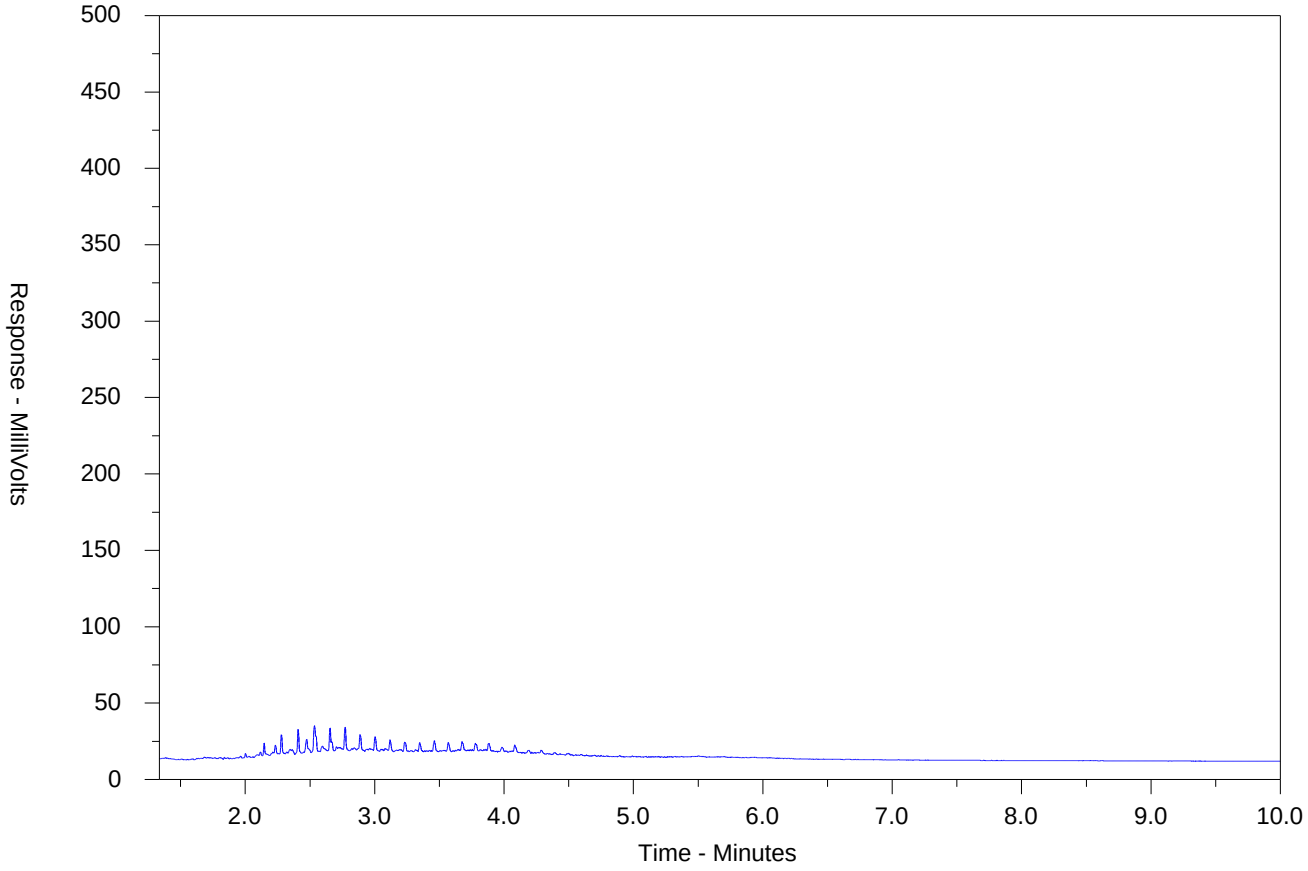
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-035-E601.SG-L
Client Sample ID: BH9 S7



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

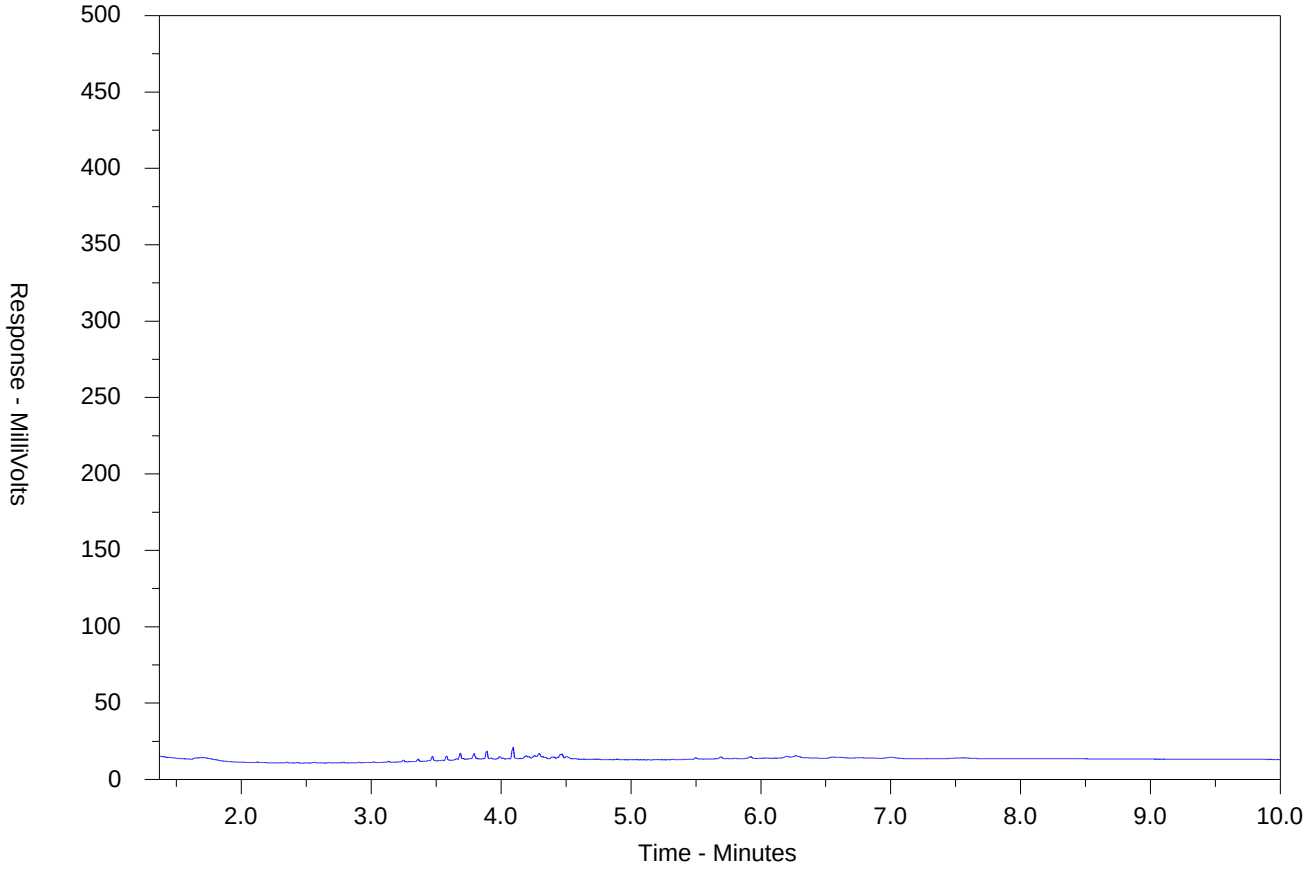
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-036-E601.SG-L
Client Sample ID: BH10 S1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

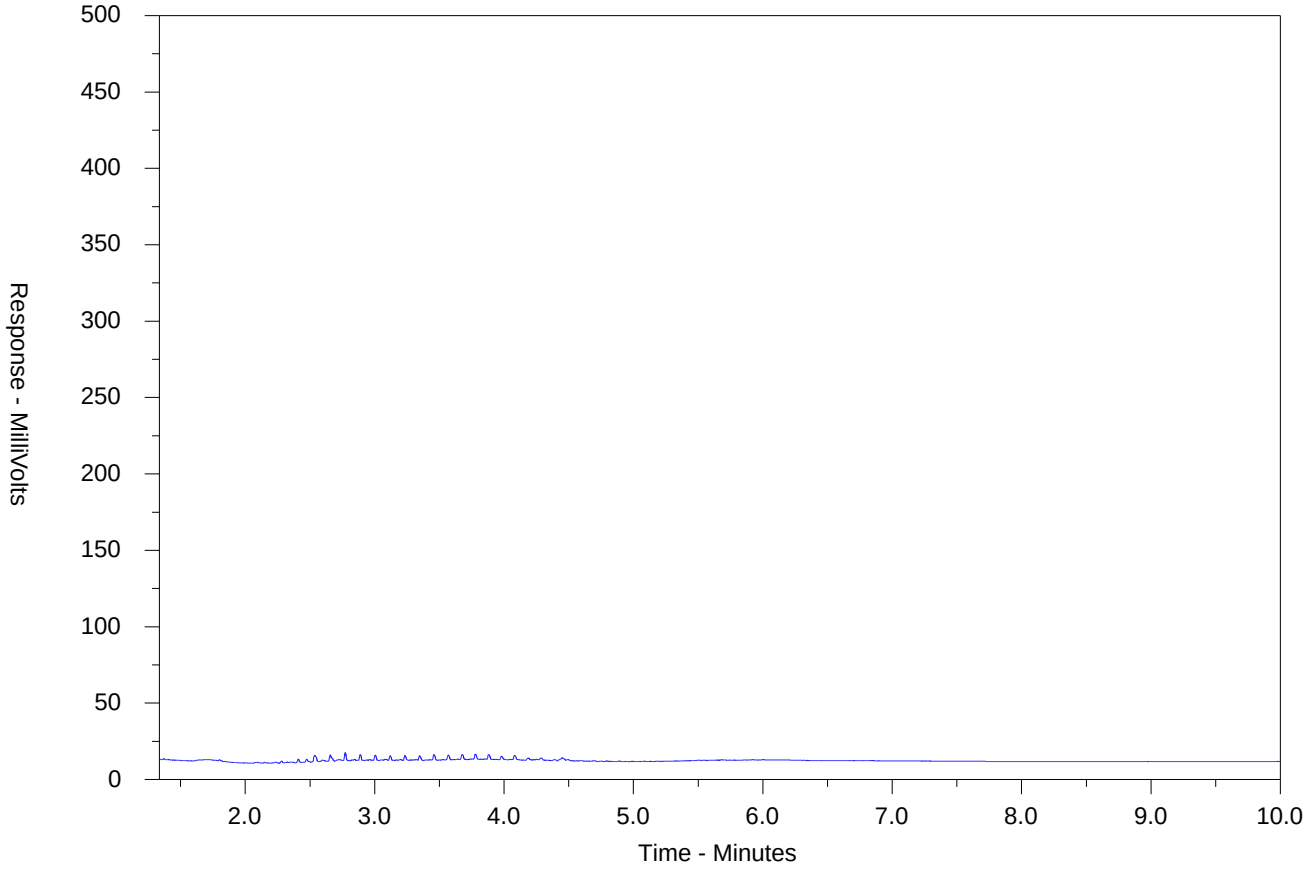
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-037-E601.SG-L
Client Sample ID: BH10 S2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

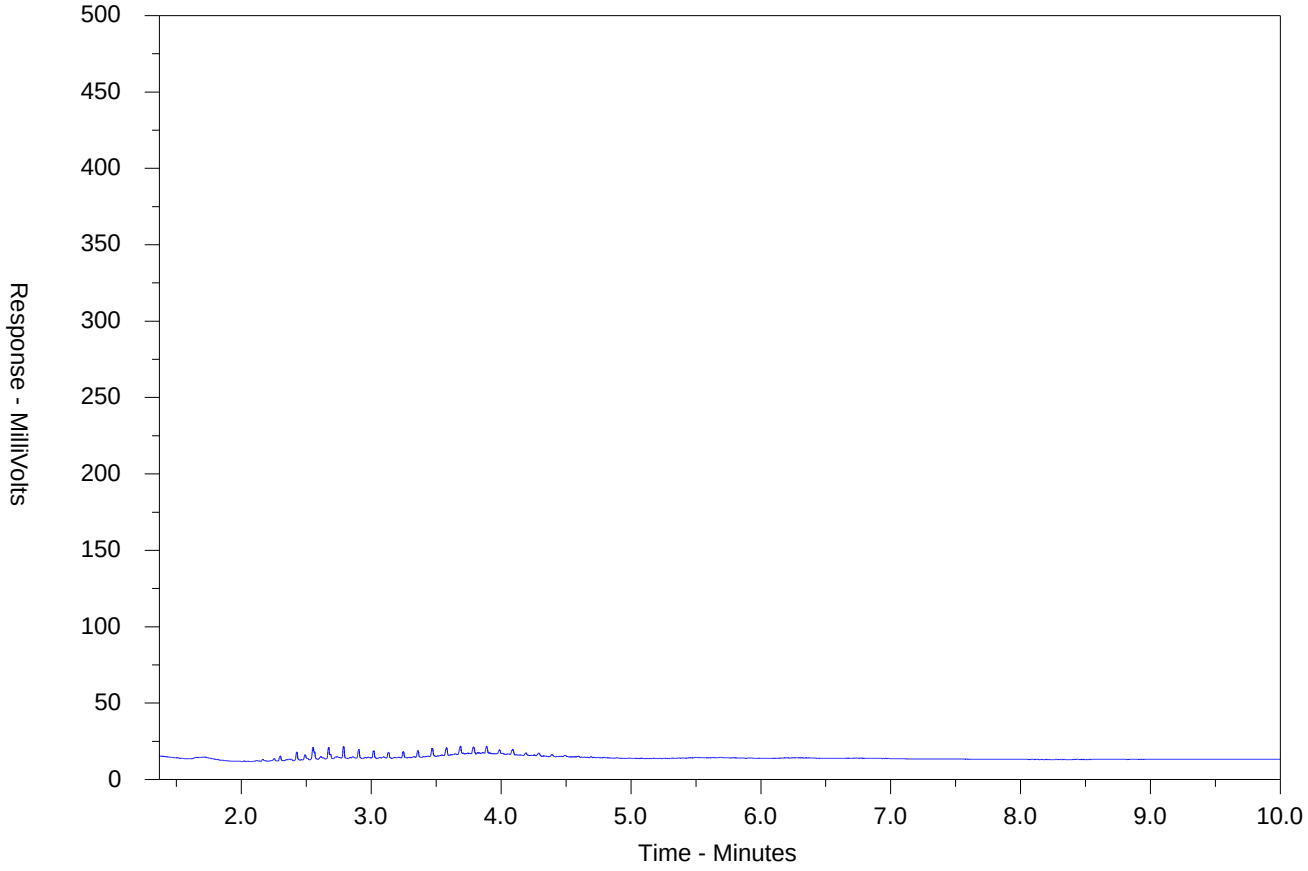
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-038-E601.SG-L
Client Sample ID: BH10 S3



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

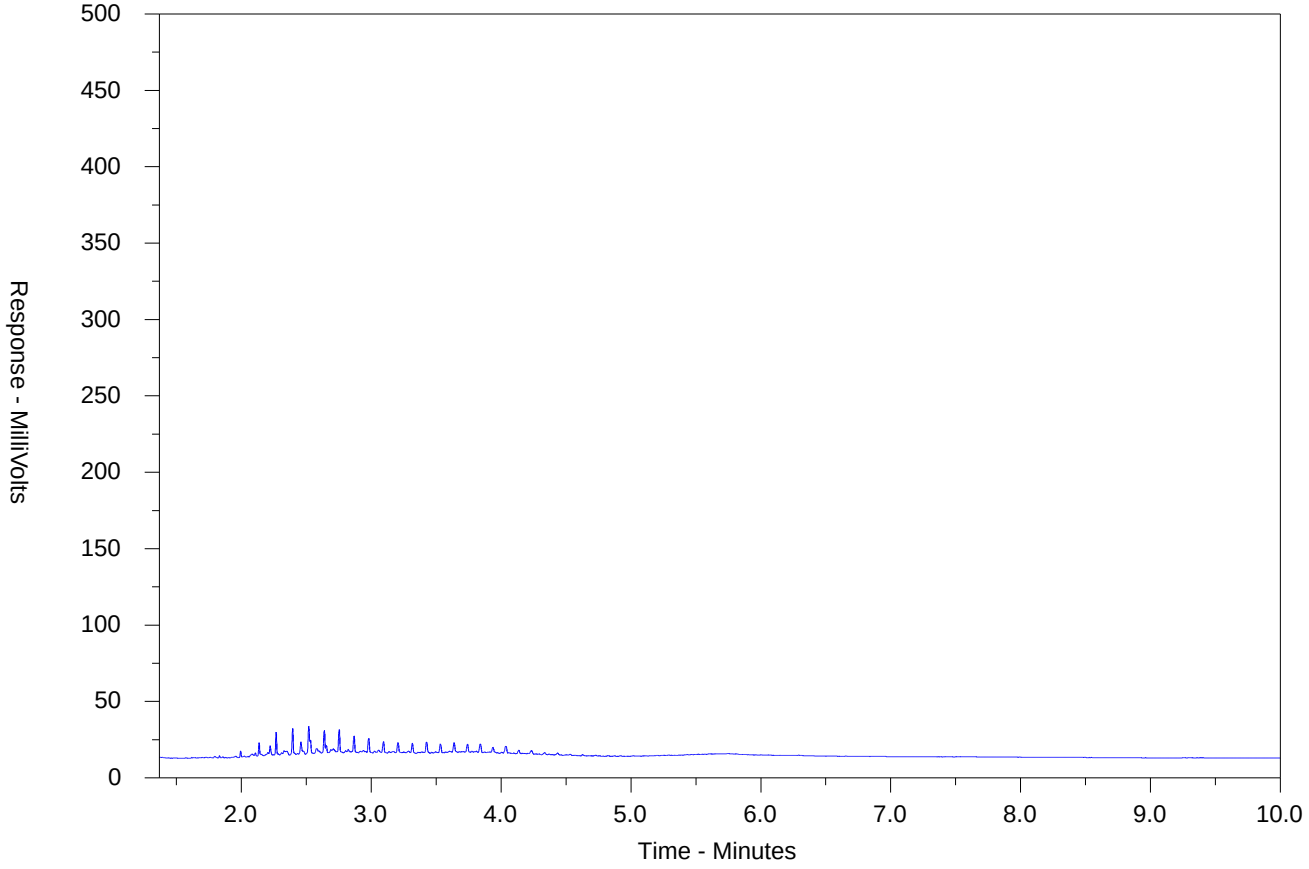
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-039-E601.SG-L
Client Sample ID: BH10 S4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

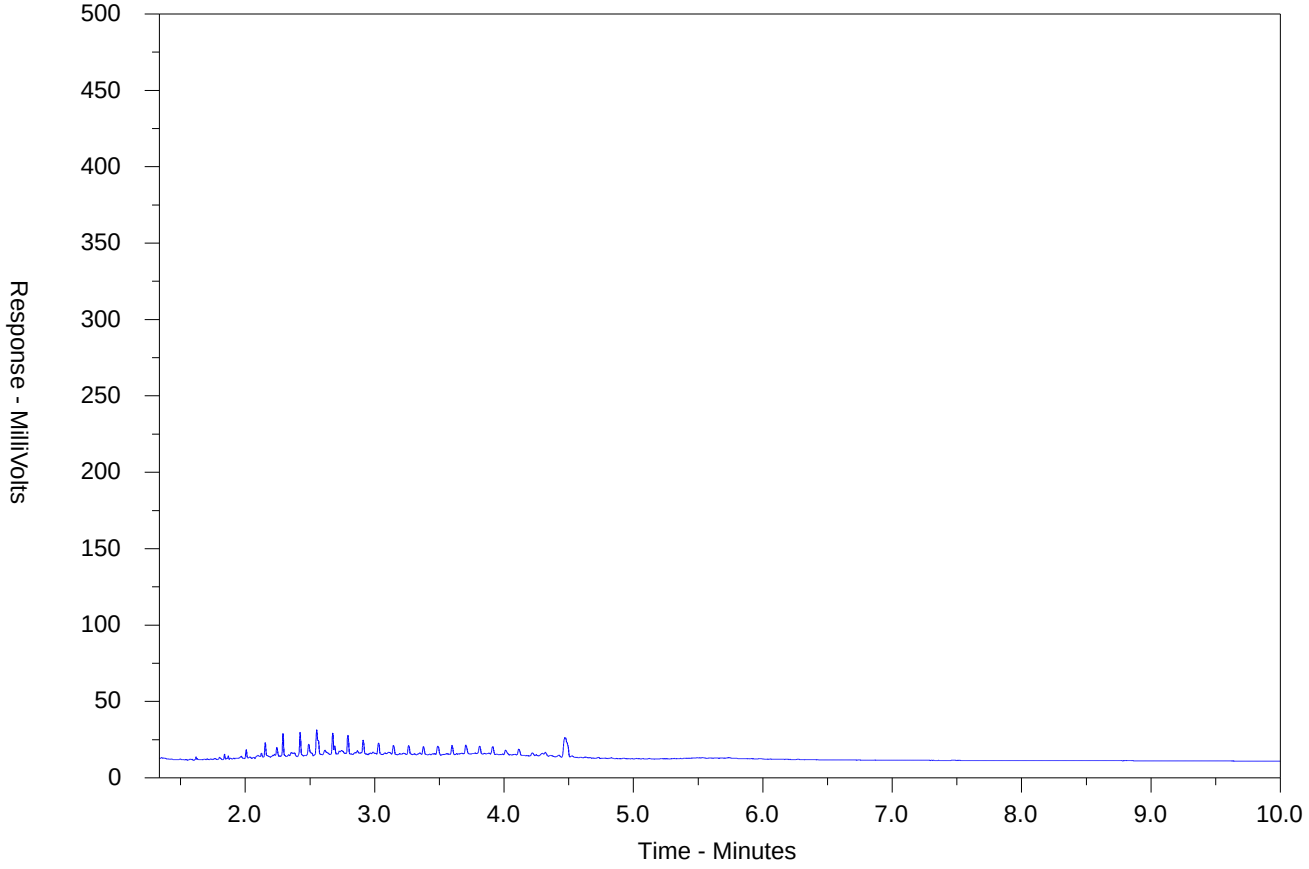
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-040-E601.SG-L
Client Sample ID: BH10 S5



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

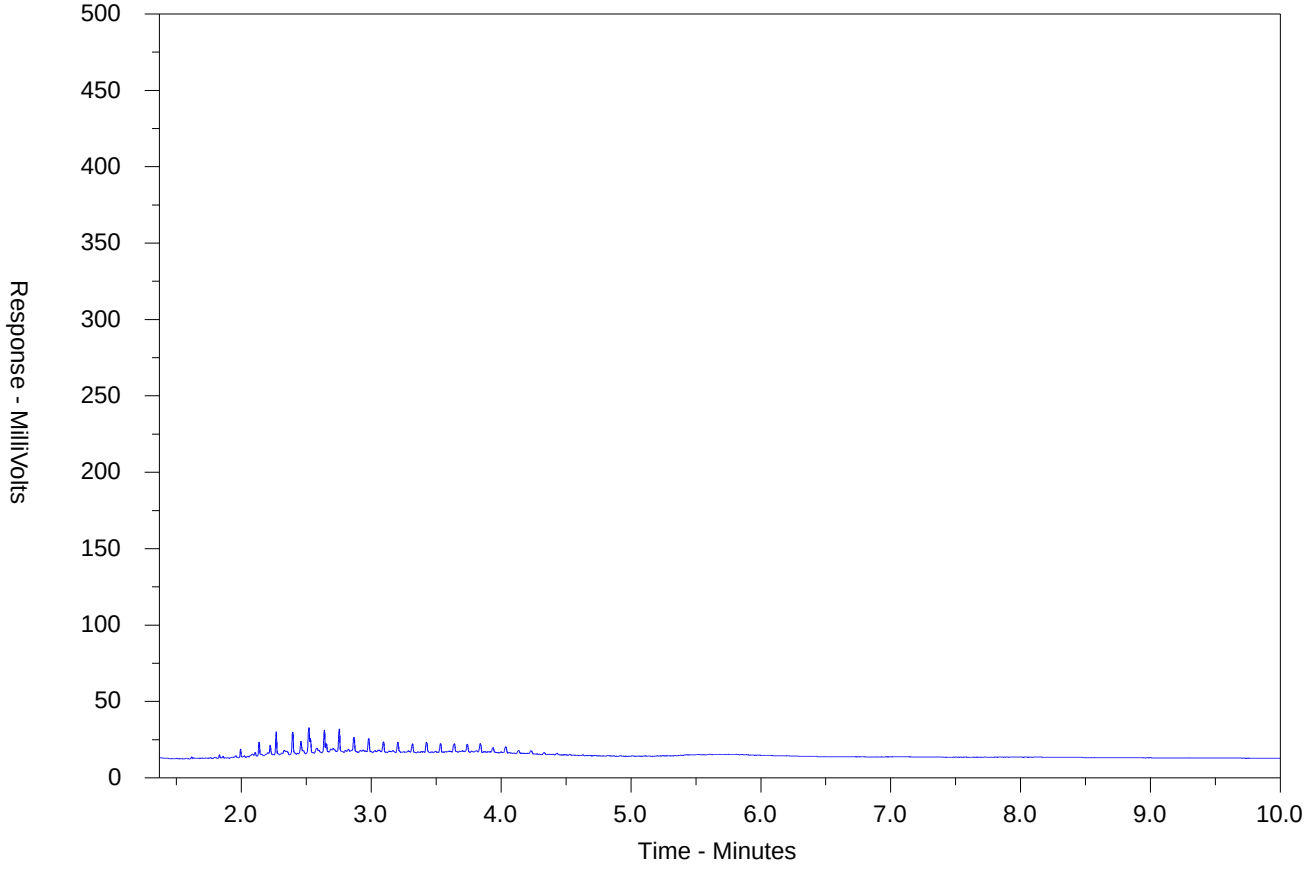
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-041-E601.SG-L
Client Sample ID: BH10 S6



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

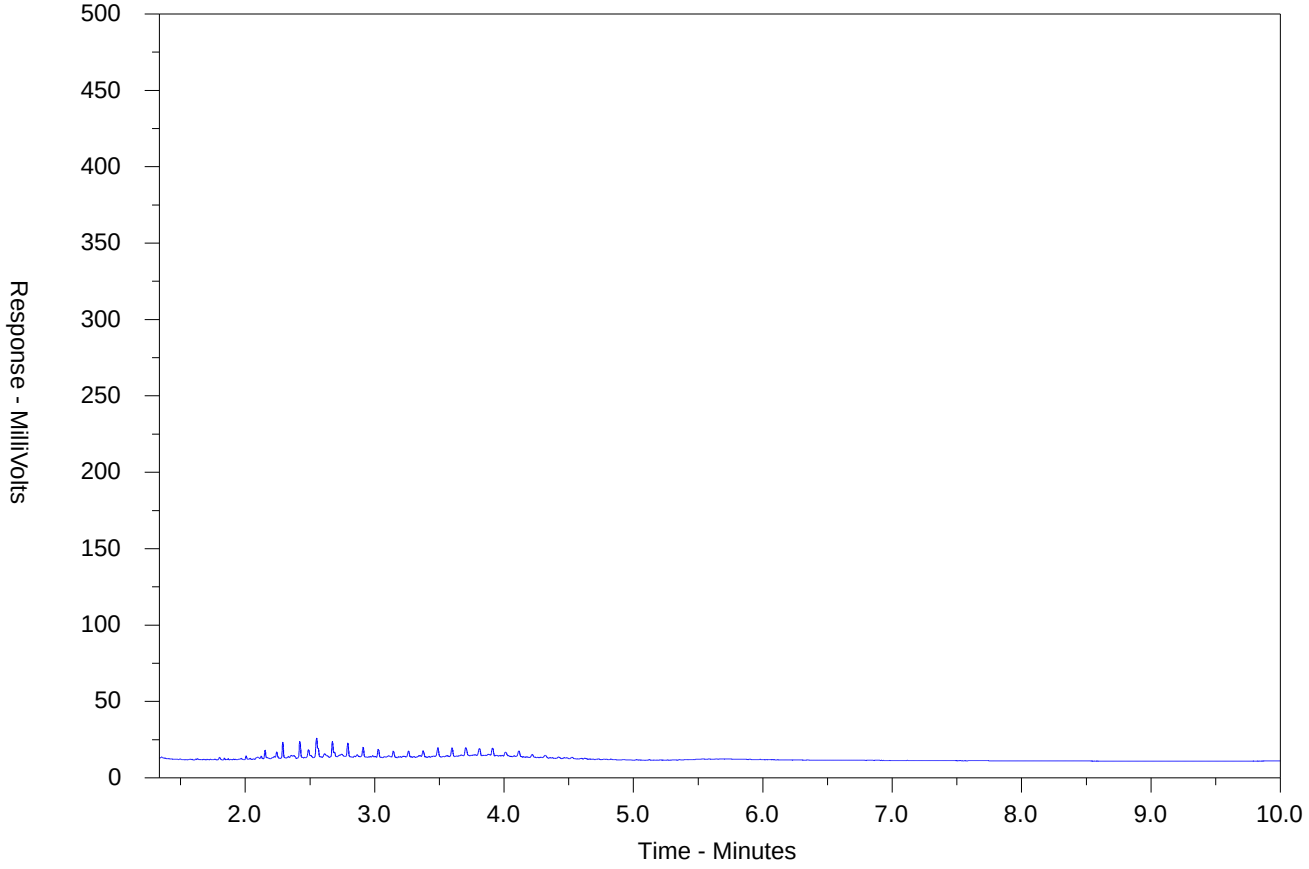
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-042-E601.SG-L
Client Sample ID: BH10 S7



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

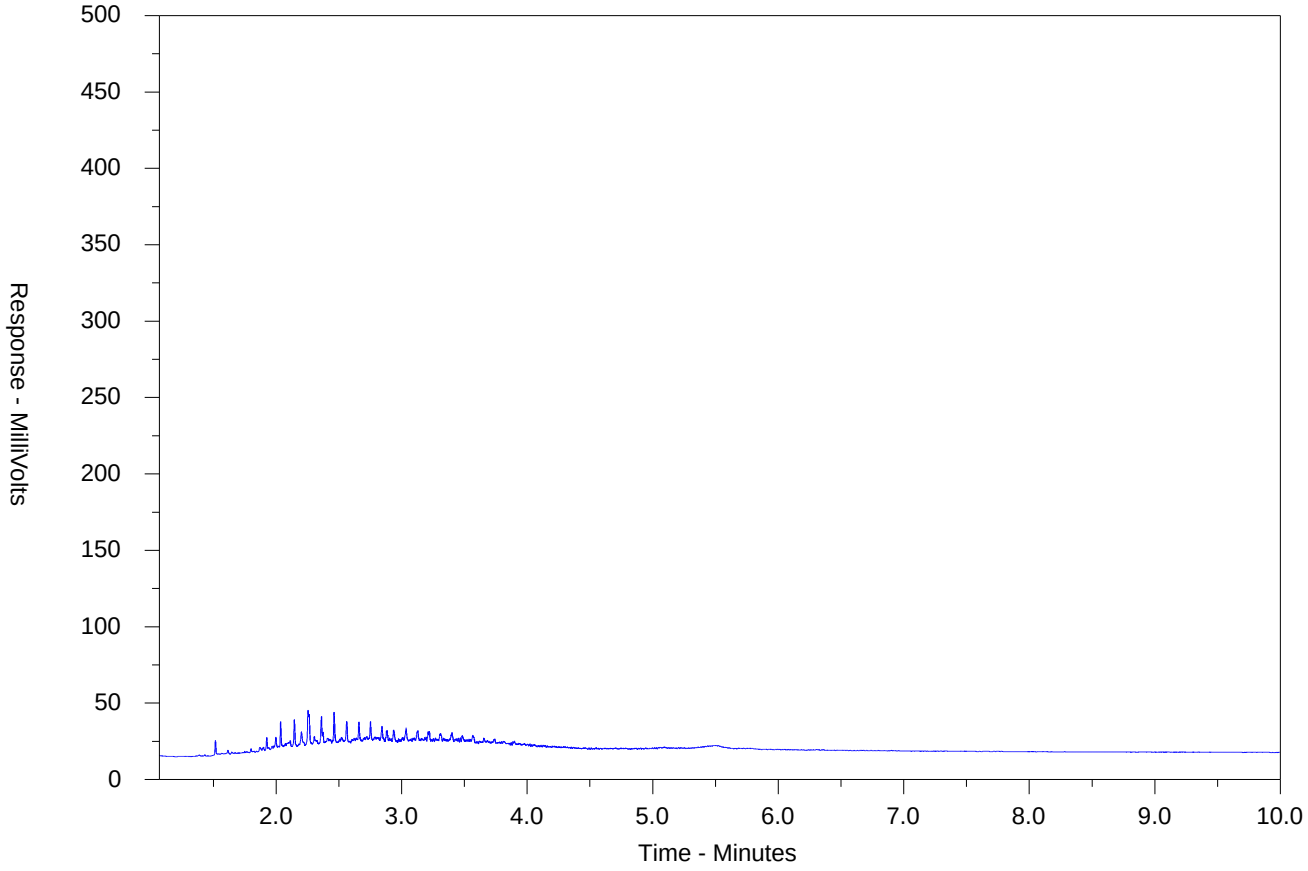
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-043-E601.SG-L
Client Sample ID: DUP-S-1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

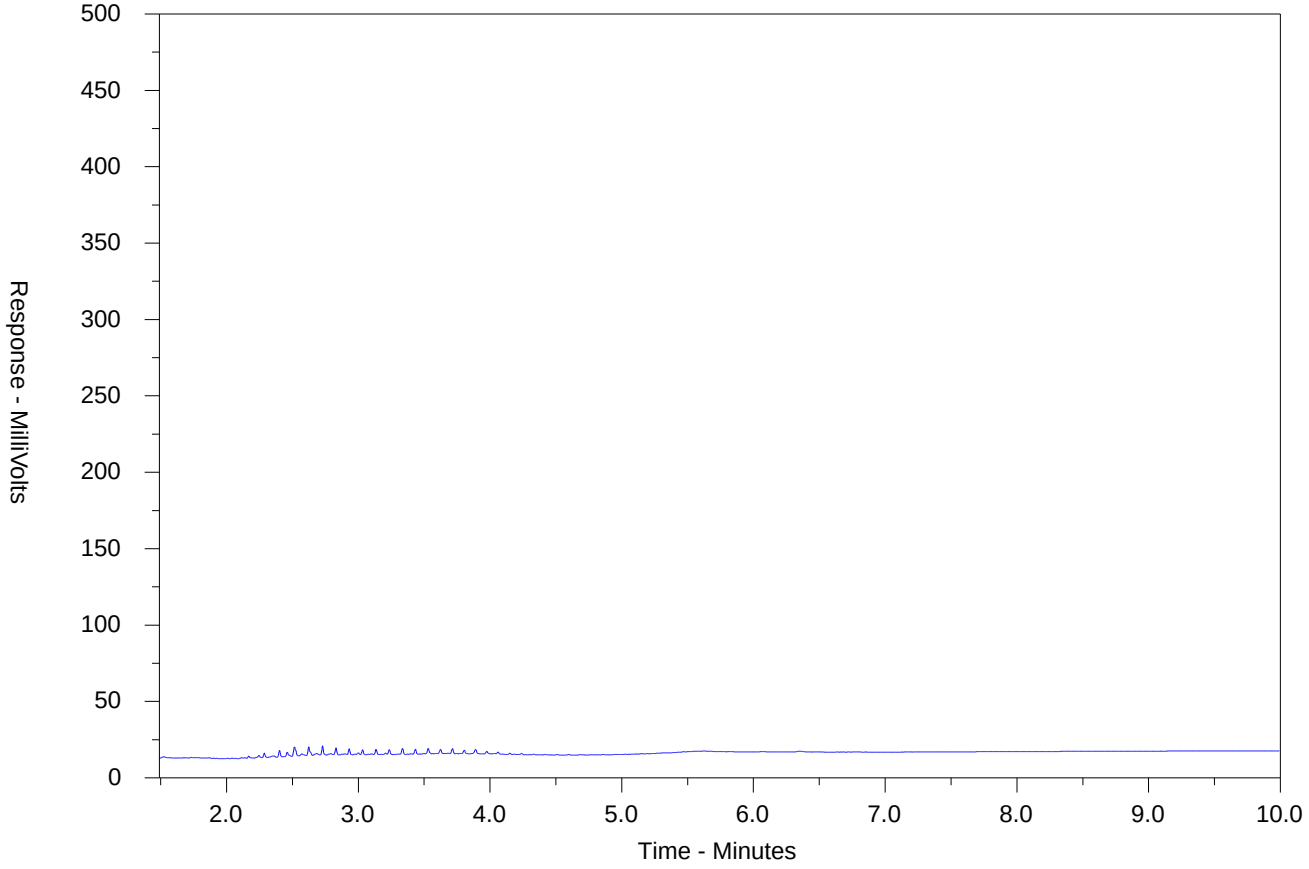
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-044-E601.SG-L
Client Sample ID: DUP-S-2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

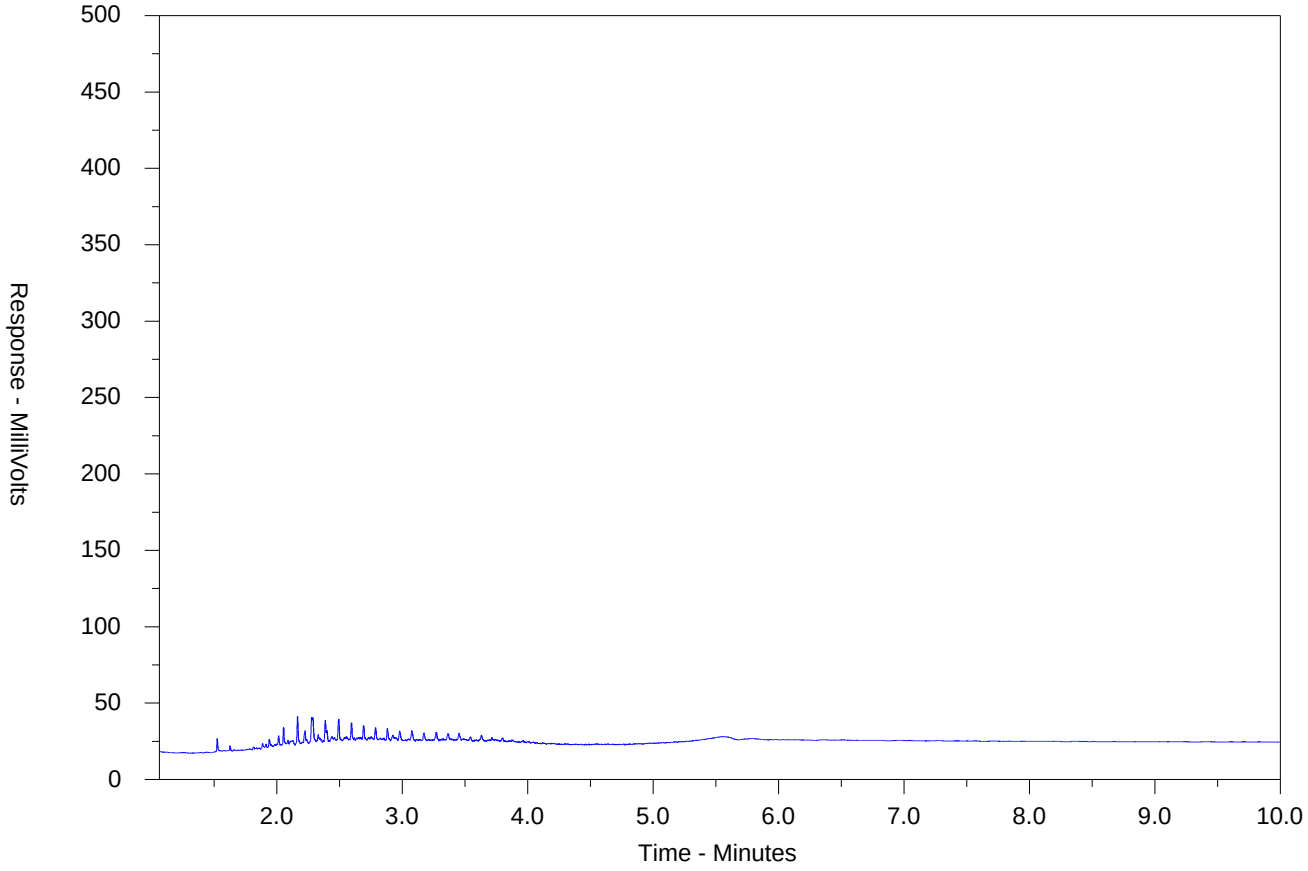
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-045-E601.SG-L
Client Sample ID: DUP-S-3



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

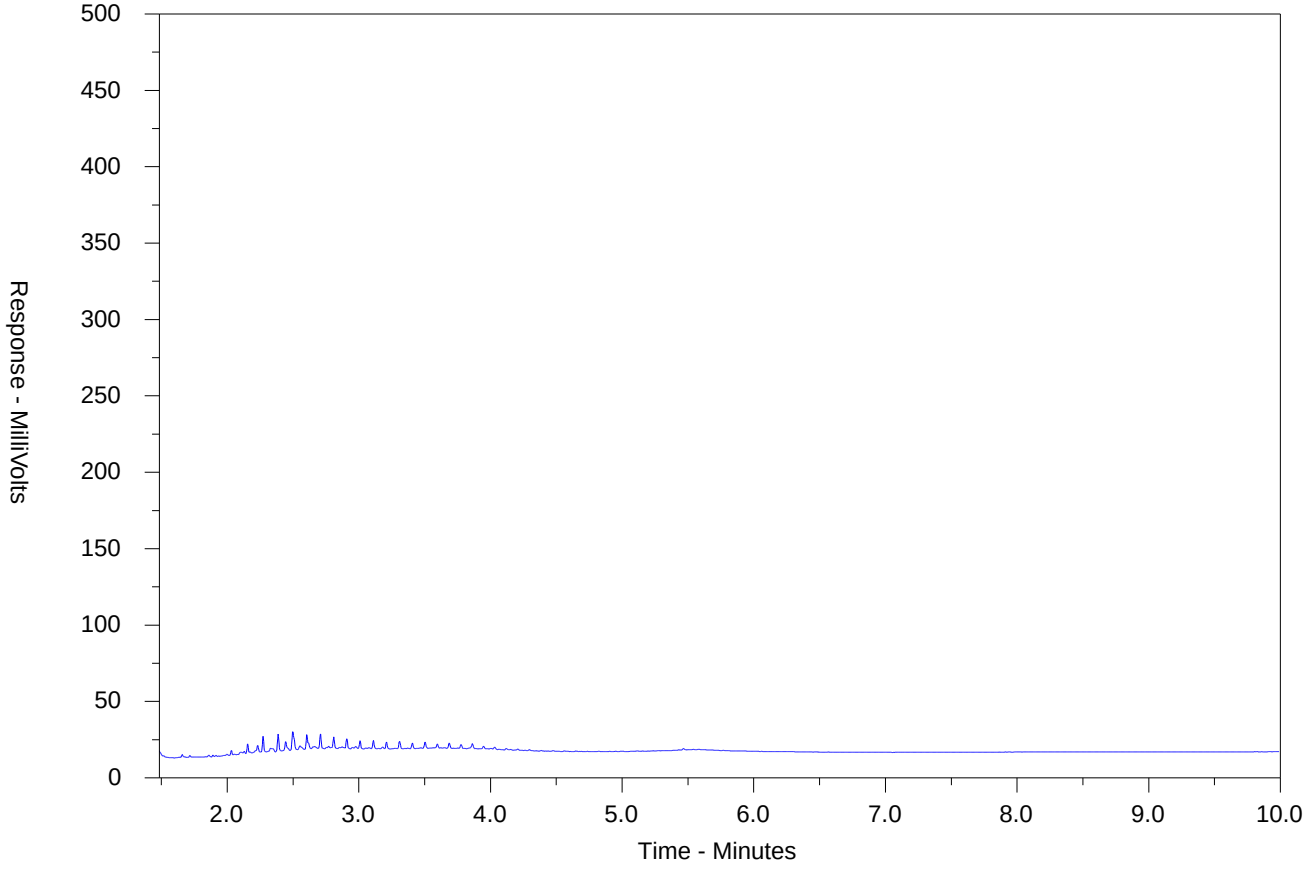
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2521286-046-E601.SG-L
Client Sample ID: DUP-S-4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizin hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, th sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

SOL-361/362/363
VS-089/091

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 1075399

Canada Toll Free: 1 800 668 9878

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Environmental Division Waterloo
Work Order Reference
WT2521286

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	Englobe
Contact:	Emily Brook
Phone:	
Company address below will appear on the final report	
Street:	417 Exeter Rd
City/Province:	London
Postal Code:	
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

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Email 1 or Fax johanna
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. Additio may apply to rush requests on weekends, statutory holidays and non-routi

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please cor

Project Information

ALS Account # / Quote #: Excess Soils
Job #: 02506021
PO / AFE:
LSD: JG
ALS Lab Work Order # (ALS use only):

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#
Major/Minor Code: Routing Code:
Requisitioner:
Location:
ALS Contact: Sampler:

Analysis Requ

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

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	PHC F1-F4	BTEX	Metals + Inorganics	SAMPLES ON HOLD	EXTENDED STORAGE REQUI	SUSPECTED HAZARD (see no
	BH1 S1	2025/07/23	0910	Soil	3	✓	✓	✓			
	BH1 S6		0950			✓	✓	✓			
	BH2 S2		1010			✓	✓	✓			
	BH2 S4		1022			✓	✓	✓			
	BH2 S7		1045			✓	✓	✓			
	BH3 S2		1105			✓	✓	✓			
	BH3 S6		1135			✓	✓	✓			
	BH4 S2		1210			✓	✓	✓			
	BH4 S7		1250			✓	✓	✓			
	BH5 S1		1305			✓	✓	✓			
	BH5 S6		1340			✓	✓	✓			
	BH6 S1+2		1405			✓	✓	✓			

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)

153/04 - Table 1
406/19 - All tables

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		
6.2	7.8	8.5	6.7	4.9	6.6	4.1

SHIPMENT RELEASE (client use)

Released by: Sean Soulh Date: 2025/08/01 Time:

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: PStally Date: 1-Aug-25 Time: 16:40

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: AE Date: 08/05 Time: 18:00

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Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 1075400

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	Englobe
Contact:	Emily Brook
Phone:	
Company address below will appear on the final report	
Street:	
City/Province:	
Postal Code:	

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	Same as pg 1
Email 2	
Email 3	

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 fees may apply to rush requests on weekends, statutory holidays and non-routine tests
Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm
For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	Same as pg 1
Email 2	

Project Information	
ALS Account # / Quote #:	Excess Soils
Job #:	02506021
PO / AFE:	
LSD:	
ALS Lab Work Order # (ALS use only):	

Oil and Gas Required Fields (client use)	
APE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact:	Sampler:

Analysis Request — 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	PHC F1-F4	BTEX	Metals + Inorganics	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	BH6 S4	2025/07/23	1425	Soil	3	✓	✓	✓			
	BH6 S7	"	1440			✓	✓	✓			
	BH7 S1	2025/07/24	0810			✓	✓	✓			
	BH7 S3		0820			✓	✓	✓			
	BH7 S5		0840			✓	✓	✓			
	BH7 S6		0850			✓	✓	✓			
	BH7 S7		0900			✓	✓	✓			
	BH7 S8		0915			✓	✓	✓			
	BH7 S9		0925			✓	✓	✓			
	BH8 S1		0955			✓	✓	✓			
	BH8 S2		1000			✓	✓	✓			
	BH8 S3		1010			✓	✓	✓			

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	Same as page 1
Are samples for human consumption/ use? ☐ YES ☐ NO	

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	6.2	7.8	8.5	6.7
FINAL COOLER TEMPERATURES °C	4.9			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: Sean Jodl	Date: 2025/08/01	Time:	Received by:	Date: Aug 25	Time: 16:40	Received by: CP	Date: 08/05	Time: 18:00

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Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 1075401

Canada Toll Free: 1 800 668 9878

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Report To	Contact and company name below will appear on the final report
Company:	
Contact:	Same as pg 1
Phone:	
Company address below will appear on the final report	
Street:	
City/Province:	Same as pg 1
Postal Code:	

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	Same as pg 1
Email 2	
Email 3	

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 fees may apply to rush requests on weekends, statutory holidays and non-routine tests
Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm
For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	Same as pg 1
Email 2	

Project Information	
ALS Account # / Quote #:	Excess Soil
Job #:	0250624
PO / AFE:	
LSD:	
ALS Lab Work Order # (ALS use only):	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact:	Sampler:

Analysis Request — 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	PHC F1-F4	BTEX	Metals + Inorganics	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	BH8 S4	2025/07/24	1015	Soil	3	✓	✓	✓			
	BH8 S5		1025			✓	✓	✓			
	BH8 S6		1035			✓	✓	✓			
	BH8 S7		1045			✓	✓	✓			
	BH9 S1		1055			✓	✓	✓			
	BH9 S2		1100			✓	✓	✓			
	BH9 S3		1110			✓	✓	✓			
	BH9 S4		1115			✓	✓	✓			
	BH9 S5		1125			✓	✓	✓			
	BH9 S6		1135			✓	✓	✓			
	BH9 S7		1145			✓	✓	✓			
	BH10 S1		1150			✓	✓	✓			

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	Same as pg 1
Are samples for human consumption/ use? ☐ YES ☐ NO	

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			
6.2	7.8	8.5	6.7	4.9			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: Sean Joseph	Date: 2025/08/01	Time:	Received by:	Date: 1 Aug 25	Time: 1640	Received by: CR	Date: 08/05	Time: 18:00

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Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 1075402

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Canada Toll Free: 1 800 668 9878

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Company:	
Contact:	Same as Pg 1
Phone:	
Company address below will appear on the final report	
Street:	
City/Province:	Same as Pg 1
Postal Code:	

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

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Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2 Same as Pg 1

Project Information

ALS Account # / Quote #:	
Job #:	
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):

ALS Contact:

Sampler:

Analysis Request

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	PHC F1-F4	BTEX	Metals + Inorganics	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	BH10 S2	2025/07/24	1155	Soil	3	✓	✓	✓			
	BH10 S3		1205			✓	✓	✓			
	BH10 S4		1215			✓	✓	✓			
	BH10 S5		1225			✓	✓	✓			
	BH10 S6		1235			✓	✓	✓			
	BH10 S7		1245			✓	✓	✓			
	DUP-S-1	2025/07/23	—			✓	✓	✓			
	DUP-S-2	2025/07/24	—			✓	✓	✓			
	DUP-S-3	2025/07/23	—			✓	✓	✓			
	DUP-S-4	2025/07/24	—			✓	✓	✓			

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			
6.2	7.8	8.5	6.7	4.9			

SHIPMENT RELEASE (client use)

Released by: Sean Joslin	Date: 2025/08/01	Time:

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date: 1-Aug-25	Time: 16:40

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: GP	Date: 08/05	Time: 18:00

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Appendix D
Statement of Limitations

ENGLOBE

STATEMENT OF LIMITATIONS

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This Report should be considered in its entirety; selecting specific portions of the Report may result in the misinterpretation of the content.

The work performed by the Company was carried out in accordance with the terms and conditions specified in the *Professional Services Agreement* between the Company and the Client, in accordance with currently accepted engineering standards and practices and in a manner consistent with the level of skill, care and competence ordinarily exercised by members of the same profession currently practicing under similar conditions and like circumstances in the same jurisdiction in which the services were provided. Standards, guidelines and practices may change over time; those which were applied to produce this Report may be obsolete or unacceptable at a later date.

The findings, recommendations, suggestions, or opinions expressed in this Report reflect the Company's best professional judgment based on observations and/or information reasonably available at the time the work was performed, as appropriate for the scope, work schedule and budgetary constraints established by the Client. No otherwarranty or representation, expressed or implied, is included in this Report including, but not limited to, that the Report deals with all issues potentially applicable to the site and/or that the Report deals with any and all of the important features of the site, except as expressly provided in the scope of work.

This Report has been prepared for the specific site, development, building, design or building assessment objectives and/or purposes that were described to the Company by the Client. The applicability and reliability of the content of this Report, subject to the limitations provided herein, are only valid to the extent that there has been no material alteration or variation thereto, and the Company expressly disclaims any obligation to update the Report. However, the Company reserves the right to amend or supplement this Report based on additional information, documentation or evidence made available to it.

The Company makes no representation concerning the legal significance of its findings, nor as to the present or future value of the property, or its fitness for a particular purpose and hereby disclaims any responsibility or liability for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

Since the passage of time, natural occurrences, and direct or indirect human intervention may affect the views, conclusions and recommendations (if any) provided in this Report, it is intended for immediate use.

This Statement of Limitations forms an integral part of the Report.

In preparing this Report, the Company has relied in good faith on information provided by others and has assumed that such information is factual,accurate and complete. The Company accepts no responsibility or liability for any deficiency, misstatement or inaccuracy in this Report resulting from the information provided, concealed or not fully disclosed by those individuals.

Any description of the site and its physical setting documented in this Report is presented for informational purposes only, to provide the reader a better understanding of the site and scope of work. Any topographic benchmarks and elevations are primarily to establish relative elevation differences between sampling locations and should not be used for other purposes such as grading, excavation, planning, development, or similar purposes.

Any results from laboratory or other subcontractorsreported herein have been carried out by others, and the Company cannot warrant their accuracy.

englobecorp.com

APPENDIX ‘C’

Species at Risk Assessment

Prepared by MTE Consultants

Glencoe Industrial Park

Species at Risk Assessment

Project Location:
Main Street & Industrial Road, Glencoe, ON

Prepared for:
Spriet Associates
155 York Street
London, ON N6A 1A8

Prepared by:
MTE Consultants Inc.
1061 Hargrieve Road
London, ON N6E 1P6

September 23, 2025
Revised: December 8, 2025

MTE File No.: 63051_001

Engineers, Scientists, Surveyors.

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Appendix B Species at Risk Screening
Appendix C Plant Species List
Appendix D Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures

1.0 INTRODUCTION

MTE Consultants Inc. (MTE) has been retained by Spriet Associates (the Proponent) to undertake a Species at Risk (SAR) Assessment as part of a Schedule B Class Environmental Assessment in support of the Glencoe Industrial Park servicing project on the land holdings located east of the intersection of Main Street and Industrial Road in the Municipality of Southwest Middlesex (herein referred to as the Subject Lands). Proposed servicing will consist of a roadway and rear yard servicing easement with a potential stormwater management facility proposed along the eastern limit of the Subject Lands. Future site development is beyond the scope of this project, but recommendations on proceeding with site development have also been included to guide that future phase.

In accordance with the Natural Heritage Reference Manual (NHRM; MNR, 2010), a Study Area including the Subject Lands and adjacent lands within 120 m has been defined for the purposes of evaluating ecological functions and determining negative impacts to natural heritage features or areas as a result of proposed development or site alteration (**Figure 1**). Field investigations were restricted to the Subject Lands with adjacent lands assessed from the property boundary or publicly accessible areas, as applicable.

Per the Species at Risk (SAR) Assessment completed by BioLogic in 2015, confirmed nesting habitat for Barn Swallow (*Hirundo rustica*) and potential roosting habitat for SAR bats was identified within the abandoned barn on the Subject Lands. No suitable bat maternity roosts were identified within the hedgerows along the property margins.

An updated SAR Assessment is required to assess the availability of suitable habitat for SAR on the Subject Lands in support of the Schedule B Class Environmental Assessment as ecological data greater than five years old is generally considered historic. The following SAR Assessment has been completed to confirm and update species occurrence data. Ecological constraints have been defined based on species presence and associated suitable habitat availability to ensure that the proposed development is consistent with the Provincial Planning Statement (PPS; MMAH 2024), the *Endangered Species Act, 2007* (*ESA*; Consolidated 2025), the Middlesex County Official Plan (2023) and the Municipality of Southwest Middlesex Official Plan (2023).

2.0 NATURAL HERITAGE LEGISLATION & POLICY CONTEXT

2.1 Planning Act

The PPS (2024) was issued under the authority of the *Planning Act, 1990* to provide direction to regional and local municipalities on matters of provincial interest related to land use planning and development in support of a comprehensive, integrated, and long-term approach to planning. As such, land use planning decisions made by planning authorities must be consistent with the PPS (2024). Policies specific to Natural Heritage (Section 4.1) are addressed herein with additional considerations for other natural heritage and impact assessment policies defined under the regional and municipal official plans.

With respect to natural heritage features and resources, the PPS (2024) defines eight natural heritage features or areas:

- Significant Wetlands;
- Significant Coastal Wetlands;

- Significant Woodlands;
- Significant Valleylands;
- Significant Wildlife Habitat (SWH);
- Significant Areas of Natural and Scientific Interest (ANSIs);
- Fish Habitat; and
- Habitat of Endangered and Threatened Species.

Development and site alteration shall not be permitted in significant wetlands or significant coastal wetlands. Development and site alteration shall not be permitted in significant woodlands, significant valleylands, SWH, significant ANSIs or coastal wetlands, unless it is demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Development and site alteration shall not be permitted in the habitat of endangered and threatened species or in fish habitat, except in accordance with provincial and federal requirements. Development and site alteration shall not be permitted on lands adjacent to natural heritage features and areas unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

2.2 Middlesex County Official Plan

The Middlesex County Official Plan (2023) was adopted by County Council on September 9, 1997. Further amendments have been made to the Middlesex County Official Plan (2023) to reflect Minister-approved Official Plan amendments, with the most recent consolidation released on July 7, 2023. The Official Plan has been established to provide planning direction on land use policy and physical planning within Middlesex County. The upper-tier policy framework is supported by lower-tier municipal Official Plans that provide more detailed policies and designations to guide planning and development. Natural Environment policies defined under Section 2.2.1 of the Official Plan are intended to contribute to healthy ecosystems that support ecological functions and sustain native biodiversity over the long term.

As per Schedule C of the Middlesex County Official Plan (Natural Heritage System), no natural heritage features overlap with the Subject Lands.

2.3 Municipality of Southwest Middlesex Official Plan

The Municipality of Southwest Middlesex Official Plan (2023) was adopted by Council on December 19, 2007, and has been established to provide planning direction for land use and for the long-term protection, conservation, enhancement, and management of the Natural Heritage System. Significant ecological features and functions for identified protection within the Natural Heritage System are depicted on Schedule ‘B’ Map 1 – Natural Heritage Features: Wetlands & ANSI’s and Schedule ‘B’ Map 2 – Natural Heritage Features: Significant Woodlands. These features should be protected to achieve a self-sustaining natural heritage system and to maintain, restore and/or enhance the ecological function, diversity, connectivity and scenic quality of natural features.

As per Schedule B (Natural Heritage Features) of the Municipality of Southwest Middlesex Official Plan (2023), no components of the Natural Heritage System occur on, or adjacent to, the Subject Lands (**Figure 2**).

2.4 Lower Thames Valley Conservation Authority

The Lower Thames Valley Conservation Authority (LTVCA) administers Ontario Regulation 41/24 pursuant to Section 28 of the *Conservation Authorities Act, 1990* as amended in June 2024. As per LTVCA regulation mapping, no regulated features occur on the Subject Lands (**Figure 2**).

On the adjacent lands, a regulated watercourse occurs immediately adjacent to the northeastern boundary of the Subject Lands. Per Ontario Regulation 41/24, provided that proposed development and/or site alteration does not encroach into the regulated area, a permit under the *Conservation Authorities Act* is not required.

2.5 Additional Implementation Considerations

An assessment of the quality and extent of natural heritage features and functions within the Study Area was undertaken to comply with the requirements of legislation not subject to the provisions of the *Planning Act*, including:

- *Fisheries Act, 1985* (amended 2024);
- *Endangered Species Act, 2007* (*ESA*; Consolidated 2025);
- *Migratory Birds Convention Act, 1994* (*MBCA*; 2024); and
- *Fish and Wildlife Conservation Act, 1997* (Consolidated 2024).

Applicable legislation has been reviewed in support of the anticipated application. The relevant portions of each of these documents, as they apply to the Subject Lands, are summarized in the following sections.

2.5.1 Endangered Species Act

The provincial *ESA* (2007) protects all threatened, endangered and extirpated listed on the Species at Risk in Ontario (SARO) list. As defined under the *ESA*, these species are protected from killing, harm, harassment or possession, and their associated habitats are protected from damage or destruction. Activities that have the potential to impact protected species, or their associated habitats, shall be reviewed in consultation with the Ministry of the Environment, Conservation and Parks (MECP) to determine if an authorization may be granted under the *ESA*, subject to applicable exemptions.

2.5.2 Migratory Birds Convention Act

The federal *Migratory Birds Convention Act, 1994* (*MBCA*; 2024) aims to protect and conserve migratory birds (and their nests) as populations and individuals. No work is permitted to proceed that would result in the damage, destruction, removal or disturbance of nests, or the wounding, capture, removal or killing of bird species protected under the regulations of the *MBCA*.

3.0 BACKGROUND REVIEW

MTE has conducted a background review to delineate regionally designated natural heritage features within, and adjacent to, the Subject Lands. Aerial imagery and existing natural heritage feature mapping available through the Municipality of Southwest Middlesex Official Plan (2023), Natural Heritage Information Center (NHIC) mapping (2023), and LTVCA regulation mapping, has been reviewed to provide insight into the overall character of the Subject Lands. Natural heritage databases have also been reviewed to supplement ecological field investigations.

3.1 Previous Studies

BioLogic Inc. was retained by the Municipality of Southwest Middlesex in 2015 to complete a SAR Assessment on the Subject Lands (**Appendix A**). The assessment consisted of field verification of wildlife and SAR habitat through assessments conducted on May 1 and May 25, 2015, as well as the submission of an Information Request to the Ministry of Natural Resources. The Subject Lands were primarily characterized as active agricultural fields, with an abandoned barn in the southern portion of the property. Per the BioLogic Information Request, field studies confirmed the absence of habitat for Heart-leaved Plantain (*Plantago cordata*), Massassauga Rattlesnake (*Sistrurus catenatusl*), Northern Bobwhite (*Colinus virginianus*), Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magna*) and American Badger (*Taxidea taxus*) within the Study Area. Confirmed nesting habitat for Barn Swallow and potential roosting habitat for Little Brown Myotis and Eastern Small-footed Myotis was identified within the abandoned barn on the Subject Lands. No suitable habitat trees to support bat maternity or roosting habitat were identified within the hedgerows along the property margins. No other SAR or associated suitable habitat were documented on the Subject Lands.

Consultation with the Ministry of Natural Resources and Forestry (MNRF; correspondence dated May 26, 2015) was undertaken as part of the BioLogic SAR Assessment. MNRF indicated that if the barn structure on the Subject Lands was proposed for removal, bat exit surveys would be required to confirm SAR presence/absence.

3.2 Biological Setting

The Study Area occurs within Lake Erie - Lake Ontario Ecoregion 7E which extends from Lake Ontario to Lake Erie and includes most of the Lake Erie shoreline. Ecoregion 7E is located within the Great Lakes Watershed and is characterized by the mild climate associated with the Deciduous Forest Region.

Per Official Plan (2023), Geospatial Ontario and NHIC mapping (2023), no natural heritage features were identified within the Study Area. The Subject Lands remain primarily composed of row crop fields associated with the long-standing agricultural land use. Adjacent lands are dominated by agricultural land uses and include the Glencoe Fire Station to the west, industrial uses to the west and north, and a regulated watercourse northeast of the property. The regulated watercourse was characterized as an open drain associated with a deciduous hedgerow.

3.3 Background Information

The following background resources were reviewed to inform the overall character of the Subject Lands and develop baseline data with regards to natural heritage features and species that may occur within the Study Area:

- Aerial imagery;
- Ministry of Natural Resources (MNR) NHIC database (2023; 2025);
- Fisheries and Oceans Canada (DFO) Aquatic Species at Risk (SAR) Mapping (2025);
- Bird Studies Canada’s Atlas of Breeding Birds of Ontario (2025);
- Ontario Nature’s Reptile and Amphibian Atlas (Ontario Nature 2025); and
- Ontario Butterfly Atlas (2024).

Results of the background review are summarized in the following sections with detailed species lists provided in **Appendix B**. This data assisted in defining targeted ecological field investigations conducted on the Subject Lands as well as the level of survey effort.

3.3.1 Species Occurrence Data

Species listed as endangered, threatened, or extirpated on the SARO list are legally protected from harm and their associated habitats are protected from damage or destruction, as per the *ESA* (2007). Species of Conservation Concern (SOCC) include those species listed as Special Concern on the SARO list, as well as provincially rare species (i.e., ranked S1 to S3). Provincial conservation status rankings are established by the NHIC based on the number of occurrences in Ontario. Provincial status rankings do not provide an indication of regional abundance or rarity (i.e., species uncommon in the province may still be locally abundant in some regions).

The NHIC database (2025) was reviewed for records of provincially significant species and/or habitats occurring within the Study Area. Occurrence data is provided for 1 km^2 area squares, with four squares overlapping the Study Area (17MH4232, 17MH4332, 17MH4231, 17MH4331). The Ontario Breeding Bird Atlas (OBBA; 2021-2025 occurrence data), the Ontario Reptile and Amphibian Atlas (2025), and the Ontario Butterfly Atlas (2024) contain detailed, agency-reviewed information regarding the distribution of bird, reptile, and butterfly species in Ontario. Data is presented on 100 km^2 area blocks, with two data squares overlapping the Study Area (17MH43 and 17TMH43). Critical habitat and distribution data for aquatic species was reviewed through DFO's aquatic SAR mapping (2025). No aquatic SAR were identified on, or within a 1 km radius of, the Subject Lands.

As per the background data sources, a total of 12 species protected under the *ESA* (2007) and 10 species of provincial interest (i.e., listed as Special Concern on the SARO list or ranked S1 to S3) were recorded within the atlas squares overlapping the Study Area (**Appendix B**). Of these species, Barn Swallow (ranked Special Concern in Ontario) was noted as having the potential to occur on the Subject Lands. Suitable habitats for all other species were not identified on the Subject Lands given the anthropogenic nature of the site and ongoing agricultural use.

As species records only provide general occurrence data, the final determination of species presence or absence shall be subject to the availability of suitable habitat on the Subject Lands as determined through site-specific field investigations (Section 4.0).

Additional SAR with the potential to occur within the Study Area that are not well-represented within background information sources include Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), Tricolored Bat (*Perimyotis sublfavus*), Eastern Red Bat (*Lasiurus borealis*), Eastern Small-footed Myotis (*Myotis leibii*), Northern Hoary Bat (*Lasiurus cinereus*), Silver-haired Bat (*Lasionycteris noctivagans*) and Butternut (*Juglans cinerea*). These species have been considered on a site-specific basis as suitable habitat may occur within hedgerows present on the Subject Lands.

4.0 NATURAL ENVIRONMENT EVALUATION

A preliminary site reconnaissance survey was conducted on the Subject Lands and publicly accessible areas of the adjacent lands on July 4, 2025. The survey took place between 4:45 p.m. and 6:30 p.m. under clear weather conditions (i.e., 28℃, 0% cloud cover, no precipitation and calm wind) to gather baseline data and verify existing conditions. MTE characterized existing vegetation communities, surveyed hedgerows for candidate bat habitat, and completed a nest search in the abandoned barn to identify SAR and associated indicators of preferred habitat.

Vegetation on the Subject Lands consists of hedgerows along the property margins and an overgrown area surrounding an abandoned barn located northeast of the residential parcel (**Figure 3**). Polygon 1 is a deciduous hedgerow associated with the open drainage feature regulated by the LTVCA along the northeastern property boundary. Polygon 2 has been defined as the abandoned barn and surrounding area. The barn is structurally compromised in the northeast corner and was investigated for suitable SAR habitat. Polygon 3 aligns with the southeastern property boundary and was characterized as a deciduous hedgerow dominated by hawthorn. Adjacent lands are similarly composed of agricultural lands, and anthropogenic areas located north and west of the Subject Lands (i.e., Ontario Plants Propagation Limited and Penta Equipment).

4.1 Vascular Plants

A summer botanical inventory was completed as a part of the preliminary reconnaissance survey to confirm the provincial status of vascular plant species on the Subject Lands. The status of all plant species is based on the provincial NHIC database (2023) and the List of Vascular Plants for Ontario's Carolinian Zone (Oldham 2017).

A total of 53 vascular plant species were identified on the Subject Lands, of which 36 or 68% are native to Ontario and 17 or 32% are introduced species. A full species list is provided in **Appendix C**. No endangered or threatened species were observed. All species observed on the Subject Lands are provincially ranked S5 (common and secure), S4 (apparently common and secure) or SE (exotic). No species of national (i.e., G1 to G3 and SAR) or provincial (i.e., S1 to S3) interest were identified on the Subject Lands.

4.2 Nest Search

A nest search was conducted on the abandoned barn during the general nesting period (i.e., mid-March to late August) to verify habitat use. The structure was observed from a distance to first observe if any birds were interacting with the structure (e.g., flying in or near structures with food or nesting materials, singing males, alarm calls or territorial displays) before a visual inspection of the interior and exterior of the structure was completed to look for signs of nesting activity such as nest materials, droppings or feathers, in addition to any holes or cavities in the structures that may allow species access to nesting site.

Results

A total of eight Barn Swallow nests were observed within the abandoned barn. Of these, one Barn Swallow nest was intact with evidence of use in 2025 (i.e., 5 juveniles) and seven were intact with no evidence of active use.

4.3 Bat Habitat Assessment

Hedgerows were thoroughly inspected for suitable habitat trees following the Bats & Treed Habitats - Maternity Roost Survey (MECP 2022a) and Species at Risk Bats Survey Note (MECP 2022b) with reference to Bat and Bat Habitats: Guideline for Wind Power Projects (MNR 2011) protocol to identify candidate maternity roosting habitat.

The abandoned barn was also assessed to evaluate use of the structure. Potential evidence of bats within the structure (e.g., guano, pupal cases, corpses, scratch marks, etc.) was searched for throughout the interior and exterior of the building.

Results

No candidate maternity trees of the preferred decay class for roosting bats were identified within hedgerow communities on the Subject Lands.

The abandoned barn was determined to be structurally compromised along the northeastern corner and contains holes and cavities that may provide access to suitable roosting sites for bat species. Therefore, bat exit surveys were completed to confirm habitat use.

4.4 Bat Exit Surveys

Little Brown Myotis, Northern Myotis, and Silver-haired Bat are all known to roost colonially in buildings. To confirm the presence/absence of these species, exit surveys were conducted on July 10 and July 16, 2025. Per the Use of Buildings by Species at Risk Bats Survey Methodology (MECP 2021), exit surveys should be conducted during the month of June; however, the survey period may be extended until the end of July, if necessary. Surveys were completed as soon as possible following project initiation (July 3, 2025) and remain within the permitted survey window.

Survey stations were established on both sides of the building to ensure that all potential entry/exit points could be observed (**Figure 4**). As per MECP protocols, two surveys were completed under appropriate weather conditions (i.e., temperature above 10 degrees Celsius, no rain, and low wind). Entry points were monitored from 30 minutes before dusk until 60 minutes after dusk for evidence of bats entering or exiting the structure. Handheld bat acoustic monitoring equipment (i.e., Echo Meter Touch 2 detectors by Wildlife Acoustics) was used to identify bat species. Following field investigations, any calls with a positive identification were manually vetted by a wildlife ecologist.

Results

A total of 17 calls were recorded during the first-round survey, and 130 calls were recorded during the second site visit. Five bat species were confirmed to be present on the Subject Lands: Northern Myotis, Silver-haired Bat, Eastern Red Bat, Northern Hoary Bat and Little Brown Myotis. Of these, Northern Hoary Bat and Northern Myotis were confirmed exiting the structure. All other calls were associated with foraging activity.

5.0 SPECIES AT RISK ASSESSMENT

In accordance with the *ESA* (2007), the habitat of all provincially ranked threatened or endangered species shall be protected from damage or destruction. A comprehensive SAR assessment is provided in **Appendix B**. Species confirmed or likely to occur on the Subject Lands based on habitat availability are reviewed below. Species with the potential to occur on adjacent lands are not addressed herein given the scoped nature of this review and that impacts have already occurred as part of the existing land use.

Under the Middlesex County Official Plan (2023) and Municipality of Southwest Middlesex Official Plan (2023), studies to determine the significance and protection requirements for significant habitat of endangered and threatened species are required for all development and site alteration applications. Development and site alteration shall not be permitted within the habitat of endangered and threatened species, except in accordance with provincial and federal requirements. The Ministry shall be consulted to provide a technical review and identification and approval of significant habitat to ensure that development and/or site alteration is consistent with the PPS (2024) and complies with the *ESA* (2007).

5.1 Barn Swallow

Barn Swallow is ranked Special Concern on the SARO list and therefore does not receive protection under the *ESA*; however, the species is protected under the *MBCA* (1994). As per the *MBCA* (1994), it is recommended that any habitat removals occur outside of the migratory breeding bird season (i.e., April 1 to August 31). No Barn Swallow nests were observed in the servicing lands; however, vegetation removal will still be required to avoid the migratory breeding season window noted above to avoid contravention of the *MBCA* (1994).

Future Considerations: Barn Swallow were observed to be nesting within the abandoned barn during field investigations. Therefore, while not part of this application, it is recommended that any future plans or construction activities that may impact the barn (e.g., demolition of the structure) occur outside of the nesting season (i.e., construction activities occur between September and March) to prevent contravention of the *MBCA* (1994). If construction activities that may impact the barn are required to be completed during the nesting season, suitable nesting deterrents should be implemented prior to the active breeding period and nest searches occur during the nesting season to confirm absence of nesting birds within the structure. Suitable nesting deterrents include those listed in the Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNRF 2017) document (**Appendix D**).

5.2 Species at Risk Bats

There is no suitable maternity roost habitat to support SAR bat species in the servicing lands.

Future Considerations: Suitable maternity roosting habitat to support SAR bat species is present within the abandoned barn located adjacent to the residential lot. Targeted surveys for SAR bats confirmed the presence of five bat species listed as Endangered on the SARO list, two of which were confirmed to be using the structure during exit surveys.

Activities that have the potential to impact protected species, or their associated habitats, must be reviewed in consultation with the MECP to determine if an authorization may be granted under the *ESA*, subject to applicable exemptions. Therefore, if construction activities may impact the barn, consultation with the MECP (i.e., the completion and submission of an Information Gathering Form) is required to be completed prior to the onset of any activities that may impact the barn.

6.0 CONCLUSIONS

This Species at Risk Assessment Report has been prepared for Spriet Associates as part of a Schedule B Class Environmental Assessment in support of the Glencoe Industrial Park development project. No mapped natural heritage features or ecological functions were identified on the Subject Lands. However, field investigations confirmed the presence of Barn Swallow and five Endangered bat species, including Northern Myotis, Silver-haired Bat, Eastern Red Bat, Northern Hoary Bat and Little Brown Myotis, associated with the abandoned barn located on the property.

Under Section 9 of the *ESA* (2007), “no person shall kill, harm, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species.” With respect to the endangered bat habitat within the barn, the MECP should be consulted prior to the onset of any future site development or construction activities that may impact the barn to confirm the activities will not contravene the *ESA*. Likewise, proposed structure removal during the breeding bird season would require authorization under the *MBCA* (1994) if Barn Swallow or other protected species are confirmed to be nesting.

MTE recommends that the findings of this assessment be provided to the Municipality of Southwest Middlesex and Middlesex County to confirm that proposed works can proceed in accordance with applicable policy and regulatory requirements.

In the future, consultation with the MECP (i.e., the submission of an IGF) is recommended to occur prior to construction activities that may impact the barn to confirm there is no contravention of the *ESA*. Should clarification or additional information be required to support the review process, please contact the undersigned.

All of which is respectfully submitted,

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https://mte85.sharepoint.com/sites/63051_001/Shared Documents/03- Reports/SAR Assessment/63051_001_2025-12-08_rpt_SAR Assessment.docx

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Figures

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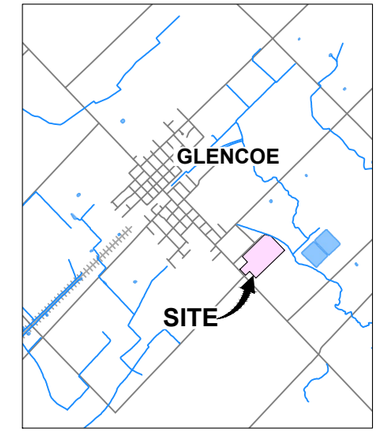

KEY PLAN (nts)

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m Buffer from Subject Lands)

REFERENCES

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NOTES

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ALL LOCATIONS ARE APPROXIMATE.

0 40 80 120 160 200m

MTE
Engineers, Scientists, Surveyors

PROJECT
SPECIES AT RISK
GLENCOE INDUSTRIAL PARK
GLENCOE, ONTARIO

TITLE
PROJECT LOCATION

Drawn DCH	Scale 1:4,000	Figure 1
Checked	Project No. 63051_001	
Date (YYYY-MM-DD) 2025-09-19	Rev No. 0	

Plot Date: September 19, 2025 – 8:26 AM

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LEGEND

- SUBJECT LANDS
- STUDY AREA (120m Buffer from Subject Lands)
- LTVCA REGULATED LIMIT

REFERENCES

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ALL LOCATIONS ARE APPROXIMATE.

0 40 80 120 160 200m

MTE
Engineers, Scientists, Surveyors

PROJECT
SPECIES AT RISK
GLENCOE INDUSTRIAL PARK
GLENCOE, ONTARIO

TITLE
LTVCA REGULATION LIMITS

Drawn	Scale	Figure
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Date (YYYY-MM-DD) 2025-09-19	Rev No. 0	

Plot Date: September 19, 2025 – 8:39 AM

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ELC NUMBER	ELC CODE	Description
1	HR	Deciduous/Open Hedgerow (1.11ha)
2	ANTH	Anthopogenic (0.15ha)
3	HR	Deciduous Hawthorn Hedgerow (0.82ha)
	AG	Agricultural

N

LEGEND

SUBJECT LANDS

STUDY AREA
(120m Buffer from Subject Lands)

1 VEGETATION COMMUNITY

REFERENCES

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ALL LOCATIONS ARE APPROXIMATE.

0 40 80 120 160 200m

MTE
Engineers, Scientists, Surveyors

PROJECT
SPECIES AT RISK
GLENCOE INDUSTRIAL PARK
GLENCOE, ONTARIO

TITLE
VEGETATION COMMUNITIES

Drawn	Scale	Figure
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Date (YYYY-MM-DD) 2025-09-19	Rev No. 0	

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ELC NUMBER	ELC CODE	Description
1	HR	Deciduous/Open Hedgerow (1.11ha)
2	ANTH	Anthopogenic (0.15ha)
3	HR	Deciduous Hawthorn Hedgerow (0.82ha)
	AG	Agricultural

Photograph 1: Barn (Looking North)

LEGEND

SUBJECT LANDS

STUDY AREA (120m Buffer from Subject Lands)

VEGETATION COMMUNITY

BAT MONITORING STATION

BARN SWALLOW HABITAT

REFERENCES

SOUTHWESTERN ONTARIO ORTHOPHOTOGRAPHY PROJECT (2020), SOURCE: DATA PROVIDED BY ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY, © COPYRIGHT: 2025 KING'S PRINTER OF ONTARIO, ALL RIGHTS RESERVED;

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

0 40 80 120 160 200m

MTE
Engineers, Scientists, Surveyors

PROJECT
SPECIES AT RISK
GLENCOE INDUSTRIAL PARK
GLENCOE, ONTARIO

TITLE
BAT MONITORING STATIONS AND BARN SWALLOW HABITAT

Drawn	Scale	Figure
DCH	1:4,000	4
Checked	Project No. 63051_001	
Date (YYYY-MM-DD) 2025-09-19	Rev No. 0	

Plot Date: September 19, 2025 – 8:16 AM

Appendix A

BioLogic Study

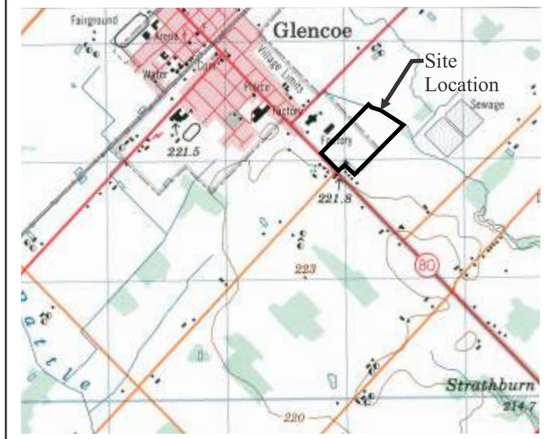
Stage 1: Information Request

MNR District Office Location: Aylmer
Project Name: SW Middlesex - Industrial Date: December 10, 2015

Proponent Information:	
Name:	Company: Municipality of SW Middlesex
Mailing Address:	153 McKellar St., Box 218, Glencoe, ON N0L 1M0
email address:	info@southwestmiddlesex.ca
Property Information: Site Location Figure Attached ✓ yes ❒ no	
Lot, Concession, Township, County, City:	71 Main Street & 99 Industrial Road, Range 2N N Part Lot 24 & Range 2 NLR Part Lots 23 & 24, Glencoe, Municipality of Southwest Middlesex, ON
GPS centroid	17T 443108 4732120
Supporting Biological Attachments	NHIC Data Attached ✓ yes (1 km square) DFO SAR Maps Attached ❒ yes ✓ no (No mapped habitat) Other Data: MNRF Screening May 2015 ✓ yes ❒ no Vegetation Map Attached ✓ yes ❒ no Key Plan and Site Photos Attached ✓ yes ❒ no Field Work Sheets and Plant List Attached ✓ yes ❒ no
Comparison to LIO Maps	Similar
Current Status of Vegetation and History of Maintenance	The majority of the subject lands is an active agricultural field with an abandoned barn in the south portion of the subject lands. The barn is in disrepair and regularly subject to vandalism. Between the barn and Main Street, there are a few mid-aged Maple Trees (Photo 1). There is a hedgerow along the south east property boundary (Photo 2) consisting of mid-aged trees and a hedgerow of young to mid aged trees along a drainage feature at the northwest boundary (Photo 4)
SAR Habitat Description Field Work Dates **May 1, 2015** **May 25 2015**	- confirmed absence of habitat for Heart-leaved Plantain, Massassauga, Northern Bobwhite, Bobolink, Eastern Meadowlark, American Badger on or near the subject lands. - confirmed presence of Barn Swallow nests in the abandoned barn (field work sheet) - potential for Little Brown Myotis, Eastern Small-footed Myotis within the barn, - confirmed absence of suitable trees to support bat maternity or roost (hedgerow trees and street maple trees mid-aged and healthy) - confirmed no other SAR plants/trees observed (ie. Butternut, American Chestnut etc)
Development Plans Site Plan attached ❒ yes ✓ no Site Plan Overlay attached ❒ yes ✓ no	
Description of Proposal Site Plan	An industrial development is proposed within the subject lands. Hedgerows will be retained and barn to remain. If barn is to be removed additional bat studies will be needed. Barn Swallow nest habitat will need to be addressed through the MNRF registration process.
Timing /Duration of Proposed Activity	August 2016 to September 2020
History and Planning	
Planning Amendments	Official Plan Amendment: Not required Zoning Amendment: Not required
Existing Status	New Application
Past MNRF Correspondence, if any:	none
Next Steps - BioLogic Suggestion Based on Above and attached	
✓ **Provide Certified Site Clearance under the Ontario Investment Ready Program** (Government of Ontario, 2015) There is no species at risk or habitat of those listed in the field; the hedgerow will remain. There are no current plans for barn removal (if plans change bat surveys are required and Barn Swallow nests removal activities will need to be registered with MNRF.	

Site Location

(2010 Middlesex County Air Photo)



0 1,000
Scale 1:50,000
Key Plan

Print on 11X17, Landscape Orientation
0 70
Scale 1:3500
August 2015

BioLogic
AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Southwest Middlesex - Industrial Park

NHIC EO List	MNR EO Date
April 28, 2015	May 26, 2015

Species of Provincial Interest Table

Scientific Name	Common Name	S-Rank	Ontario ESA Listing	MNR Response
Plants				
Crataegus suborbiculata	Caughuawaga Hawthorn	S1		
Erigenia bulbosa	Harbinger-of-spring	S3?		
Plantago cordata	Heart-leaved Plantain	S1	END	END
Asclepias sullivantii	Prairie Milkweed	S3		
Fraxinus quadrangulata	Blue Ash	SC		May 26, 2015
Birds				
Colinus virginianus	Northern Bobwhite	S1	END	END
Dolichonyx oryzivorous	Bobolink	S4B	THR	May 26, 2015
Sturnella magna	Eastern Meadowlark	S4B	THR	May 26, 2015
Snakes				
Sistrurus catenatus pop. 2	Massasauga (Carolinian population)	S1	END	THR
Butterflies and Odonate				
Asterocampa clyton	Tawny Emperor	S2S3		
Mammals				
Taxidea taxus	American Badger	S2	END	May 26, 2015

Ministry of Natural Resources and Forestry
615 John Street North
Aylmer ON N5H 2S8
Tel: 519-773-9241
Fax: 519-773-9014

Ministère des Richesses naturelles et des Forêts
615, rue John Nord
Aylmer ON N5H 2S8
Tél: 519-773-9241
Téléc: 519-773-9014

May 26, 2015

Dylan Morse, BES
Assistant Biologist
BioLogic Incorporated
110 Riverside Drive, Suite 201
London, ON N6H 4S5

Dear Mr. Morse:

RE: Natural Heritage Screening for SW Middlesex – Industrial Park, 71 Main St. & 99 Industrial Road, Glencoe, ON

The Ministry of Natural Resources and Forestry (MNRF) understands that BioLogic is conducting study for a proposed industrial park at 71 Main Street & 99 Industrial Road in the Village of Glencoe, Municipality of Southwest Middlesex.

MNRF provides the following natural heritage information in response to your request sent on April 28, 2015:

Species at Risk (SAR)
The Species at Risk in Ontario (SARO) List (http://www.ontario.ca/environment-and-energy/species-risk-ontario-list) is Ontario Regulation 230/08 issued under the *Endangered Species Act*, *2007* (ESA). The ESA came into force on June 30, 2008, and provides both species protection (section 9) and habitat protection (section 10) to species listed as endangered or threatened on the SARO List. The current SARO List can be found on e-laws (http://www.e-laws.gov.on.ca/navigation?file=home&lang=en).

An initial SAR (Endangered and Threatened species) screening has been completed for the above-noted property.

There are no reported occurrences of SAR on the property; however, there are reported occurrences of SAR in the general project area, including:
- **BOBOLINK (Threatened), with general habitat protection**
- **EASTERN MEADOWLARK (Threatened), with general habitat protection**
- **HEART-LEAVED PLANTAIN (Endangered), with general habitat protection**

MNRF also has historical occurrences of SAR in the general project area, including:
- **MASSASSAUGA* (Endangered), with general habitat protection**
- **AMERICAN BADGER (Endangered), with regulated habitat protection**

**Information related to occurrences of this species is highly sensitive and is not intended for any person or project unrelated to this undertaking. Please do not include any specific information with respect to these species in reports that will be available for public record.*

MNRF notes the presence of barns and/or structures within the study area. These structures may provide suitable nesting habitat for Barn Swallows and/or roosting habitat for SAR bats (e.g. Eastern Small-Footed Myotis, Little Brown Myotis). Isolated trees (i.e. located outside a forest) also have potential to be used by bats. The habitats of endangered and threatened species are protected under the ESA, and

therefore if the structure and/or structures are proposed for removal, then they must first be surveyed to determine if they are being used by species at risk. Please be advised that visual surveys alone will not accurately determine the presence/absence of bats and therefore specific surveys (e.g. acoustic monitoring) would need to be undertaken in order to determine the presence of bats in the buildings. Please see the attached document entitled "*MNRF's guidance for visual and acoustic field data collection for bats*" for guidance on conducting surveys for this species.

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR and MNRF data relies on observers to report sightings of SAR. Field assessments by a qualified professional may be necessary if there is a high likelihood for SAR species and/or habitat to occur within the project footprint.

It is important to note the following:

- Changes may occur in both species and habitat protection which could affect whether proposed projects may have adverse effects on SAR.
- The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List. As a result, species designations may change, which could in turn change the level of protection they receive under the ESA 2007.
- Habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

If an activity or project will result in adverse effects to endangered or threatened species and/or their habitat, additional action would need to be taken in order to remain in compliance with the ESA. Additional action could be applying for an authorization under section 17(2)(c) of the ESA, or completing an online registry for an ESA regulation, if the project is eligible (http://www.ontario.ca/environment-andenergy/natural-resources-approvals).

Please be advised that applying for an authorization does not guarantee approval and the process can take several months.

Significant Wildlife Habitat (SWH)

Significant wildlife habitat (SWH) may be present on or adjacent to the above-noted subject lands (within 120 m). Please consult the Significant Wildlife Habitat Technical Guide (SWHTG, OMNR 2000), the Natural Heritage Reference Manual (NHRM) and the Ecoregion Criteria Schedules for criteria on identifying and determining significance of wildlife habitat. SWH is identified by planning authorities using the criteria and processes recommended in the SWHTG and Ecoregion Criteria Schedules.

Link to the SWHTG: https://www.ontario.ca/environment-and-energy/guide-significant-wildlife-habitat
Link to Ecoregion 7E criteria schedule: http://publicdocs.mnr.gov.on.ca/View.asp?Document_ID=21843&Attachment_ID=45645

MNRF completed a screening for S1-S3, SH and special concern species and the following have known occurrences in the general project area:

- **Blue Ash (Special Concern)**
- **Prairie Milkweed (S3)**
- **Harbinger-of-spring (S3)**

The habitat of provincially rare (S1-S3, SH) and Special Concern species is considered SWH under the category of 'Special Concern and Rare Wildlife Species' in the SWHTG Ecoregion Criteria Schedules. Therefore, consideration should be given to these species and whether their habitat occurs on or within 120 m of the subject lands.

Areas of Natural and Scientific Interest (ANSIs)
There are no Provincially or Regionally Significant Earth or Life Science ANSI's within or adjacent to the proposed subject lands.

Significant Woodlands
There does not appear to be woodland located on and adjacent to the project area.

Significant Wetlands
There is no known evaluated wetland within or adjacent to the above-noted subject lands.

Significant Valleylands
MNRF does not possess significant valleylands mapping. We suggest you contact the applicable conservation authorities to find out if they have information pertaining to significant valleylands. The NHRM also provides guidance on evaluation criteria for determining significant valleylands.

Fish and Fish Habitat
There appears to be a watercourse in the project area; however, no information on fish and fish habitat or mussel and mussel habitat is available.

MNRF recommends you contact the appropriate conservation authority and DFO for up-to-date fisheries, mussel and drain information.

Conservation Authorities and Official Plans may provide additional natural heritage information for this study.

Please be advised that it is your responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

If you have any questions, please feel free to contact our office at ESAScreeningRequest.AylmerDistrict@ontario.ca.

Sincerely,

Aurora McAllister
Management Biologist, Aylmer District
Ontario Ministry of Natural Resources and Forestry

cc: Andrea Fleischhauer, District Planner, Aylmer District MNRF

MNRF's guidance for visual and acoustic field data collection for bats:

Buildings and isolated trees (i.e. trees located outside of a forest) that have the potential to be used as roosts by bats should be monitored for evidence of Little Brown Myotis, Northern Myotis and Eastern Small-footed Bat maternity colonies through exit surveys as follows:

- *Bat surveys and data analysis should be conducted by a biologist experienced in bat identification and monitoring.*
- *Exit surveys should be conducted during the month of **June**. July is less suitable, but surveys can be done to the end of July if necessary.*
- *Observers should choose a viewing station with a clear aspect of cavity opening or crevice (multiple observers may be required if multiple openings are present).*
- *Cavity opening or crevice should be monitored from 30 minutes before dusk until 60 minutes after dusk for evidence of bats **exiting** (observers should be in place an hour before dusk).*
- *A hand held bat detector (heterodyne) should be used in conjunction with visual surveys to alert the observers to the presence of either bat species. Heterodyne should be set to **40-45 kHz**.*
- *Each candidate roost should be monitored twice under appropriate weather conditions: temperature **above 10 degrees Celsius, no rain, and low wind.***
- *The number of bats **seen exiting** a single opening or crevice should be counted to provide an estimate of colony size (if multiple openings, add estimates from each opening for total estimate).*
- *Acoustic monitoring equipment (described below) should be used in conjunction with visual observations if required to identify the bats at the species level.*

Acoustic Monitoring Equipment

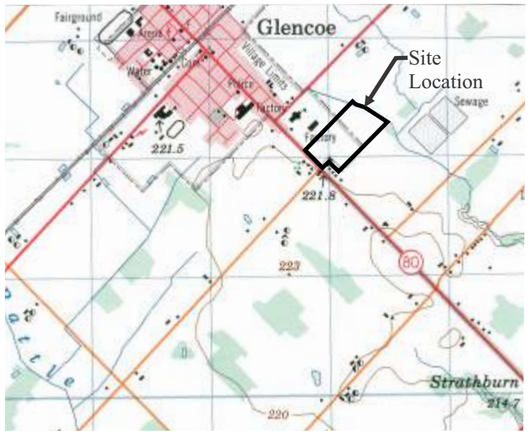
- *Acoustic monitoring should use modern broadband bat detectors (these may be automated systems in conjunction with computer software analysis packages or manual devices) with condenser microphones.*
- *Acoustic monitoring systems should allow the observer to determine the signal to noise ratio of the recorded signals (e.g. from oscillograms or time-amplitude displays). These systems provide*

information about signal strength and increase the quality and accuracy of the data being analysed. Zero-crossing acoustic detectors do not provide this information.

- *Microphones should be positioned to maximize bat detection (e.g. microphone(s) situated away from nearby obstacles to allow for maximum range of detection, microphone(s) angled slightly away from the prevailing wind to minimize wind noise, approximately 5-10 metres from opening).*
- *It is recommended that the same brand and/or model acoustic recording system be used throughout the survey (if multiple devices are required), as the type of system may influence detection range/efficiency. If different systems must be used, this variation should be quantified.*
- *Information on the equipment used should be recorded, including information on all adjustable settings (e.g. gain level), the position of the microphones, dates and times by station when recording was conducted.*
- *Acoustic survey data should be analysed to identify species whenever possible. Unidentified species should also be included in analysis and reporting.*

Vegetation Communities

(2010 Middlesex County Air Photo)



0 1,000
Scale 1:50,000
Key Plan

Legend

1 Hedgerow
2 Hedgerow

Print on 11X17, Landscape Orientation
0 70
Scale 1:3500
August 2015

BioLogic
AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Southwest Middlesex - Site Photos

Key Plan - Site Photos Locations

Photo 1 - Facing southwest from field

Photo 2 - Facing east hedgerow from field

Photo 3 - Facing southwest from north hedgerow

Photo 4 - Facing northwest from north hedgerow

GENERAL SITE INFORMATION FIELD SHEET

BioLogic — Aquatic and Terrestrial Ecosystem Planners

Project: SW Middlesex - Glencoe
Date: May 1, 2015 Project Manager: ____
Collector(s): DM Visit #: 1
Time started: 1:45 Time finished: 3:00 Combined collectors' hours: 1.25
☐ NHIC List ☐ MNR EO's ☐ none ☐ not provided to collector

WEATHER CONDITIONS

Temp.	Wind: 3		Cloud Cover (%)	Precipitation
	Direction: E		10	Today: –
				Yesterday:

WIND SCALE

0	Calm
1	Smoke Drifts
2	Wind Felt on Face
3	Leaves in constant motion
4	Wind raises dust and paper
5	Small trees sway
6	Large branches sway
7	Lots of resistance when walking into
8	Limbs breaking off trees

DATA FOCUS

☐	Birds 1__ 2__	X	ELC's	☐	Dripline
☐	Mammals	☐	Floral V__ S__ A_	☐	Aquatic - Physical
☐	Amphibians 1_ 2_ 3_	☐	Wetland	☐	Aquatic - Biological
☐	Reptiles	☐	Butternut	☐	Faunal Habitat
☐	Inverterbrates	X	other SAR		

FEATURES (with GPS co-ordinates where applicable)	Mapped	Follow-up Req'd Yes	No	Who
Man-made Structures: ☐ None observed				
X Barns/Footings/Wells/other(list)				
☐ Rock Piles				
X Garbage				
Natural Vegetation: ☐ None observed				
☐ Fallen Logs outside woods (#'s)				
X Brush Piles				
☐ Snags (raptor perch)				
☐ Tree Cavities (nesting)				
☐ Sentinel Trees				
☐ Mast Trees (6E) ☐ Berry Shrubs (6E)				
Wildlife Features: ☐ None observed				
☐ Waterfowl nesting (large #'s, # of species)				
☐ Exposed Banks (nesting swallows)				
☐ Stick Nests				
☐ Animal Burrows (>10cm)				
☐ Heronry				
☐ Crayfish mounds				
☐ Sand/gravel on site				
☐ Marsh/open country/shrub				
☐ Winter Deer yards				
☐ Corridor from pond to woods (ampibian movement)				
☐ Bat corridor (shorelines, escarpments)				
☐ Bat hibernacula (caves, mines, crevices, etc.)				
Aquatic Features:				
☐ Perm. pond in woodland ☐ emergents/submergents/logs ☐ temp.				
☐ Perm. pond in open ☐ emergents/submergents/logs ☐ temp.				
☐ Water in woodland ☐ pools ☐ flowing ☐ dry				
☐ Waterways flowing dry pools				
☐ natural stream ☐ ☐ ☐				
☐ swale ☐ ☐ ☐ ☐ None observed				
X open drain ☐ ☐ ☐				
☐ Seeps/Springs ☐ ☐ ☐				
Incidental Observations:				
- barn swallow nests in barn on site (at least 6)				

Graphic ☐ Attached or Name Checked by Project Manager ☐ Date: ____

GENERAL SITE INFORMATION FIELD SHEET

Logic
AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Project: SW Middlesex - Glencoe
Date: May 25, 2015 Project Manager: DM
Collector(s): WH Visit #: 1
Time started: 14:00 Time finished: 14:45 Combined collectors' hours: 0.75
☐ NHIC List ☐ MNR EO's ☐ none ☐ not provided to collector

WEATHER CONDITIONS						WIND SCALE	
Temp. 24	Wind:	4	Cloud Cover (%)	Precipitation		0	Calm
	Direction:	W	20	Today: no		1	Smoke Drifts
				Yesterday: no		2	Wind Felt on Face
						3	Leaves in constant motion
						4	Wind raises dust and paper
						5	Small trees sway
						6	Large branches sway
						7	Lots of resistance when walking into
						8	Limbs breaking off trees

DATA FOCUS

☐	Birds 1__ 2__	X	ELC's	☐	Dripline
☐	Mammals	X	Floral V__ S__ A_	☐	Aquatic - Physical
☐	Amphibians 1_ 2_ 3_	☐	Wetland	☐	Aquatic - Biological
☐	Reptiles	☐	Butternut	☐	Faunal Habitat
☐	Inverterbrates	X	other SAR		

FEATURES (with GPS co-ordinates where applicable)	Mapped	Follow-up Req'd Yes	No	Who
Man-made Structures: ☐ None observed				
☒ Barns/Footings/Wells/other(list) BARS in barn				
☐ Rock Piles				
☐ Garbage				
Natural Vegetation: ☒ None observed				
☐ Fallen Logs outside woods (#'s)				
☐ Brush Piles				
☐ Snags (raptor perch)				
☐ Tree Cavities (nesting)				
☐ Sentinel Trees				
☐ Mast Trees (6E) ☐ Berry Shrubs (6E)				
Wildlife Features: ☒ None observed				
☐ Waterfowl nesting (large #'s, # of species)				
☐ Exposed Banks (nesting swallows)				
☐ Stick Nests				
☐ Animal Burrows (>10cm)				
☐ Heronry				
☐ Crayfish mounds				
☐ Sand/gravel on site				
☐ Marsh/open country/shrub				
☐ Winter Deer yards				
☐ Corridor from pond to woods (ampibian movement)				
☐ Bat corridor (shorelines, escarpments)				
☐ Bat hibernacula (caves, mines, crevices, etc.)				
Aquatic Features:				
☐ Perm. pond in woodland ☐ emergents/submergents/logs ☐ temp.				
☐ Perm. pond in open ☐ emergents/submergents/logs ☐ temp.				
☐ Water in woodland ☐ pools ☐ flowing ☐ dry				
☐ Waterways flowing dry pools				
☐ natural stream ☐ ☐ ☐				
☐ swale ☐ ☐ ☐ ☐ None observed				
☒ open drain ☐ ☐ ☐ East end of site				
☐ Seeps/Springs ☐ ☐ ☐				
Incidental Observations:				
* 12 Barn Swallow (BARS) nests noted on rafters of ground level of barn. 2 pairs of BARS observed in barn				

Graphic ☐ Attached or Name Checked by Project Manager ☐ Date:_____

ELC WILDLIFE	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	
	START TIME:	END TIME:

TEMP (°C):	CLOUD (10th):	WIND:	PRECIPITATION:
CONDITIONS:			

POTENTIAL WILDLIFE HABITAT:

	VERNAL POOLS		SNAGS
	HIBERNACULA		FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#

FAUNAL TYPE CODES (TY):
B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):

BREEDING BIRD - POSSIBLE:
SH = SUITABLE HABITAT SM = SINGING MALE

BREEDING BIRD - PROBABLE:
T = TERRITORY D = DISPLAY P = PAIR
A = ANXIETY BEHAVIOUR N = NEST BUILDING V = VISITING NEST

BREEDING BIRD - CONFIRMED:
DD = DISTRACTION NU = USED NEST FY = FLEDGED YOUNG
NE = EGGS NY = YOUNG FS = FOOD/FAECAL SACK
AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:
OB = OBSERVED VO = VOCALIZATION CA = CARCASS
DP = DISTINCTIVE PARTS HO = HOUSE/DEN FY = EGGS OR YOUNG
TK = TRACKS FE = FEEDING EVIDENCE SC = SCAT
SI = OTHER SIGNS (specify)

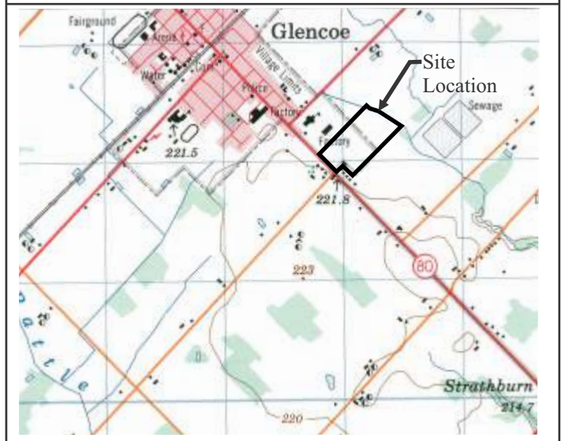
ELC PLANT SPECIES LIST	SITE: SL Middlesex	
	POLYGON:	
	DATE: May 25, 2015	
	SURVEYOR(S): L. Mays	

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

* SPECIES CODE	LAYER 1	2	3	4	COL.	SPECIES CODE	LAYER 1	2	3	4	COL.
Ulmus americana											
Lonicera tatarica											
Acer negundo											
Alliaria petiolata											
Arctium minus											
Carya cordiformis											
Carya ovata											
Celtis occidentalis											
Cornus foemina											
Crataegus crus-galli											
Crataegus mollis											
Crataegus punctata											
Daucus carota											
Dipsacus sylvestris											
Hesperis matronalis											
Juglans nigra											
Maianthemum racemosum											
Oxalis stricta											
Parthenocissus inserta											
Poa pratensis											
Podophyllum peltatum											
Populus tremuloides											
Prunus avium											
Prunus serotina											
Prunus virginiana											
Quercus macrocarpa											
Rhus radicans											
Rosa multiflora											
Rubus occidentalis											
Solidago spp.											
Tilia americana											

Setbacks

(2010 Middlesex County Air Photo)



0 1,000
Scale 1:50,000
Key Plan

Legend

1 Hedgerow
2 Hedgerow
Limit of grading
Barn to be retained

Print on 11X17, Landscape Orientation
0 70
Scale 1:3500
August 2015

BioLogic
AQUATIC AND TERRESTRIAL ECOSYSTEM PLANNERS

Appendix B

Species at Risk Screening

Species	SARO Status	Habitat Requirements and Range	Suitable Habitat On Subject Lands	Suitable Habitat on Adjacent Lands	Rationale and Field Observations
Chimney Swift *Chaetura pelagica*	THR	Found in urban and rural areas near buildings. Nest and roosts in hollow trees, crevices of rock cliffs and, most commonly, in unlined chimneys. Suitable sites are reused annually. Range: Estimated 7500 breeding individuals in Ontario; most widely distributed in the Carolinian south and southwest.	No	No	Suitable habitat to support this species is absent from the Subject Lands.
Bobolink *Dolichonyx oryzivorus*	THR	Found in large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields, marshes. Grasslands size requirements have been reported to range from 5 ha to 50 ha depending on the study (MECP 2021). Range: Widely distributed throughout most of the province south of the boreal forest. May be found in the north where suitable habitat exists.	No	No	Suitable habitat to support this species is absent from the Subject Lands as fields are actively maintained for agricultural land uses.
Silver-haired Bat *Lasionycteris noctivagans*	END	Roosts in coniferous and deciduous tree cavities and under bark. May occasionally roost in buildings (COSEWIC 2023).	Yes	Yes	The abandoned barn present on the Subject Lands provides suitable roosting habitat for this species. Silver-haired Bat was detected entering or exiting the structure during two rounds of exit surveys completed on the Subject Lands.
Eastern Red Bat *Lasiurus borealis*	END	Roosts in foliage of coniferous and deciduous trees and shrubs typically prefer tall trees at least the height of the canopy; however, will use shrubs and trees greater than 5 m. Foraging habitat includes both forested and unforested habitat (COSEWIC 2023).	Yes	Yes	Based on a combination of fieldwork and aerial imagery interpretation, the abandoned barn present on the Subject Lands provides suitable roosting habitat for this species. Eastern Red Bat was detected flying over the structure during two rounds of exit surveys completed on the Subject Lands.
Northern Hoary Bat *Lasiurus cinereus*	END	Roosts in foliage of coniferous and deciduous trees and shrubs typically prefer tall trees at least the height of the canopy; however, will use shrubs and trees greater than 5 m. Foraging habitat includes open wetlands, grasslands and fields with some trees (COSEWIC 2023).	Yes	Yes	Based on a combination of fieldwork and aerial imagery interpretation, the abandoned barn present on the Subject Lands provides suitable roosting habitat for this species. Northern Hoary Bat was detected flying over the structure during two rounds of exit surveys completed on the Subject Lands.

Species	SARO Status	Habitat Requirements and Range	Suitable Habitat On Subject Lands	Suitable Habitat on Adjacent Lands	Rationale and Field Observations
Red-headed Woodpecker *Melanerpes erythrocephalus*	END	Breeding habitat consists of mature lowland and upland deciduous woodlands typically characterized by low canopy cover, open understories, and large, tall trees, especially beech or oak species. Ideal habitat in Ontario is oak savannah; however, it can be found in other sparsely treed habitats such as orchards, groves of dead and dying trees, municipal parks, golf courses, river bottomlands, and agricultural landscapes. Higher densities of decadent trees are associated with higher habitat quality. It is occasionally encountered in mixed woodlots but rarely in urbanized areas. The species typically occupies woodlots with less canopy cover, more coarse woody debris, and greater dead limb lengths compared to unoccupied woodlots. Range: Across southern Ontario; widespread but rare.	No	No	Suitable woodland habitat to support this species is absent from the Study Area.
Eastern Small-footed Myotis *Myotis leibii*	END	Roosts in caves, mine shafts, crevices, or buildings in or near a woodland. Hibernates in cold dry caves or mines. Range: From south of Georgian Bay to Lake Erie, east to Pembroke.	No	No	Suitable anthropogenic structures (i.e., abandoned barn) to support this species are present on the Subject Lands. Although Eastern Small-footed Myotis rarely roosts in buildings, with observations in Ontario limited to barns or sheds, or on exterior walls in close proximity to hibernacula, the barn was observed to be poorly maintained and is likely to provide suitable roosting sites for this species. Eastern Small-footed Myotis was not detected entering or exiting the structure during two rounds of exit surveys completed on the Subject Lands.
Little Brown Myotis *Myotis lucifugus*	END	Little Brown Myotis roosts in caves, quarries, tunnels, hollow trees, or buildings. Little Brown Myotis typically prefer buildings or building-associated features for maternity roosting rather than natural features (Gerson, 1984; Humphrey & Fotherby, 2019). This species hibernates in humid caves and forages in wetlands and forest edges. Range: Widespread across southern Ontario.	Yes	No	Based on a combination of fieldwork and aerial imagery interpretation, the abandoned barn present on the Subject Lands provides suitable roosting habitat for this species. Little Brown Myotis was detected flying over the structure during two rounds of exit surveys completed on the Subject Lands.

Species	SARO Status	Habitat Requirements and Range	Suitable Habitat On Subject Lands	Suitable Habitat on Adjacent Lands	Rationale and Field Observations
Northern Myotis *Myotis septentrionalis*	END	Roosts in houses, manmade structures, but prefers hollow trees or under loose bark. Hunts in forests. Range: Throughout forested areas in southern Ontario.	Yes	Yes	Based on a combination of fieldwork and aerial imagery interpretation, the abandoned barn present on the Subject Lands provides suitable roosting habitat for this species. Northern Myotis was detected entering or exiting the structure during two rounds of exit surveys completed on the Subject Lands.
Tricolored Bat *Perimyotis subflavus*	END	Roosts in older forests and occasionally barns/structures. Hibernate in damp, draft-free caves. Hunt over water and along streams in a forest.	Yes	Yes	Based on a combination of fieldwork and aerial imagery interpretation, the abandoned barn present on the Subject Lands provides suitable roosting habitat for this species. Tricolored Bat was not detected entering or exiting the structure during two rounds of exit surveys completed on the Subject Lands.
Massasauga (Carolinian population) *Sistrurus catenatus pop. 2*	END	Many habitats including tall grass prairies, bogs, marshes, shorelines, forests, and alvars. Require open areas. Hibernate underground in crevices in bedrock, sphagnum swamps, tree root cavities, and animal burrows above the water table. Range: Two small populations in the Wainfleet Bog on the northeast shore of Lake Erie and near Windsor.	No	No	Suitable habitat to support this species is absent from the Subject Lands. No suitable hibernacula sites were identified in association with the drain northeast of the Subject Lands and the feature was observed to be largely disturbed by abutting agricultural land uses.
Eastern Meadowlark *Sturnella magna*	THR	Breeds mostly in moderately tall grasslands (native prairies and savannahs), also pastures, hayfields, herbaceous fencerows, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Eastern Meadowlarks may not be strongly area-sensitive (McCracken et al., 2013), however large tracts of grasslands (5 ha or greater) are preferred over smaller fragments (Herkert 1991; Vickery et al. 1994). Range: Primarily found south of the Canadian Shield, but also inhabits Lake Nipissing, Timiskaming, and Lake of Woods areas.	No	No	Suitable habitat to support this species is absent from the Subject Lands as fields are actively maintained for agricultural land uses.

Appendix C

Plant Species List

			Floral Inventory (2025-07-04)								
1	2	3	Scientific Name	Common Name	CW	COSEWIC	SARO	SRank	MD	Invasive
X	X	X	*Juglans nigra*	Black Walnut	3.0			S4?	X	
X	X		*Bromus inermis*	Smooth Brome	5.0			SE5	IC	Y
X		X	*Cornus racemosa*	Gray Dogwood	0.0			S5	X	
X		X	*Erigeron annuus*	Annual Fleabane	3.0			S5	C	
X		X	*Fraxinus pennsylvanica*	Green Ash	-3.0			S4	C	
X		X	*Quercus macrocarpa*	Bur Oak	3.0			S5	C	
X		X	*Ulmus americana*	American Elm	-3.0			S5	C	
X		X	*Vitis riparia*	Riverbank Grape	0.0			S5	C	
X			*Ambrosia trifida*	Great Ragweed	0.0			S5	C	
X			*Asclepias syriaca*	Common Milkweed	5.0			S5	C	
X			*Carduus acanthoides*	Spiny Plumeless Thistle	5.0			SE5	IR	
X			*Cirsium arvense*	Canada Thistle	3.0			SE5	IC	Y
X			*Daucus carota*	Wild Carrot	5.0			SE5	IC	
X			*Dipsacus fullonum*	Common Teasel	3.0			SE5	IC	Y
X			*Festuca rubra*	Red Fescue	3.0			S5		
X			*Impatiens capensis*	Spotted Jewelweed	-3.0			S5	C	
X			*Melilotus albus*	White Sweet-clover	3.0			SE5	IC	Y
X			*Melilotus officinalis*	Yellow Sweet-clover	3.0			SE5	IC	Y
X			*Populus deltoides*	Eastern Cottonwood	0.0			S5		
X			*Rumex crispus*	Curly Dock	0.0			SE5	IC	
X			*Sonchus arvensis*	Field Sow-thistle	3.0			SE5	IX	
X			*Symplocarpus foetidus*	Skunk Cabbage	-5.0			S5	C	
	X	X	*Celtis occidentalis*	Common Hackberry	0.0			S4	X	
	X	X	*Rubus occidentalis*	Black Raspberry	5.0			S5	C	
	X		*Acer platanoides*	Norway Maple	5.0			SE5	IU	Y
	X		*Dactylis glomerata*	Orchard Grass	3.0			SE5	IC	
	X		*Elymus repens*	Creeping Wildrye	3.0			SE5	IC	
	X		*Galium aparine*	Cleavers	3.0			S5	X	
	X		*Morus alba*	White Mulberry	0.0			SE5	IX	Y
	X		*Parthenocissus vitacea*	Thicket Creeper	3.0			S5	X	
	X		*Urtica dioica*	Stinging Nettle	0.0			S5		
		X	*Acer negundo*	Manitoba Maple	0.0			S5	C	Y
		X	*Carya cordiformis*	Bitternut Hickory	0.0			S5	X	
		X	*Carya ovata*	Shagbark Hickory	3.0			S5	X	
		X	*Circaea canadensis*	Broad-leaved Enchanter's Nightshade	3.0			S5	X	
		X	*Crataegus chrysocarpa*	Fireberry Hawthorn	5.0			S5		
		X	*Crataegus crus-galli*	Cockspur Hawthorn	0.0			S4	R	
		X	*Crataegus mollis*	Downy Hawthorn	0.0			S4S5		
		X	*Euonymus europaeus*	European Euonymus	5.0			SE2	IR	
		X	*Geum canadense*	White Avens	0.0			S5	X	
		X	*Juniperus virginiana*	Eastern Red Cedar	3.0			S5	X	
		X	*Lonicera tatarica*	Tartarian Honeysuckle	3.0			SE5	IX	Y
		X	*Malus pumila*	Common Apple	5.0			SE4	IX	
		X	*Poa pratensis*	Kentucky Bluegrass	3.0			S5		
		X	*Podophyllum peltatum*	May-apple	3.0			S5	X	
		X	*Populus tremuloides*	Trembling Aspen	0.0			S5	X	
		X	*Prunus virginiana*	Choke Cherry	3.0			S5	C	

			Floral Inventory (2025-07-04)							
1	2	3	Scientific Name	Common Name	CW	COSEWIC	SARO	SRank	MD	Invasive
		X	*Rhamnus cathartica*	Common Buckthorn	0.0			SE5	IC	Y
		X	*Ribes americanum*	Wild Black Currant	-3.0			S5	C	
		X	*Ribes cynosbati*	Prickly Gooseberry	3.0			S5	C	
		X	*Tilia americana*	American Basswood	3.0			S5	C	
		X	*Toxicodendron radicans*	Poison Ivy	0.0			S5		
		Y	*Viburnum opulus*	Cranberry Viburnum	-3.0			S5		

Appendix D

Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures

Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures

Photo: R. Kimpel (flickr.com/creative commons)

ontario.ca/speciesatrisk

Ontario Ministry of Natural Resources and Forestry
2017

Ontario

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This document includes best available information as of the date of publication and will be updated as new information becomes available. If you are interested in providing information for consideration in updates of this document, please email esapermits@ontario.ca.

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1.0 Introduction & Purpose

This document was produced on behalf of the Ontario Ministry of Natural Resources and Forestry (MNRF) to provide information about best management practices (BMPs) that may be relevant to activities that may affect Barn Swallow or Chimney Swift.

The purpose of this document is to provide information on methods that can be used outside of the period each year in Ontario when the species are active and carrying out important life processes relating to breeding, nesting and rearing to exclude Barn Swallow (*Hirundo rustica*) and Chimney Swift (*Chaetura pelagica*) from buildings and structures. The intended audience is proponents who need to implement exclusion measures once they have determined that Barn Swallow or Chimney Swift nest in a building or structure that requires alteration. Knowledge that the structure is used for nesting may have been determined by observations of nesting activity or by the presence of an old nest.

The information contained in this document is a summary of BMPs that was gathered from technical experts, peer-reviewed literature and guidance documents from other jurisdictions. Wherever possible, detailed specifications have been provided, including materials, proper installation methods, diagrams or pictures, and an evaluation of the advantages and disadvantages of each exclusion method.

This BMP document is intended to provide:

- General information on Barn Swallow and Chimney Swift and their nesting habits;
- Information on the effectiveness of a variety of exclusion methods; and
- Factors to consider when planning and implementing an exclusion method, the costs of materials, and where to find more information.

This BMP document is not intended to provide guidance on the applicability of legislation, eligibility for regulatory exemptions, or the need for approvals. The person(s) undertaking the activity will need to determine which exclusion method is appropriate for the circumstance and may need to consult a person with relevant expertise or the relevant approval agencies (e.g., MNRF). All necessary approvals must be obtained prior to undertaking the activity.

1.1 How to Use This BMP

This document contains separate sections for Barn Swallow and Chimney Swift. Each section includes a description of the species, their nests, the types of structures used for nesting, and a variety of exclusion methods that could be employed. Note that the exclusion methods described may not be appropriate for every circumstance, and in some cases a combination of methods may be the best approach. The details provided in this BMP are intended to assist in determining which exclusion method, or methods, would be the most effective for the circumstance. Note that all exclusions must be monitored to ensure that members of the species do not enter the work area. If, despite the measures employed, a member of the species enters the building or structure to establish nests (or to rest or roost in the case of Chimney Swift), any part of the activity that would harm or harass a member of the species must be suspended and the local MNRF district should be consulted.

1.2 The Endangered Species Act, 2007 (ESA)

The Endangered Species Act, 2007 (ESA) provides the legislative framework for the protection of species at risk in Ontario. Section 9 of the ESA includes prohibitions against activities such as killing, harming, harassing, capturing or taking a living member of a species that is listed as extirpated, endangered or threatened on the Species at Risk in Ontario (SARO) List. Section 10 of the ESA includes prohibitions against damage or destruction of the habitat of an endangered or threatened species.

The ESA contains provisions that enable the Minister to issue permits and enter into agreements to authorize activities that would otherwise be prohibited and Ontario Regulation 242/08 sets out conditional exemptions from prohibitions under the Act for certain activities. Ontario Regulation 242/08 sets out conditions for the maintenance, repair, modification, replacement or demolition of a building or structure that is habitat for Barn Swallow (section 23.5) or a chimney that is habitat for Chimney Swift (section 23.8). Among other conditions, the regulation requires the creation of replacement habitat, minimization of adverse effects and that steps are taken to exclude the birds from entering the building, structure or chimney during the species' active season. General information about ESA prohibitions related to the alteration of a structure that is habitat for Barn Swallow or Chimney Swift can be found using the links provided below.

Alter a structure that is habitat for Barn Swallow
(https://www.ontario.ca/page/alter-structure-habitat-barn-swallow)

Alter a chimney that is habitat for Chimney Swift
(http://www.ontario.ca/page/alter-chimney-habitat-chimney-swift)

For additional information, visit the government website or read the full text of the legislation on e-Laws using the links provided below.

How species at risk are protected
(https://www.ontario.ca/page/how-species-risk-are-protected)

Endangered Species Act, 2007
(http://www.ontario.ca/laws/statute/07e06)

Ontario Regulation 242/08
(http://www.ontario.ca/laws/regulation/080242)

Photograph of a Chimney Swift perched on a post (MNRF)

2.0 General Information on Barn Swallow

The Barn Swallow is a medium-sized bird (15-18 cm long) with a steely blue back, wings and tail, a rusty red forehead and throat, and a buffy orange belly (Photo 1). Their distinctive long forked tail is a key feature that can be used to identify this species of swallow. Their wingspan is roughly 30 cm across and they weigh 17 to 20 grams. This agile flyer feeds while in flight, snatching insects close to the ground or water. Barn Swallows usually nest in close proximity to humans, and their chattering calls are often heard throughout their nesting season.

The Barn Swallow is a long-distance migrant that spends the winter in Central and South America, returning to Canada to nest and raise their young each spring. Nests are constructed soon after returning to Ontario and may remain active into late August, particularly if the pair raises a second brood of young.

Barn Swallows occur throughout Ontario where suitable nesting sites can be found. As their name suggests, Barn Swallows nest almost exclusively on human-made structures, of which barns are commonly used. A study in British Columbia found that 57 percent of nests were between 2.4 and 3.5 m above the ground with the range falling between 0.3 to 30 m (Campbell et al. 1997). Their cup-shaped nests are built with mud pellets and then lined with grass or feathers (Photo 2). Nests are typically placed individually, unlike the groupings of ball-shaped nests of the Cliff Swallow (*Petrochelidon pyrrhonota*). Nest construction takes an average of one to two weeks, but nest sites and old nests are often re-used. The male and female may make over 1,000 trips to collect mud.

Historically, Barn Swallows nested on cliffs or in caves, but with the availability of new structures they have been able to attach their nests to a vertical or horizontal surface with a prominent overhang. Within a building or structure, Barn Swallow pairs may nest alone (i.e., a single nest) or in loose colonies where appropriate conditions are found. While they are tolerant of neighboring nests within a structure, they are often spaced 2-4 m apart or closer if separated from other Barn Swallows by a visual barrier. Barn Swallows are highly tolerant of human activity and will often return to nest in the same location year after year.

Photo 1: Adult Barn Swallows
(D. McCullough, flickr.com/creative commons)

Photo 2: Barn Swallow nest under overhang
(J.N. Stuart, flickr.com/creative commons)

2.1 Types of Nest Structures Used by Barn Swallows

Barn Swallow nests are almost exclusively found on human-made structures such as barns, bridges, culverts, sheds and other structures that have an overhang and ledge (Brown and Brown 1999). Nests can be found either outside or inside the structure; typically attached to a vertical wall or raised ledge under an overhang (Photo 3). Overhead protection provides shelter and is an important feature. Barn Swallows are very resourceful birds, so nests may show up in unusual or unexpected locations. Some of the more unusual nest site locations that have been observed include moving oil pumps, and moving trains and cars (Brown and Brown 1999). This BMP focuses on the most commonly used nesting structures, which are divided into four categories (buildings, bridges, culverts and open structures) as described below.

2.1.1 Buildings

Nests can be found in or on a wide variety of buildings. Examples of buildings that are commonly used by nesting Barn Swallows include barns, garages, sheds, boathouses, salt and sand domes, houses, cottages and commercial buildings. In some areas, boathouses offer preferred nesting habitat.

Interior nests are typically attached to rafters, beams or ledges (Photo 4), but may also be attached to a protruding object such as a light fixture (Photo 5) (Campbell et al. 1997). Nests attached to vertical walls require a rough surface for attaching nesting materials, or may be supported by a crack in the wall, a protruding bolt or even a wasp or other bird's nest. Barn Swallows are willing to enter buildings through very small openings to reach nest sites. These nesting preferences should be considered when designing and implementing Barn Swallow exclusion measures so that there are no gaps that allow access to the structure's interior and that the exclusion materials used do not inadvertently create new nesting habitat in an unsuitable location.

Exterior nests are typically attached in sheltered areas such as under eaves, porches or balconies, or above doorways and windows. Barn Swallows are generally not able to attach their nests to smooth surfaces such as vinyl and aluminum siding, unless there is a ledge, vent or windowsill to provide support. Brick walls and wooden barn walls, however, provide rough surfaces to which nests can be attached.

Photo 3: A Barn Swallow nest on a ledge under the eaves of a building (L. Kruschenske)

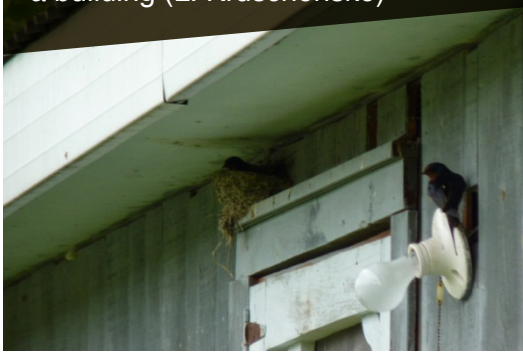


Photo 4: Barn Swallow nests on framing materials inside building (L. Sarris)

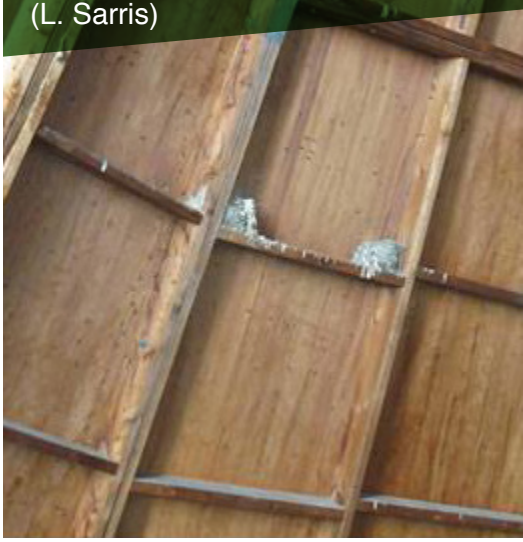
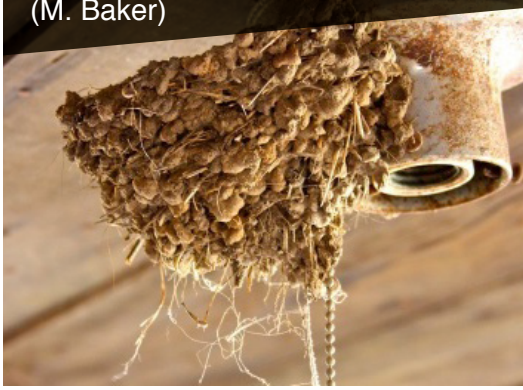


Photo 5: Barn Swallow nest on ceiling-mounted light fixture (M. Baker)



2.1.2 Bridges and Bridge-like Structures

After barns, bridges are the second most commonly reported nesting structure for Barn Swallows in Ontario (Chin et al. 2013). Docks, piers and wharves are also included in this category. Piers may provide ideal habitat for Barn Swallows, particularly at locations along the Great Lakes. Barn Swallows in Ontario seem to prefer to nest on bridges that are over water, but they may also nest on structures over land, such as highway overpasses or pedestrian bridges. When nesting on the underside of bridges or bridge-like structures, nests are typically found on flat ledges or protruding objects (e.g., bolts, beams, girders, pipes, wires).

2.1.3 Culverts

A culvert is a tunnel that carries a stream or an open drain under a road or railroad. In the context of Barn Swallow nest structures, this category also includes underground wildlife crossings or other tunnel-like structures. Highway culverts come in many different shapes including rectangular, square, round and elliptical, and the materials may be concrete, corrugated steel or plastic. Barn Swallows are most likely to be found in concrete culverts greater than 1 m wide (Stantec Consulting Ltd., unpublished data) but are occasionally found in corrugated metal culverts, where they place their nests on large bolts on culvert walls (Erskine 1992). In concrete box culverts, nests are found on vertical walls, very close to the top of the culvert or on protruding objects (Photos 6 - 9).

2.1.4 Open Structures

Barn Swallows may nest in open structures such as picnic shelters, gazebos, carports, canopies, towers, kiosks or any structure that provides protection from the weather.

Photo 6: Entrance to concrete box culvert (Stantec Consulting Ltd.)

Photo 7: Large concrete box culvert (Stantec Consulting Ltd.)

Photo 8: Barn Swallow nests on metal girders on underside of bridge over watercourse (Stantec Consulting Ltd.)

Photo 9: Barn Swallow nest on seam between concrete blocks in concrete culvert (Stantec Consulting Ltd.)

2.2 Exclusion Methods for Barn Swallow

The implementation of Barn Swallow exclusion methods and installation of materials are to be undertaken outside of the species' active season, in accordance with an ESA authorization or the conditions outlined in section 23.5 of O. Reg. 242/08. The Barn Swallow active season is defined in the regulation as "the period of each year when barn swallow carry out life processes relating to breeding, nesting and rearing, and that begins around the beginning of May and ends around the end of August, the exact dates varying according to the area of the Province in which the barn swallow are located and the climate conditions of each year".

Barn Swallows will return to nest in the same locations year after year, and can be very persistent in their attempts to gain access to nesting sites. If Barn Swallows are excluded from a nesting site they have used before, they may move to a different location on the same structure. Barriers should prevent access to all suitable nesting sites on the structure (or within the area of the activity), regardless of historical evidence of nesting. The method of exclusion should be carefully designed, installed and monitored to ensure that Barn Swallows do not gain access. If Barn Swallows enter a building or structure to establish nests in a work area where any part of the activity may result in harm or harassment to the species, work must be stopped immediately and the local MNRF district office should be consulted.

When choosing a method to exclude Barn Swallows, a number of factors should be considered, including:

- The type of structure;
- The extent of exclusion required (the entire structure or specific parts of the structure);
- Attributes of the structure that may complicate installation of exclusion materials (e.g., height of the structure, structures over water);
- Human activities at the site (e.g., vehicular traffic, access requirements);
- Prevailing weather conditions (e.g., strong winds);
- Duration of the exclusion (e.g., how many months it will be in place);
- Cost;
- If there are other species at risk or wildlife at the site; and
- If any other legislation is applicable to the activity.

In the sections below, exclusion measures are described in detail, including installation methods, materials and suppliers. Depending on the structure, use of several exclusion methods may be required.

2.2.1 Solid Barriers

Using Solid Barriers on Buildings

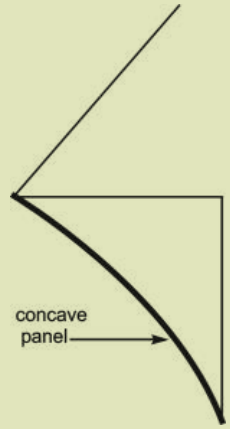
Solid barriers may be used to exclude Barn Swallows from gaining access to the interior or exterior surfaces of buildings. The two main types of solid barriers are plywood sheets and corner slope panels. Corner slope panels obstruct access to the 90 degree angle at ledges or overhangs. Solid barriers are more durable and require less monitoring than flexible barriers, but costs are likely to be higher. Solid barriers may be more suited for longer term exclusion and where visual appeal is important.

To block access to the interior of a barn or other building, keep all doors and windows closed and cover any holes or openings that are greater than 2.5 cm (1 inch). Inspect for loose boards, cracks in concrete, broken windows or gaps around window frames, and complete all necessary repairs. If frequent access to the building is required for people or equipment and keeping doors closed would be impractical, curtains may be used on the doors.

To block access to the preferred nesting sites on a building's exterior surfaces, such as under an overhang, porch or eaves, cover the area with a barrier that prevents access to the 90 degree angle at which birds would construct their nests (Figure 1). This will result in a concave or sloped surface (at a 45 degree angle to the building wall) that does not offer the preferred nest site conditions.

Corner slope exclusion products are available commercially in formats that are ready to install (e.g., BirdSlide® and Bird Slope™)(Photo 10). Corner slope panels can be attached with glue (e.g., Bird Barrier Bond™ or Bird Barrier Super Bond™), screws, or clips. The products come in a variety of colours and sizes and can be painted to match the exterior of the building. Detailed installation instructions are available from the supplier. Fibreglass panels (available at hardware stores) could also be used to construct a corner slope panel. Corner slope panels are fairly easy to install, offer permanent, durable exclusion and are aesthetically appealing. In situations where only temporary exclusion is needed or where cost is a concern, flexible barriers (see section. 2.2.2) may be considered instead.

Figure 1 – Corner slope panels can be used to prevent Barn Swallows from nesting under eaves or other areas where the building provides a 90 degree angle (J. Bourne 1987)



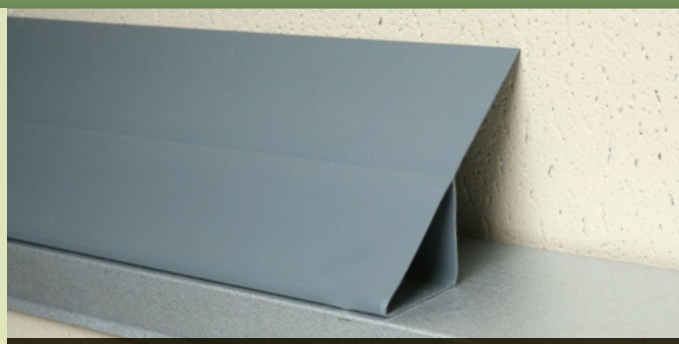


Photo 10: BirdSlide® Note that product would be inverted for prevention of nesting by Barn Swallows (www.birdbarrier.com)

Photo 11: Underside of a bridge showing girders prior to installation of plywood (L. Sarris)

Using Solid Barriers on Bridges

Plywood can be installed between the girders, with the plywood resting on the lip of the girder to eliminate access to the area where Barn Swallows typically nest (Photos 11-13). If the span between the girders is less than 1.2 m wide, 15 mm plywood can be used. For wider spans, thicker plywood should be used (e.g., 20-25 mm). Tack strips should be used to secure the plywood and prevent shifting.

If plywood will be used, consider the dimensions of the bridge because this will influence the cost of materials and ease of installation. Plywood is best suited for relatively small bridges because costs can be quite high to install plywood exclusion on large bridges.

Corner slope panels (Photo 14) may also be needed to block access to ledges, pipes and corners as described in the section above in the context of exclusion from buildings. If corner slope panels are applied to open structures, care must be taken to completely block access to all potential nesting sites.

Photo 12: Underside of a bridge showing girders after installation of plywood (L. Sarris)

Photo 13: Plywood barriers applied to the sides of a large bridge over a canal (L. Sarris)

Photo 14: Small section of BirdSlide® installed inside a girder to prevent nesting under a bridge (www.birdbarrier.com)

Using Solid Barriers on Culverts

In most cases the culvert must be kept open to allow the flow of water, so if solid barriers are used, they are only applied to specific areas of the culvert (e.g., corner slope barriers). A study in Colorado tested the use of corner slope methods in concrete box culverts (Photo 15) using the following installation methods (Tate 2010):

Commercially available BirdSlide® was installed following the manufacturer's guide, which required half inch holes to be predrilled every 12 inches along each four foot length of the product. These holes were filled with adhesive, which was also applied in a zig-zag bead down the length. The BirdSlide® was glued to the vertical wall of the culvert with the same adhesive (which allowed subsequent removal).

A second corner slope method was also tested. This method used a flexible two foot wide piece of plastic to cover the right angle with a concave arc. Each two foot by eight foot plastic panel was held in place with strips of metal track that were attached to one inch by two inch by eight foot boards with roofing nails. Construction adhesive was used to affix the boards to the culvert ceiling and wall. This method allowed subsequent removal of the metal track. The metal track was constructed of lengths of metal corner edging. These strips of track were placed on the culvert ceiling and wall less than 17 inches from the right angle at the top of the culvert so that the plastic was flexed sufficiently to be held in place.

For both corner slope methods, the holes at the ends were sealed with plastic so birds could not fly behind the BirdSlide® or plastic panels.

Photo 15: Corner slope barrier installed in a concrete box culvert to exclude swallows (D.J. Tate)

2.2.2 Flexible Barriers

Flexible barriers are often used where solid barriers are not practical or as a secondary exclusion method. They can be installed using a variety of materials including wire mesh, tarps, geotextile fabric, and barrier curtains. Materials vary in durability, cost and effectiveness. The best material to use for excluding Barn Swallows is half inch by half inch 19-gauge galvanized wire mesh (referred to as “hardware cloth” or “bird screen”) because it is reliable and durable. It is readily available at hardware stores or from wire mesh suppliers. Bird screen is relatively cost effective compared to other wire mesh products. Mesh with larger openings may allow Barn Swallows to pass through, which would render the barrier ineffective, and could present the risk of entrapment. Mesh with smaller openings may provide a rough surface for attachment of Barn Swallow nests, and could present the risk of foot entrapment.

Nylon netting or mist netting should never be used for exclusion because birds can become entangled and be injured or die while trapped (Photo 16). Netting that was used to exclude swallows from nesting on bridges in California resulted in more than 100 deaths when the birds became trapped in the netting. The state has stopped using netting on bridges and is instead using materials with slick surfaces.

Other materials such as plastic tarps, plastic mesh and geotextile fabrics require more maintenance because wind and inclement weather can cause the fabric to shift or tear, which will create gaps that Barn Swallows will use to gain access.

Photo 16: Dead swallows entangled in netting on underside of bridge-like structure (Native Songbird Care & Conservation)

Using Flexible Barriers on Buildings

When installing flexible barriers on the exterior of buildings, the following methods should be considered:

Cover the area with a flexible barrier at a 45 degree angle and ensure that the material extends 12 inches (30.5 cm) below the corner (Figure 2). Use bird screen or material that is specifically designed for this purpose (e.g., StealthNet®) (Photo 17). Attach the flexible barrier using staples, brass cup-hooks, adhesive backed hook-and-loop Velcro, cable ties, or other fasteners. Use rust-resistant fasteners to avoid rust stains on buildings. Flexible barriers may also be installed by stapling it to or wrapping it around wood laths, which are then attached to the structure. If using StealthNet®, it must be framed with the cable system as described on Bird Barrier's website (www.birdbarrier.com).

Another technique is to hang a curtain of bird screen from the eaves. The curtain should be secured three to four inches from the wall and extend down from the eaves 18 inches or more.

If flexible barriers need to accommodate passage of people or equipment, ensure that they are designed to withstand frequent motion without becoming detached.

Figure 2: Diagram showing two different applications of flexible barriers to block access to the area under the eaves (secured along top and bottom edges to create a 45 degree angle or hung vertically like a curtain) (Washington Department of Fish and Wildlife 2005)

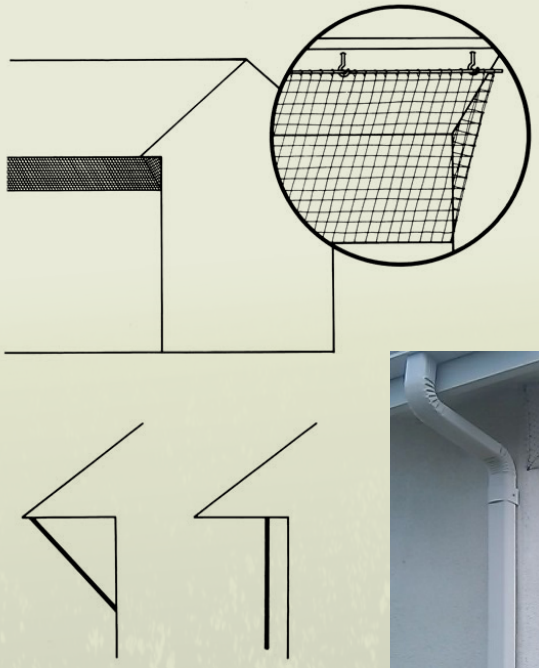


Photo 17: StealthNet® installed under the eaves of a residential building (www.birdbarrier.com)

Using Flexible Barriers on Culverts

The most effective method for excluding Barn Swallows from a culvert is a framed wire screen with a fabric apron, which is inexpensive and easy to install (Photo 18). Regular maintenance will be required to remove any debris that may become trapped on the wire screen and restrict water flow.

The following specifications should be followed (Sarris 2015, pers. comm.):

The framed wire screen should be constructed using wire mesh (half inch by half inch by 19 gauge) and pressure treated spruce (two inch by four inch lumber). If the wire mesh sheet sizes available are too small, multiple sheets can be woven together (i.e., for larger culverts). Abutting sheets of wire mesh should overlap by at least 100 mm and be tied together at 600 mm centers with galvanized wire. The tying wires must be twisted at least two times. The wire mesh should be stretched tightly across what will be the upper portion of the frame (when positioned in the culvert), with some slack toward the bottom to provide flexibility in storm events.

When securing the framed wire screen to the outside of a culvert, use fasteners spaced 600 mm apart with at least 80 mm from the edge of the concrete to prevent it from breaking off. The bottom of the screen should be 50 mm above the water surface or at the elevation at the top of the footing (whichever is higher).

The gap between the wire screen and the water surface should be blocked with a fabric apron (e.g., silt fence geotextile material) that is secured to the bottom of the wire screen. The fabric apron should overlap the bottom of the wire screen by 100 mm and should be woven through the mesh. The fabric should be cut into vertical strips that are 100 mm wide and extend below the water line.

Another option that can be used for culverts is a flexible curtain barrier installed inside the culvert. This is done by attaching a curtain along the ceiling of the culvert, hanging parallel to the culvert wall at a distance of five inches from the wall. At each of the culvert ends, the curtain should be secured to prevent birds from establishing nests between the curtain and the culvert wall.

A study of swallow exclusion from concrete box culverts in Colorado (Tate 2010) found that a curtain of dangling vertical strips was effective at excluding birds from nesting in culverts (Photo 19):

Flexible strip curtains were constructed using six mil plastic sheeting (cut into vertical strips that hung approximately two feet in length) and wood. The plastic sheeting was stapled to the one inch side of one inch by two inch by eight foot lumber. Along the full length of the culvert, the eight foot sections of curtain were glued to the top of the culvert within five inches of the wall. At each end of the culvert, the curtain was secured to the wall to prevent swallows from getting between the curtain and the wall.

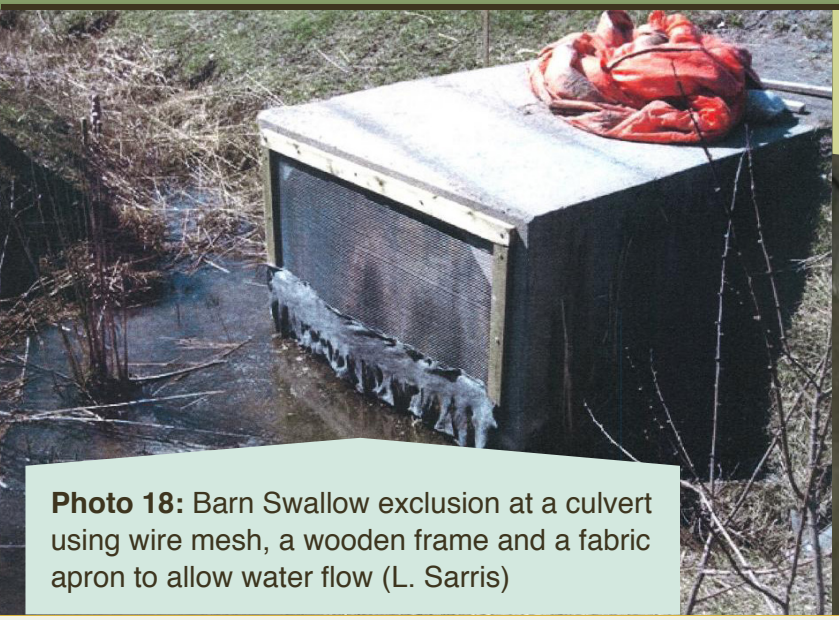


Photo 18: Barn Swallow exclusion at a culvert using wire mesh, a wooden frame and a fabric apron to allow water flow (L. Sarris)

Photo 19: Flexible strip curtains in a concrete box culvert in Colorado (Tate 2010)

Using Flexible Barriers on Bridges and Piers

Plastic tarps and geotextile fabric may be used to exclude Barn Swallows from bridges and piers, but are not 100 percent effective and are susceptible to weather related damage. Birds have been observed nesting in the seams and folds of the exclusion material (Sarris 2015, pers. comm.). Rigorous monitoring and maintenance are required for this exclusion method.

If geotextiles are used, the material should enclose the entire soffit of the bridge, including the fascia, abutments and piers of the bridge, and be secured with continuous edge strips consisting of 50 mm by 100 mm pressure treated spruce. The edge strips should form a neat edge and be securely fastened to the concrete using screws or nails at 600 mm spacing, set back at least 80 mm from any concrete edge to prevent the concrete from breaking off during installation.

The use of geotextile materials or plastic tarps is challenging because of the likelihood for damage by wind and rain. However, for large bridges with multiple nesting sites, these materials offer some advantages over wire nettings. For example, these materials are available in larger sheets, and geotextiles can even be custom sized. If multiple sheets are required the abutting strips should overlap by at least 100 mm and be tied together at 600 mm centres using UV protected, nylon zip ties.

If any ledges, drain pipes or other suitable nesting features remain exposed after tarping, they should be covered with wire mesh. During installation, care should be taken to ensure that the wooden framing used to secure the tarps or geotextiles does not inadvertently create ledges for nesting.

Using Flexible Barriers on Open Structures

Flexible barriers can also be used to exclude Barn Swallows from open structures (e.g., picnic shelters, carports) if access to the structure is not required for the duration of the activity. However, this may not offer a practical solution for long term use because the barriers would also restrict access by people.

Photograph of four young barn swallows with their mouths open, perched on a branch (Mark Peck)

2.2.3 Curtains

Using Curtains on Buildings

For commercial buildings such as warehouses, garages, hangars, salt/sand domes and other buildings that require frequent passage (e.g., equipment, vehicle and/or pedestrian traffic), keeping the doors closed at all times is impractical, and Barn Swallows are likely to enter the building if doors are left open. In these situations, industrial curtains or "strip doors" can be used to exclude Barn Swallows but allow for passage of people or equipment. In addition to use in doorways, they may be used to enclose an area containing machinery and equipment. Curtains may also be considered for use on bridges, but the cost could be prohibitive. Installation would be difficult and labour intensive for large or high bridges that are over water.

Curtains can be very effective in preventing birds from entering buildings if installed correctly with no gaps. If there is an opening one inch (2.5 cm) or greater, birds will be able to enter the building. Birds can be persistent and have been known to nest in parking garages by waiting for a car to trigger the automatic door.

Strip doors are commercially available (Photo 20) or they can be constructed by hanging vinyl strips (ranging from 6 inches to 16 inches wide) like a curtain across the entryway. The strips are typically installed on a track and should overlap by at least five cm (Gorenzel and Salmon 1994).

Strip doors or curtains can be used to exclude Barn Swallows from boathouses but the design should ensure that if the water level drops, access will not be enabled at the bottom of the door (Photos 21-23). Specially designed products for boathouses are referred to as marine roll-up doors.

Photo 20: Vinyl strip door installed in a doorway allows passage of people and equipment (Liftow Ltd., http://www.liftow.com)

Photo 21: Curtain door installed in boathouse doorway (Marina Screen, http://www.marinascreen.com)

Photo 22: Large industrial curtain door on a commercial building (http://www.qsd-inc.com)

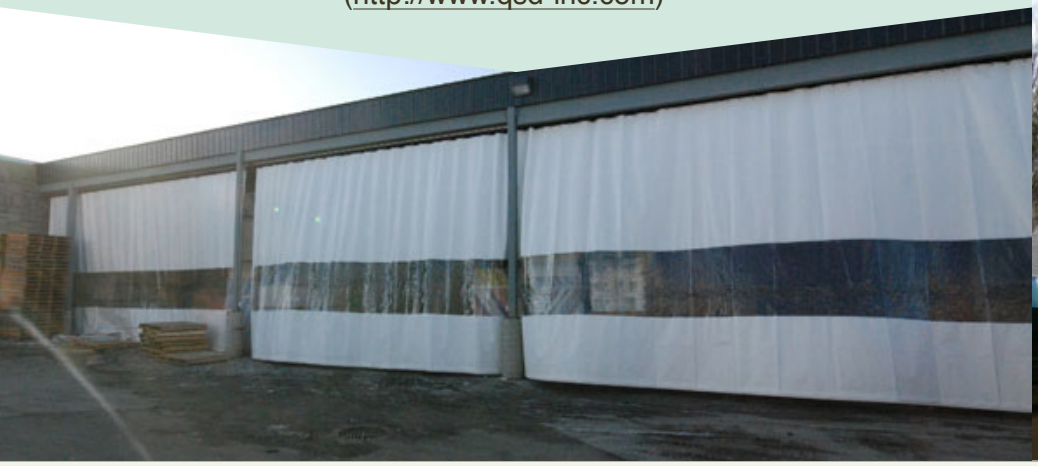


Photo 23: Curtain door on salt/sand dome storage building (http://gatewayindustrial.com/salt-dome/doors.html)

Photo 24: PTFE sheets applied to piles and junction points (Delwiche et al. 2010)

2.2.4 Slick Surfaces

Barn Swallows require a rough surface to which they can adhere their mud nests, so the application of a smooth coating or material may prevent them from building nests. Slick surfaces can be used to prevent the establishment of nests in or on buildings, bridges, culverts and open structures, while still allowing the birds to access the structure. This method is sometimes referred to as surface modification treatment.

Using Slick Surfaces on Buildings

Slick surfaces may be a solution for long term application on the exterior walls of a building, particularly for residential or commercial buildings where aesthetic appeal is important. It is important that no rough edges are left exposed that could be used as a nest site. A typical application of this method is under the eaves of a building. Polytetrafluoroethylene (PTFE) and polyethylene (PE) plastic sheeting has proven to be effective (Conklin et al. 2009; Delwiche et al. 2010), but sheet metal may also be used. An advantage to flexible plastic sheeting is that it can be wrapped around the circumference of vertical structures (e.g., posts, pillars). Silicone paint is not effective as swallows have been able to attach their nests to surfaces painted with this material (Delwiche et al. 2010).

Slick surfaces may also be used inside buildings, but if birds have already gained access to the interior, it will be challenging to apply slick surfaces to all potential nesting locations. This method is only practical in situations where there is only a small amount of suitable nesting habitat.

Using Slick Surfaces on Bridges

A study to test the effectiveness of exclusion methods for Cliff Swallows on bridges found that PTFE plastic sheeting was effective (Delwiche et al. 2010). Swallows attempted to attach mud, but the mud would not adhere to the surface. The specific methods used are described below:

PTFE sheeting (10 mil gauge) was attached to the underside of bridges where nests are commonly built, such as at the juncture of vertical supports and overhead surfaces. This included the upper portion of pier walls and piles and the horizontal area above the junction. The bridges were cleaned with a pressure washer prior to installation of the sheets. Butyl sealant strips (a product used in roof construction) were used to stick the sheets to the bridge surfaces.

The PTFE sheets covered the top 61 cm of each pile's circumference and extended along the underside of the bridge at least 18 cm from the top of the pile. The sheets were cut to a length of 1.83 m for ease of handling. Butyl adhesive strips were applied along the edges and at set distances along each sheet to ensure consistent adhesion. The paper backing of the butyl strips was removed and the sheets were pressed against the bridge surfaces. The sheets overlapped by three to six mm to provide continuous coverage.

Photograph of a male Barn Swallow (Mark Peck)

2.2.5 Deterrents

Most bird deterrents are not effective in excluding Barn Swallows. Bird spikes that deter birds from landing or nesting on ledges are usually sized for larger birds. Swallows are small and can land or nest between the spikes.

Some deterrents may work for a short time, but birds will adapt to scare devices rendering them ineffective. Bird deterrents that will not effectively exclude Barn Swallows from buildings and structures include pyrotechnics (bird bangers), audio playback of predator calls or alarm calls, predator decoys (e.g., plastic owls or snakes), flash tape, repel strips and scare eyes. Flashing light has proven somewhat effective at deterring Barn Swallows from nesting at commercial operations, but the success rate is not high enough to achieve complete exclusion. For these reasons, deterrents may be considered in combination with other methods, but should not be used as the primary exclusion method.

2.2.6 Monitoring

The effectiveness of any exclusion method depends on regular monitoring. Barriers should be checked regularly to make sure that they are still firmly attached, there are no tears or openings, and the barrier materials have not inadvertently created new nesting sites. For example, Barn Swallows may be able to nest on some types of wire mesh and the wooden framing used to hold flexible barriers in place. Barriers should be checked at least once per week prior to the active season; and checked every three days during the active season. Barriers should also be inspected promptly after high wind and rain.

3.0 General Information on Chimney Swift

Chimney Swifts are medium sized birds that are sooty brown with slightly paler throats (Photo 25). They have long cigar-shaped bodies and stiff fluttering wings. These birds spend most of the day flying and feeding on insects. Unlike most birds, Chimney Swifts are unable to perch; instead they must cling to rough vertical surfaces such as the insides of chimneys or in hollow trees.

Photo 25: Underside view of adult Chimney Swift in flight (B. Holden)

Photo 26: Chimney Swift nest with recent hatchings (Bird Studies Canada).

3.1 Types of Nest Structures Used by Chimney Swift

Nests are created with small twigs, held together with the Chimney Swift's sticky saliva. The outside of the nest appears rough with protruding edges of small branches, yet the inside is smooth. Nesting begins shortly after the birds return to Ontario from their wintering grounds (late April) and nests may be active through October (Photo 26).

Chimney Swifts nest throughout Ontario, primarily where suitable human-made structures exist. As their name implies, most nests are found in masonry chimneys but nests may also be found in other structures such as barns, sheds, or wells, and in large hollow trees (Peck and James 1983). Typically, only one nest will be present within a chimney, but non-breeding individuals can be found in large numbers in chimneys during spring and fall migration and in summer months in some Ontario cities. Large numbers of birds will enter chimneys at dusk and rest there for the night. This is called roosting and may also occur during periods of inclement weather when flying insects are not available.

Photograph of an adult Chimney Swift with a nest of juvenille Chimney Swifts (MNRF)

3.2 Exclusion Methods for Chimney Swift

Chimney Swift exclusion methods are to be installed outside of the active season, in accordance with an ESA authorization or the conditions outlined in section 23.8 of O. Reg. 242/08. The Chimney Swift active season is defined in the regulation as “the period of each year when Chimney Swift carry out life processes relating to breeding, nesting and rearing, and that begins around the end of April and ends around the middle of October, the exact dates varying according to the area of the Province in which the chimney swift are located and the climate conditions of each year”.

The method of exclusion should be carefully designed, installed and monitored to ensure that Chimney Swifts do not gain access. If Chimney Swifts enter a chimney or structure to establish nests in a work area where any part of the activity may result in harm or harassment to the species, work must be stopped immediately and the local MNRF district office should be consulted.

When choosing a method to exclude Chimney Swift, a number of factors should be considered, including:

- The type of structure;
- The extent of exclusion required (the entire structure or specific parts of the structure);
- Attributes of the structure that may complicate installation of exclusion materials (e.g., height and size of the structure);
- Human activities at the site (e.g., access requirements);
- Prevailing weather conditions (e.g., strong winds);
- Duration of the exclusion (i.e., how many months it will be in place);
- Cost;
- Whether there are other species at risk or wildlife at the site; and
- Whether any other legislation is applicable to the activity.

In the sections below, exclusion measures are described in detail, including installation methods, materials and suppliers. Depending on the structure, a combination of multiple exclusion methods may be required.

3.2.1 Solid Barriers

Chimney caps can be purchased at most hardware stores and come in a variety of shapes and sizes. The type of cap required will depend on the chimney size and whether it has a single flue or multiple flues (Photos 27 and 28). Chimney caps are mounted to the chimney with brackets and can be removed when the exclusion of Chimney Swifts is no longer necessary.

If the chimney is an unusual size and a cap is not readily available, then a wire cover can be constructed to exclude Chimney Swifts. Bird screen or hardware cloth can be used to block access to the chimney, but it must be securely fastened because the birds have been known to slip through small openings where the wire has become loose. The gauge of wire mesh should be selected to prevent entrapment of birds.

Photo 27: Single flue chimney cap (Woodland Direct Inc.)

Photo 28: Multiple-flue chimney cap (Woodland Direct Inc.)

Photo 29: A sagging tarp on the roof of a church (N. Finney)

3.2.2 Methods Not Recommended for Chimney Swift

Slick surfaces should never be used to exclude Chimney Swifts, as they may cause birds to fall and injure themselves. If the chimney already contains a metal liner or other slick surface, access must be blocked to prevent injury or death of a Chimney Swift that may enter the chimney.

Bird deterrents should not be used to exclude Chimney Swifts because they are ineffective. Examples include pyrotechnics (bird bangers), audio playback of predator calls, audio playback of alarm calls, electric deterrents (e.g., shock strips) and predator decoys (e.g., plastic owls).

Using flexible barriers such as tarps to exclude Chimney Swifts is not recommended because it is difficult to securely fasten a tarp to a chimney. Wind will likely cause a tarp to loosen or rain will pool on the tarp causing it to sag (Photo 29), and gaps will allow the swifts to enter the chimney. Squirrels or other birds may also create (or enlarge) openings which could then be used by Chimney Swifts.

3.2.3 Monitoring

A chimney cap or wire cover should be periodically inspected (i.e., weekly) to make sure that it has not become loose and that there are no other openings that could be used by Chimney Swift to gain access to the structure.

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APPENDIX ‘D’

Stage 1 – 2 Archaeological Assessment

Prepared by Timmins Martelle Heritage Consultants

Stage 1 & 2 Archaeological Assessment
Southwest Middlesex Certified Site
Part of Lots 23 and 24, Second Range North
Geographic Township of Ekfrid
Municipality of Southwest Middlesex
Middlesex County, Ontario

Submitted to

Municipality of Southwest Middlesex
153 McKellar Street, P.O. Box 218, Glencoe, ON N0L 1M0

and

The Ontario Ministry of Tourism, Culture and Sport

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Our File: 2015-028
P324-0093-2015

February 2016

(Original report submitted to the Ministry of Tourism, Culture and Sport
29 February 2016)

Executive Summary

A Stage 1 and 2 archaeological assessment was conducted for a roughly 20 hectare rural agricultural parcel, falling within Lots 23 and 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County (now the Municipality of Southwest Middlesex), Ontario. The archaeological assessment was undertaken as part of the Certified Site Program and to satisfy, in advance, any *Planning Act* or other requirements that may be imposed by future development. The work was done in keeping with the provisions of the *Provincial Policy Statement* (PPS) and the *Planning Act*. The purpose of the archaeological assessment work was to determine the archaeological potential of the property and carry out a field survey to establish whether archaeological resources were present.

The Stage 1 background study included a review of current land use, historic and modern maps, past settlement history for the area and archaeological investigations, as well as a consideration of topographic and physiographic features, soils and drainage. Potential for the discovery of First Peoples sites is indicated by the proximity of the property to a water source, while the potential for the discovery of historic era sites is demonstrated by the proximity of a historic transportation route (Dundonald Road). While the 19th century map does not show buildings standing within the subject property at that time, the level of detail is poor and historical records would otherwise indicate that John Thomson lived and farmed within the land parcel from at least 1878 until the turn of the 19th century.

The subject property consists of an active agricultural field with a barn in the southern portion of the property and a gravel roadway and utility station in the northern corner. The Stage 2 investigation employed both a pedestrian and test pit survey. The agricultural fields were comprised of well-weathered, ploughed lands and were surveyed at a five metre interval (18.59 ha; 90.7%). The unploughed portions of the subject property were test pitted at a five metre interval (0.11 ha; 0.5%), or 10 metre intervals (0.12 ha; 0.6%) in areas of disturbed soils, to confirm disturbance. Roughly 3.1% of the subject property was considered low and wet, and 5.1% of the subject property was considered previously disturbed. Both of the aforementioned areas were photo-documented.

Archaeological material was reported in four locations. Our recommendations with respect to each of these locations are presented below.

1) *Location 1 (AeHk-43)* is a multicomponent site with a late-19th century component and an undiagnostic native component.
    a. The 19th century component meets provincial standards for Stage 3 testing and further investigation is recommended. The site is potentially associated with the late-19th/early-20th century occupation by John Thomson and his family. Given that more than 20 artifacts of a pre-1900

date were collected, the site qualifies for additional investigation based on provincial standards. As it is as yet uncertain as to whether the site will qualify for Stage 4 mitigation of construction impacts, the proposed Stage 3 strategy should consist of two preliminary activities: a) additional background research and land registry review; and b) controlled surface collection of artifacts. Based on *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario*, it may be then possible to present a solid case to cease Stage 3 testing if it can be confirmed that the site relates to the late-19th/early-20th century Thomson occupation. In the latter case, the site's CHVI would be considered adequately documented. If the site cannot be confirmed to be a late-19th century occupation, the standard Stage 3 unit testing will be required (Section. 3.4.2, Standard 1.a).

b. The native component of Location 1 is one undiagnostic lithic artifact. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented. If diagnostics or higher quantities of native artifacts are recovered during the Stage 3 assessment of the 19th century component, the native component should be re-evaluated and potentially subject to an additional Stage 3 archaeological assessment.

2) *Location 2 (AeHk-44)* is a multicomponent site with a late-19th century component and an undiagnostic native component.

a. The 19th century component of the site meets provincial standards for Stage 3 testing and further investigation is recommended. The site is potentially associated with the late-19th/early-20th century occupation by John Thomson and his family. Given that more than 20 artifacts of a pre-1900 date were collected, the site qualifies for additional investigation based on provincial standards. As it is as yet uncertain as to whether the site will qualify for Stage 4 mitigation of construction impacts, the proposed Stage 3 strategy should consist of two preliminary activities: a) additional background research and land registry review; and b) controlled surface collection of artifacts. Based on *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario*, it may be then possible to present a solid case to cease Stage 3 testing if it can be confirmed that the site relates to the late-19th/early-20th century Thomson occupation. In the latter case, the site's CHVI would be considered adequately documented. If the site cannot be confirmed to be a late-19th century occupation, the standard Stage 3 unit testing will be required (Section. 3.4.2 Standard 1.a).

b. The native component of Location 2 is one undiagnostic lithic artifact. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented. If diagnostics or higher quantities of native artifacts are

recovered during the Stage 3 assessment of the 19th century component, the native component should be re-evaluated and potentially subject to an additional Stage 3 archaeological assessment.

3) *Location 3* is a highly diffuse scatter of late-19th century artifacts. Due to the dispersed nature of the site, which likely represents a small refuse area that was distributed by ploughing, no further work is recommended as the site is considered sufficiently documented.

4) *Location 4 (AeHk-45)* is a scatter of late-19th century artifacts. As such, the site meets provincial standards for Stage 3 testing and further investigation is recommended. The site is potentially associated with the late-19th/early-20th century occupation by John Thomson and his family. Given that more than 20 artifacts of a pre-1900 date were collected, the site qualifies for additional investigation based on provincial standards. As it is as yet uncertain as to whether the site will qualify for Stage 4 mitigation of construction impacts, the proposed Stage 3 strategy should consist of two preliminary activities: a) additional background research and land registry review; and b) controlled surface collection of artifacts. Based on *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario*, it may be then possible to present a solid case to cease Stage 3 testing if it can be confirmed that the site relates to the late-19th/early-20th century Thomson occupation. In the latter case, the site's CHVI would be considered adequately documented. If the site cannot be confirmed to be a late-19th century occupation, the standard Stage 3 unit testing will be required (Section. 3.4.2 Standard 1.a).

The areas within the subject property that were not found to contain archaeological resources are considered free of archaeological concern and no further work is recommended.

Our recommendations are subject to the conditions laid out in Section 5.0 of this report and Ministry of Tourism, Culture and Sport review of this report and its acceptance into the provincial registry.

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TMHC would like to thank the following staff members who contributed to this project:

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Robert von Bitter	*Archaeological Database Coordinator* Ministry of Tourism, Culture and Sport, Toronto, ON

Stage 1 & 2 Archaeological Assessment
Southwest Middlesex Certified Site
Part of Lots 23 and 24, Second Range North
Geographic Township of Ekfrid
Middlesex County, Ontario

1.0 PROJECT CONTEXT

1.1 Development Context

1.1.1 Introduction

A Stage 1 and 2 archaeological assessment was conducted for a roughly 20 hectare rural agricultural parcel, falling within part of Lots 23 and 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County (now the Municipality of Southwest Middlesex), Ontario. The archaeological assessment was undertaken as part of the Certified Site Program and to satisfy, in advance, any *Planning Act* or other requirements that may be imposed by future development. The archaeological assessment work was carried out in accordance with the *Ontario Heritage Act* (RSO 1990) and the provisions of the *Planning Act* and *Provincial Policy Statement* (2014). The purpose of the archaeological assessment work was to determine the archaeological potential of the property and carry out a field survey to establish whether archaeological resources were present.

All archaeological consulting activities were performed under the Professional Archaeological License of Matthew Beaudoin, Ph.D. (P324) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Permission to enter the property and carry out all required archaeological work, including collecting artifacts when present, was given by Janneke Newitt of the Municipality of Southwest Middlesex.

1.1.2 Purpose and Legislative Context

The *Ontario Heritage Act* makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the *Provincial Policy Statement* (PPS) which states:

> *development* and *site alteration* shall not be permitted on lands containing *archaeological resources* or *areas of archaeological potential* unless *significant archaeological resources* have been *conserved* …..

In the PPS the term *conserved* means:

> the identification, protection, management and use of *built heritage resources*, *cultural heritage landscapes* and *archaeological resources* in a manner that ensures their cultural heritage value or interest is retained under the *Ontario Heritage Act*. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment and/or heritage impact assessment.

Section 3.5 of the *Planning Act* stipulates that municipalities shall have regard for the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest. A Stage 1 archaeological assessment is undertaken to satisfy a concern for archaeological resources. The purpose of a Stage 1 background study is to determine if there is potential for cultural resources to be found on a property for which a change in land use is pending. It is used to determine the need for a Stage 2 field assessment involving the search for archaeological sites. In accordance with *Provincial Policy Statement* 2.6, if significant sites are found during a Stage 2 field survey, these must be evaluated by Stage 3 testing to better document their size, natural, cultural and temporal affiliation and integrity. Following Stage 3 testing, sites are evaluated against provincially established criteria to determine if Stage 4 mitigation of construction impacts is warranted. Mitigation strategies include avoidance and long-term protection or documentation through complete excavation.

The subject property is currently enrolled in the Ontario Ministry of Economic Development, Employment & Infrastructure Certified Site Program. This program prepares a property for development, which means that a formal development plan and application for the lands may be prepared in the future. As part of the program requirements for a Certified Site designation, an archaeological assessment was triggered, in anticipation of a formal requirement of future development approval.

2.0 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

2.1 Research Methods and Sources

A Stage 1 overview and background study was conducted to gather information about known and potential cultural heritage resources within the subject lands. According to the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC), a Stage 1 background study must include a review of:

- an up-to-date listing of sites from the Ministry of Tourism, Culture and Sport's archaeological sites database of 1 km around the property;
- reports of previous archaeological fieldwork within a radius of 50 metres around the property;
- topographic maps at 1:10,000 (recent and historical) or the most detailed scale available;
- historic settlement maps (e.g., historical atlas)

- archaeological management plans or other archaeological potential mapping (when available); and
- commemorative plaques or monuments on or near the property.

For this project, the following activities were carried out to satisfy or exceed the above requirements:

- a database search was filed with Robert von Bitter of the Ministry of Tourism, Culture and Sport requesting a listing of registered archaeological sites within 1 km of the subject lands (received December 7, 2015);
- a review of known prior archaeological reports for the property and adjacent lands (note the Ministry of Tourism, Culture and Sport currently does not keep a publicly accessible record of archaeological assessments carried out in the Province of Ontario, so a complete inventory of prior assessment work nearby is not available)
- Ontario Base Mapping (1:10,000) was reviewed through ArcGIS and mapping layers provided by geographynetwork.ca; detailed mapping providing by the client was also reviewed; and
- historic maps and records related to post-1800 land settlement were studied.

There are no applicable archaeological management plans for the area.

Additional sources of information were also consulted, including modern aerial photographs, local history accounts, soils and physiography data provided by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), and both 1:50,000 (Natural Resources Canada) and finer scale topographic mapping.

When compiled, this information was used to create a summary of the characteristics of the subject lands, in an effort to evaluate their archaeological potential. The Province (MTC 2011 – Section 1.3.1) has recently defined the criteria that identify archaeological potential as:

- previously identified archaeological sites
- water sources
    - primary water sources (lakes, rivers, streams, creeks)
    - secondary water courses (intermittent streams and creeks, springs, marshes, swamps)
    - features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in topography, shorelines of drained lakes or marshes, cobble beaches)
    - accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)
- elevated topography (e.g., eskers, drumlins, large knolls, plateaux)

- pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground
- distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases; there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings
- resource areas, including:
    - food or medicinal plants (e.g., migratory routes, spawning areas, prairie)
    - scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)
    - early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining)
- areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.
- early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)
- property listed on a municipal register or designated under the *Ontario Heritage Act* or that is a federal, provincial, or municipal historic landmark or site; and
- property that local histories or informants have identified with possible archaeological sites, historical events, activities or occupations.

In Southern Ontario (south of the Canadian Shield), any lands within 300 metres of any of the features listed above is considered to have potential for the discovery of archaeological resources.

Typically, a Stage 1 assessment will determine potential for precontact First Peoples' and historic era sites independently. This is due to the fact that lifeways varied considerably during these eras so that criteria used to evaluate potential for each type of site also varies.

It should be noted that some factors can also negate the potential for discovery of intact archaeological deposits. Subsection 1.3.2 of the 2011 *Standards and Guidelines for Consultant Archaeologists* indicates that archaeological potential can be removed in instances where land has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. Major disturbances indicating removal of archaeological potential include, but are not limited to:

- quarrying
- major landscaping involving grading below topsoil
- building footprints; and
- sewage and infrastructure development.

Some activities (agricultural cultivation, surface landscaping, installation of gravel trails, etc.) may result in minor alterations to the surface topsoil but do not necessarily affect or remove archaeological potential. It is not uncommon for archaeological sites, including structural foundations, subsurface features and burials, to be found intact beneath major surface features like roadways and parking lots. Archaeological potential is, therefore, not removed in cases where there is a chance of deeply buried deposits, as in a developed or urban context or floodplain where modern features or alluvial soils can effectively cap and preserve archaeological resources.

2.2 Project Context: Archaeological Context

2.2.1 Subject Property: Overview and Physical Setting

The subject property is a roughly 20 hectare rural agricultural parcel fronting the northeast side of Dundonald Road, located southeast of the community of Glencoe. The subject property encompasses part of Lots 23 and 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County, Ontario. The subject property is bounded to the northwest by Industrial Road, to the southwest by Dundonald Road, several residential/commercial properties and a fire hall, to the southeast by a treed line that separates two agricultural fields, and to the northeast by the Glencoe Outlet Drain (Maps 1 to 2). The property consists primarily of a cultivated agricultural field (Image 1), where the general topography of the property is flat to gently undulating. Areas of sandy soil within the field are generally elevated over more clay-like soils. The property also contains an existing barn associated with a farmhouse fronting Dundonald Road (Image 2). The northern corner of the parcel contains a portion of a gravel roadway, a grassed area, and a pumping station (Images 3 to 4). The gravel laneway is an extension of Industrial Road, which is extensively ditched and has buried subsurface utilities (e.g., water and sewer) on the southeastern side. The lands to the southwest of the subject property also contain a recently built fire station. A small channelized watercourse (the Glencoe Outlet Drain) runs along the northeast property boundary (Image 5). The lands to the north and east of the parcel are agricultural, to the south are largely residential, and the west consist of a large industrial complex. This general area is still primarily rural, but contains a number of commercial businesses and industrial complexes.

The subject property falls within the Ekfrid Clay Plain physiographic region, as defined by Chapman and Putnam (1966:238). This is a region of stratified clays and nearly level surface topography covering parts of Elgin and Middlesex counties. The flat plain is interrupted in places by the valleys of the Thames and Sydenham rivers and by small knolls and ridges of sand and gravel that are superimposed on the clay (Chapman and Putnam 1966:238). A former glacial Lake Warren beach is located to the southwest of the property, and is within one kilometre from the edge of the subject property (Map 3).

The soils within the subject property consist of Beverly Silty Clay Loam, which is found within the north corner and center of the property, as well as Berrien Fine Sandy

Loam, found within the eastern portion of the property and a portion of the southern half of the property (Map 4). Beverly soils are imperfectly drained and are part of the Brantford Association, which occur on level to gently sloping glaciolacustrine plains, or steeper slopes adjacent to stream courses (Hagerty and Kingston 1992:36). Berrien soils are part of the Bookton Association, which occur on shallow sandy knolls to nearly level to gently sloping glaciolacustrine clay plains (Hagerty and Kingston 1992:30). Berrien soils are also imperfectly drained.

The subject property falls within the Lower Thames River watershed. Evidence of a former watercourse that ran from the west corner of the property to the eastern edge, and joined what is now the Glencoe Outlet Drain is visible from modern aerial photography (Map 2) and can be seen on a 1954 aerial photograph of the property (Hunting Survey Corporation Ltd. 1954; Map 5). The Glencoe Outlet Drain currently runs along the northeastern boundary (Map 6).

2.2.2 Summary of Registered or Known Archaeological Sites

According to the Ministry of Tourism, Culture and Sport's provincial site database (received December 7, 2015) there are no registered archaeological sites within one kilometre of the subject property. This is due primarily to the fact that there have been few archaeological assessments carried out in the immediate vicinity.

2.2.3 Summary of Past Archaeological Investigations Within 50 Metres

During the course of this study no record was found of any archaeological investigations within 50 metres of the subject property. However, it should be noted that the Ministry of Tourism, Culture and Sport currently does not provide an inventory of archaeological assessments to assist in this determination.

2.2.4 Dates of Archaeological Fieldwork

The Stage 2 fieldwork was conducted on November 11, 2015 and December 16, 2015. The weather on November 11 was sunny and warm, and on December 16 was overcast and cool.

2.3 Project Context: Historical Context

2.3.1 First Peoples Settlement in Middlesex County

Our knowledge of First Peoples occupation of the general area is incomplete. Nevertheless, using province-wide and region-specific data, a generalized cultural chronology for First Peoples settlement in the area can be proposed (Table 1). A summary of the themes and temporal periods of native occupation is provided below.

Table 1: Cultural Chronology for First Peoples Settlement in Middlesex County

Period			Time Range (circa)	Diagnostic Features	Complexes
Paleoindian	Early		9000 - 8400 B.C.	fluted projectile points	Gainey, Barnes, Crowfield
	Late		8400 - 8000 B.C.	non-fluted and lanceolate points	Holcombe, Hi-Lo, Lanceolate
Archaic	Early		8000 - 6000 B.C.	serrated, notched, bifurcate base points	Nettling
	Middle		6000 - 2500 B.C.	stemmed, side & corner notched points	Brewerton, Otter Creek, Stanly/Neville
	Late		2000 - 1800 B.C.	narrow points	Lamoka
			1800 - 1500 B.C.	broad points	Genesee, Adder Orchard, Perkiomen
			1500 - 1100 B.C.	small points	Crawford Knoll
	Terminal		1100 - 950 B.C.	first true cemeteries	Hind
Woodland	Early		950 - 400 B.C.	expanding stemmed points, Vinette pottery	Meadowood
	Middle		400 B.C. - A.D. 500	dentate, pseudo-scallop pottery	Saugeen
	Transitional		A.D. 500 - 900	first corn, cord-wrapped stick pottery	Princess Point
	Late	Early Iroquoian	A.D. 900 - 1300	first villages, corn horticulture, longhouses	Glen Meyer
		Middle Iroquoian	A.D. 1300 - 1400	large villages and houses	Uren, Middleport
		Late Iroquoian	A.D. 1400 - 1650	tribal emergence, territoriality, first Europeans	Neutral Iroquois
Contact		Aboriginal	A.D. 1700 - 1875	treaties, mixture of Native & European items	Chippewa, Ojibway, Oneida, Delaware
		Euro-Canadian	A.D. 1796 - present	English goods, homesteads	European settlement, pioneer life

Paleoindian

The first human populations to inhabit the area came to the region between 12,000 and 10,000 years ago, coincident with the end of the last period of glaciation. Climate and environmental conditions were significantly different then they are today; local environs would not have been welcoming to anything but short-term settlement. Termed Paleoindians by archaeologists, Ontario first peoples would have crossed the landscape in small groups (i.e. bands or family units) searching for food, particularly migratory game species. In the area, caribou may have provided the staple of Paleoindian diet, supplemented by wild plants, small game, birds and fish.

Given the low density of populations on the landscape at this time and their mobile nature, Paleoindian sites are small and ephemeral. They are sometimes identified by the presence of fluted projectile points manufactured on a highly distinctive white-gray chert named "Fossil Hill" after the geological formation, or "Collingwood." Located near the escarpment on “Blue Mountain,” this source was exploited by populations from as far south as the London area, who would have traveled here as part of their seasonal round.

Archaic

The archaeological record of early native life in Southern Ontario indicates a change in lifeways beginning circa 8000 B.C. at the start of what archaeologists call the

Archaic Period. The Ontario populations are better known than their Paleoindian predecessors, with numerous sites found throughout the area. The characteristic projectile points of early Archaic populations appear similar in some respects to early varieties and are likely a continuation of early trends. Archaic populations continued to rely heavily on game, particularly caribou, but diversified their diet and exploitation patterns with changing environmental conditions. A seasonal pattern of warm season riverine or lakeshore settlements and interior cold weather occupations has been documented in the archaeological record. Since the large cold weather mammal species that formed the basis of the Paleoindian subsistence pattern became extinct or moved northward with the onset of warmer climate, Archaic populations had a more varied diet, exploiting a range of plant, bird, mammal and fish species. Reliance on specific food resources like fish, deer and nuts becomes more pronounced through time and the presence of more hospitable environs and resource abundance led to the expansion of band and family sizes. In the archaeological record, this is evident in the presence of larger sites and aggregation camps, where several families or bands would come together in times of resource abundance. The change to more preferable environmental circumstances led to a rise in population density. As a result, Archaic sites are more abundant than those from the earlier period. Artifacts typical of these occupations include a variety of stemmed and notched projectile points, chipped stone scrapers, ground stone tools (e.g. celts, adzes) and ornaments (e.g. bannerstones, gorgets), bifaces or tool blanks, animal bone and waste flakes, a by-product of the tool making process.

Woodland Period

Significant changes in cultural and environmental patterns are witnessed in the Woodland Period (circa 950 B.C to historic times). The coniferous forests of earlier times were replaced by stands of mixed and deciduous species. Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by 1,000 years ago. Archaeologically, the most significant changes by Woodland times are the appearance of artifacts manufactured from modeled clay and the construction of house structures. The Woodland Period is often defined by the occurrence of pottery, storage facilities and residential areas similar to those that define the incipient agricultural or Neolithic period in Europe. The earliest pottery was rather crudely made by the coiling method and house structures were simple enclosures.

Iroquoian Period

The primary Late Woodland occupants of the area were the Neutral Nation or Attawandaron, an Iroquoian speaking population described by European missionaries. Like other known Iroquoian groups including the Huron (Wendat) and Tionontate (Petun), the Neutral practiced a system of intensive horticulture based on three primary subsistence crops (corn, beans and squash). Neutral villages incorporated a number of longhouses, multi-family dwellings that contained several families related through the female line. The Jesuit Relations describe several Neutral centres in existence in the 17th

century, including a number of sites where missions were later established. While precontact Neutral sites may be identified by a predominance of well-made pottery decorated with various simple and geometric motifs, triangular stone projectile points, clay pipes and ground stone implements, sites post-dating European contact are recognized through the appearance of various items of European manufacture. The latter include materials acquired by trade (e.g., glass beads, copper/brass kettles, iron axes, knives and other metal implements) in addition to the personal items of European visitors and Jesuit priests (e.g., finger rings, stoneware, rosaries, glassware). The Neutral were dispersed and their population decimated by the arrival of epidemic European diseases and inter-tribal warfare.

2.3.2 Historic Euro-Canadian and Municipal Settlement

The subject property is situated within what is currently and legally described as part of Lots 23 and 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County. It falls immediately northeast of the Ekfrid Township – Mosa Township boundary and southeast of the crossroads community of Glencoe. A brief discussion of early Euro-Canadian settlement in these places is provided below, together with a consideration of features that would otherwise indicate historic era archaeological potential.

It was Lieut.-Governor John Graves Simcoe who first drew attention to the bounties of the wilderness that is now Middlesex County. On his journey to Detroit from Niagara, Simcoe came to admire the countryside, stopping at such places as Westminster Ponds and Munceytown. In fact, Simcoe was so taken by the Thames River and its environs that he aspired to establish the capital of Canada here. Although Simcoe's vision was never realized, the Thames River attracted settlement early in the 19th century.

Much of Middlesex County was surveyed by Colonel Mahlon Burwell, who laid out the southern part of the county, the town of London, the Caradoc Reserve and what was to become Talbot Road. The first permanent settlement in the County was in Delaware Township, in what is now the community of Delaware, along Longwoods Road, where Giddeon Tiffany and Ebenezer Allan constructed mills that helped to establish the town in the late 18th century. Shortly thereafter, the road now known as Longwoods Road was opened westward along an existing native trail. In its improved state, Longwoods Road was the thoroughfare that would provide much needed passage for troops, baggage and artillery during the War of 1812 (H.R. Page 1878:6). It was the escape route for General Proctor and his army as they retreated from the Battle of the Thames.

The Township of Ekfrid was surveyed in 1820 by Col. Burwell. Early on, much of the settlement occurred along Longwoods Road. Some of the earliest Euro-Canadian families to the township were the Millers, McTaggarts, McLauchlins, Elliotts, and Campbells. In 1842 the population of the township was 1,174 persons; by 1877 this

number had grown to about 3,200 (H. R. Page & Co. 1878:10). Two of the most significant centres in the township were Appin (a station on the railway) and Melbourne. In 1888 Appin had a population of 200 which included a postmaster, general merchants, hotel keepers, a hardware dealer, banker, blacksmith, shoemaker, butcher, miller, grain buyers, a cabinet maker (Brock 1972:498). The community of Melbourne was known by many names (Old Fort, Longwood Post-office, Wendigo) and emerged as a cross-roads community on Longwoods Road. The community was devastated by fire in 1878 but had re-established itself by 1888 when it had a population of over 300 persons. At that time the residents included a postmaster, merchants, milliners and dressmakers, a baker, a tinsmith, a harness maker, a cabinet maker, a hotel keeper, a butcher, carriage builders and a miller (Brock 1972:499).

In 1860, A.P. McDonald and Ross made the first plan of Glencoe, which at the time was described as swamp (Brock 1972:548). The village of Glencoe was incorporated in 1875, and quickly became the largest village in the western portion of the township (H. R. Page & Co. 1878:13). The village contained a steam grist mill, a stave and saw mill, a sash, door and planning mill, and a large carriage shop. The population in 1878 numbered about 750 inhabitants. Dundonald Road, also named Main Street for the portion of the road that falls within the town limits, is the major thoroughfare for the community of Glencoe. Lot 24 fronts this roadway, which also serves to delineate the boundary of Ekfrid Township and Mosa Township.

The 1878 *Illustrated Historical Atlas of the County of Middlesex* (Map 7) shows the portion of Lot 24, Second Range North within the subject property was owned by Jno. Thomson and the portion of Lot 23 within the subject property was owned by Peter McCallum. No structures are shown within Lot 24 on the 1878 map; however, historic maps do not always accurately depict all of the activities or structures within a property. On Lot 23 an orchard is depicted in the northwestern portion of the lot, falling outside of the subject property. As previously mentioned, Lot 24 fronts a major thoroughfare route (Dundonald Road). In addition, Parkhouse Drive, a concession road, is depicted as open, approximately 250 metres northwest of the subject property. A historic rail line (the Great Western Railroad) traverses the community of Glencoe to the northwest of the subject property. Lastly, a watercourse is depicted within 100 metres of the southeastern edge of the subject property, which may have been channelized into the Glencoe Outlet Drain.

The 1851 census lists Peter McCallum as a farmer living in log house; however he is recorded as occupying Lot 14, Concession 3 in Ekfrid Township. In the 1891 census for Ekfrid Township Peter McCallum is listed as a farmer, however, the location of his residence is not listed. The 1881 census record for Ekfrid Township lists John Thomson as lumber merchant of Scottish origin; however, the lot and concession of his residence was provided. The 1881 census lists Thomson as 41-years-old and married to Catherine Thomson with three children under the age of 9. The 1891 census records Thompson (not Thomson) as a 51-years-old farmer, married to Catherine, with six children. Foster's London city and Middlesex County directories for 1896–1897, 1897–1898, 1898–1899

and 1901 record John Thomson of Glencoe on Lot 24, 2RN (Second Range North), suggesting that Thomson owned and likely occupied the lot for over two decades.

The subject property has remained in agricultural use since the time of its originally clearing in the 19th century.

2.4 Analysis and Conclusions

As noted in Section 2.1, the Province of Ontario has identified numerous factors that signal the potential of a property to contain archaeological resources. Based on the archaeological and historical context reviewed above, the subject property has archaeological potential. Potential for the discovery of First Peoples sites is indicated by the proximity of the property to a water source (the Glencoe Outlet Drain, which may be a channelized historic watercourse, as well as a former watercourse that once traversed the property, seen on a 1954 aerial photograph). The potential for the discovery of historic era sites is demonstrated by the proximity of a historic transportation route (Dundonald Road).

While the 19th century map does not show buildings standing within the subject property at that time, the level of detail is poor and historical records would otherwise indicate that John Thomson lived and farmed within part of the north half of Lot 24, Second Range North from at least 1878 until the early 20th century. The subject lands have not witnessed prior development and are only minimally disturbed by ploughing and therefore they retain their archaeological potential.

2.5 Recommendations

Given that the subject property demonstrated potential for the discovery of archaeological resources, a Stage 2 archaeological assessment was recommended. In keeping with provincial standards, the active agricultural land was recommended for pedestrian survey, while any remnant grassed, treed or otherwise unploughable lands were recommended for test pit assessment. In all cases, a five metre transect interval was recommended to achieve the provincial standard. It was also surmised that any standing buildings and built features would also have low archaeological potential and would not require Stage 2 assessment due to prior disturbance. In sum, the property was considered to have archaeological potential pending Stage 2 field inspection and therefore a separate map detailing zones of archaeological potential is not provided herein (as per Section 7.7.4 Standard 1 and 7.7.6, Standards 1 and 2).

3.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

3.1 Field Methods

All fieldwork was undertaken in good weather and lighting conditions; the weather on November 11, 2015 was sunny and warm and December 16, 2015 was

overcast and cool. No conditions were encountered that would hinder the identification or recovery of artifacts. Rough preliminary mapping provided by the client in conjunction with municipal lot boundaries was used to establish the subject property boundaries (Appendix A). The property boundaries were determined in the field based on property markers, survey stakes, and proximity to landscape features.

Because of the varied surface conditions a combined pedestrian and test pit survey was undertaken. A pedestrian survey was conducted of the active agricultural fields at a five metre interval (Image 6) under conditions of good to excellent surface visibility (80% or greater; Image 7). The field had been ploughed and was allowed to weather under rain prior to assessment. Two different soils were noted within the field, which corresponded to soil mapping for the property. Soils were either a brown sandy loam, or a dark brown loamy clay. When cultural material was identified during pedestrian survey the survey transects were reduced to one metre or less and a minimum of 20 metre radius around each find was intensively examined to determine the spatial extent of each site (Images 12-14). The number of artifacts collected at each location was sufficient to adequately date each of the locations, with the general aim to leave some in the field for site re-identification. If a location obviously did not meet the requirements for a Stage 3 archaeological assessment at the time of the field survey, all of the surface artifacts were collected. The artifact finds were mapped using a hand held WAAS-enabled GPS unit manufactured by Garmin. Landscape markers were also tied in using the same instruments.

Manicured grass surrounding the barn in the southeastern corner of the property was assessed using a standard test pit survey at a five metre interval (Image 8). The grassed area in the northern corner of the property was test pitted at ten metres intervals because it was found to be previously disturbed as a result of the installation of utilities associated with the pumping station (Image 9). Test pits measuring approximately 30 cm (shovel-width) were excavated through the first 5 cm of subsoil with all soil screened through 6 mm hardware cloth (Images 10-11). Once screening was finished, the soil strata were examined and the pits were backfilled as best as possible and capped with sod. Test pitting extended to within one metre of all built features where present. It was anticipated that if cultural material was found, the test pit survey would be intensified (reduced to 2.5 metres) to determine the size of the site. If not enough archaeological materials were recovered from the intensification test pits, a $1m^2$ test unit was excavated atop of one of the positive test pits to gather additional information. The test pits excavated within the manicured grass surrounding the barn contained 25cm of brown silty clay loam soil overlying yellow-brown clay subsoil (Image 10). The test pits within the northern corner of the property contained roughly 33cm of a dense grey clay mottled with orange clay (Image 11).

In sum, approximately 90.7% (18.59 ha) of the property was ploughed and subject to a pedestrian survey at a five metre interval, roughly 0.5% (0.11 ha) was subject to test pit survey at five metre intervals and 0.6% (0.12 ha) at 10 metre intervals.

As per Section 2.1, Standard 2 of the *Standards and Guidelines* (MTC 2011:28-29), survey was not required when encountering areas that are impacted by extensive and deep land alterations (5.1%, 1.05 ha). When encountered, these areas were recorded and photo-documented to demonstrate their low archaeological potential. Areas of obvious and extensive disturbance consisted of the extant barn in the southeastern portion of the property, and gravel road, pumping station, and associated subsurface utilities and ditching in the northern corner of the property (Images 2-3, 15). Low lying and wet areas (3.1%, 0.63 ha) were also photo-documented. These consisted of the sloped lands and areas of low brush and trees immediately along the Glencoe Outlet Drain that runs along the northern edge of the property (Image 5).

Map 8 illustrates the Stage 2 field conditions and assessment methods; the location and orientation of all photographs appearing in this report are also shown on this map. Map 9 presents the unaltered proponent map. As no development plan is available at this time, only a low detail proponent map was provided. As such, we have not attempted to present the Stage 2 results on the proponent mapping. The Supplementary Documentation portion of this report includes maps showing more detail on the location of archaeological finds made during this assessment.

Table 2: Documentary Records

- Field notes, field maps and photo logs November 11, 2015 and December 16, 2015.
- Photo catalogue – November 11 (PB110001-26); December 16 (P1080054-75)
- Artifacts are bagged individually with paper labels, sorted into larger bags according context and organized by catalogue number. All bags are stored within one banker's box:
  - **Box 1**: Southwest Middlesex Certified, 2015-028, Stage 1 & 2, All Locations, All Artifacts Contents of **Box 1:**
    - **Bag 1:** SW Middlesex Certified, 2015-028, Stage 1 & 2, AeHk-43, Location 1, All Artifacts, Bag 1 of 2: Cat. 1-55
    - **Bag 2:** SW Middlesex Certified, 2015-028, Stage 1 & 2, AeHk-43, Location 1, All Artifacts, Bag 2 of 2: Cat. 56-105
    - **Bag 3:** SW Middlesex Certified, 2015-028, Stage 1 & 2, AeHk-44, Location 2, All Artifacts, Bag 1 of 2: Cat. 1-60
    - **Bag 4:** SW Middlesex Certified, 2015-028, Stage 1 & 2, AeHk-44, Location 2, All Artifacts, Bag 2 of 2: Cat. 61-100
    - **Bag 5:** SW Middlesex Certified, 2015-028, Stage 1 & 2, Location 3, All Artifacts, Cat. 1-23
    - **Bag 6:** SW Middlesex Certified, 2015-028, Stage 1 & 2, AeHk-45, Location 4, All Artifacts, Cat. 1-45
  - This banker's box is currently being stored at our location in London ON, N6G 3M6.

3.2 Record of Finds

A total of four archaeological sites (designated Locations 1 through 4) were identified during Stage 2 pedestrian survey. A general description of the locations and findings at each of these is provided below, beginning with a summary of the artifact types encountered at Locations 1-4. The artifact catalogues for each location is provided

within Appendices B-E. More precise information regarding the geographic location of the sites is provided in the "Supplementary Documentation" portion of this report. Table 2 provides an inventory of the documentary records generated during this project.

3.2.1 Artifact Type Summaries

Ceramic Types

Refined White Earthenware (RWE)

RWE evolved from earlier white-bodied refined ceramics (creamware and pearlware) and began to replace them starting in the 1820s as the desirable choice because the glaze was closer to white. RWE was the dominant ceramic type on dining tables for much of the 19th century until it, too, lost popularity when the more robust ironstone became the popular choice. RWE did not disappear entirely, however.

Ironstone

Also known as white granite, ironstone was characterised by a robust body and moulded decoration. Developed in 1842, ironstone rose to popularity after the Wheat pattern was introduced in 1859 (Sussman 1985:7). Ironstone dominated in tableware, teaware and toiletry ceramics during the fourth quarter of the 19th century. Production of ironstone continued into the 20th century, although by this time its manufacture was largely restricted to toiletries and hotel ware (Wetherbee 1996:10).

Semiporcelain

Semiporcelain was a shift back to a delicate ware after the heaviness of ironstone. It was popular c.1890 to the 1920s (Majewski and O'Brien 1987:123, 155).

Ivory Body

Ivory Body was characterised by a cream or ivory-coloured body. It was most often decorated with transfer print in brown or black and was most common in the 1880s (Samford 2000:75).

Porcelain

Porcelain is a vitrified ceramic first produced by the Chinese. Chinese porcelain was introduced to Europeans in the late 16th century and its popularity with the elite encouraged English potters to emulate it. English potters achieved true porcelain by the mid-18th century (MACL 2015a). Nevertheless, porcelain remained an expensive commodity until it became more widely available in the late 19th century.

Unidentified White Earthenware

This category is used when a white-bodied ceramic sherd cannot be positively identified to a known ceramic type. Often these sherds are burnt or a small size and therefore are lacking identifiable traits. Other sherds, however, represent unknown ceramic types. Ceramics introduced into the Canadian market in the 20th century, for example, are not yet well-researched. Given the late date of the artifacts collected in Locations 1 to 4, it is possible that some of the unidentified white earthenware sherds are unknown 20th century types.

Ceramic Decorations

Transfer Print Décor

Transfer print décor was introduced in 1783. For the first time, potters could easily apply complex and intricate designs to ceramic. Hundreds of patterns were produced and pattern styles generally enjoyed popularity periods of ten to 30 years. The popularity of some colours also ebbed and flowed. For example, brown was popular in the 1830s, but returned to popularity in the 1880s (Samford 2000:75). Transfer print was probably the most enduring decoration style and was available throughout the 19th century.

Flown Décor

Flown décor was achieved by adding a volatizing agent to the ceramic during their firing. The effect was a soft and somewhat blurred image (Samford 2000:78). Flown décor was instantly popular with the Canadian market when it was introduced in the mid-1840s, then suffered a decline in popularity before a resurgence at the turn of the century. Transfer prints were most commonly flown, and stamped décor was flown occasionally also.

Decal

Decal decoration was a more sophisticated way to apply an image onto ceramic. The process was perfected in the 1890s and British potters initially applied it semiporcelain and porcelain prior to 1900 (Majewski & O'Brien 1987:147). At this time, however, decal-decorated ceramics were expensive. Ceramics with decal décor were advertised in the 1902 catalogue for Sears, Roebuck & Company (MACL 2015b).

Glass Manufacturing Techniques

Mould blown

The term mould blown refers to containers blown into a mould. Various types of moulds were used throughout the 19th century. Mould-blown glass manufacture was replaced by machine manufacture in the early 20th century.

Turn mould

The turn mould technique involved making a container by the mould-blown method, but water and steam were used while the vessel was turned to eliminate the mould seams. Bottles made this way were advertised as seamless bottles. The technique was used in Europe and transferred to North America in the 1870s. The date range for this method is c.1870 to the 1920s (Jones & Sullivan 1989:30-31).

Machine made

Production of wide-mouthed containers (e.g., canning jars) by semi-automatic machines began in the 1890s (Lindsey 2016). The first fully automatic machine for narrow and wide-mouthed containers was the Owen's machine, introduced in 1904 (Jones & Sullivan 1989:38-39). Machines did not immediately replace the mould-blown method due to cost and worker resistance, but by 1915 glass machines became common (Lindsey 2016).

Manganese decoloured

Glassmakers added manganese to the glass mixture to counteract iron oxides to make the glass colourless. The method worked, but resulted in a purplish tint after sustained exposure to sunlight (Jones & Sullivan 1989:13). The date range for this method is c.1875 to 1915.

3.2.2 Artifact Analysis

Location 1 (AeHk-43)

Location 1 was identified in the northern portion of the agricultural field to the southwest of the Glencoe Outlet Drain. It consisted of a scatter of about 220 artifacts scattered over a 70m (north-south) by 80m (east-west) area with outliers that would extend the site area to a 150m (north-south) by 100m (east-west) area (Images 16 and 17; Table 3). All refined ceramic and pre-contact artifacts, as well as a representative sample of other 19th century artifacts, were collected in order to assist in the accurate dating of the site. Roughly 50 glass sherds were left in the field in order to assist with future site relocation.

One modern item, one native artifact and 175 historical artifacts were collected from Location 1 (Table 3; Appendix B). The modern item was a sherd of a machine-made glass alcohol bottle. The native artifact was a utilized secondary flake, made from a local till chert (Image 17). Historical artifacts were classed by function and a majority were classed into food & beverage (n=110), and most of these were ceramic sherds. Ceramic types included RWE (n=9), ironstone (n=17), ivory body (n=1), semiporcelain (n=9), and porcelain (n=31). There were also 29 sherds of unidentified white earthenware and one sherd of unidentified white vitrified ceramic. Decoration on RWE included flown in blue and transfer print in blue, brown, green, and red. Decoration on ironstone included slipped, moulded and transfer print. Only the Wheat pattern was identified. Decoration on semiporcelain included transfer print and moulded, while decoration on porcelain comprised decal, gilded, moulded, and painted. The ivory body sherd had brown transfer print décor.

Table 3: Location 1 (AeHk-43) Artifacts by Function

Function	Total
Food & beverage	110
Architectural	10
Modified	10
Health & hygiene	7
Personal	3
Lighting	1
Unknown	33
Total Historical Artifacts	**174**
Native	**1**
Modern	*1*
Total	**176**

Glass artifacts classed as food & beverage included alcohol and beverage bottles, two club sauce stoppers and tableware glassware. All glass bottles were mould blown, and turn mould and three-piece (Rickett's type) mould types were identified. Both club sauce stoppers were amber and were likely alcohol flask closures. The glassware vessel type could not be identified, though one was opaque white and the other was manganese.

Architectural artifacts included window glass, red and yellow brick fragments, and a sherd of a coarse earthenware drain pipe. All modified artifacts were sherds of utilized glass. These included both container and window glass. Utilized glass sherds are considered to be expedient tools used to cut, scrape, smooth, chisel, or saw. All health & hygiene artifacts were sherds of glass pharmaceutical bottles, five of which were manganese and one was mould blown. Other artifacts were two porcelain doll dishes, a porcelain doll sherd, an opaque white glass sherd from a lamp, two sherds of porcelain whose function was indeterminate, and sherds of glass containers. These were mould blown, turn moulded, manganese, and opaque white.

The Location 1 food & beverage ceramic assemblage was unusual in that it was high in porcelain. Porcelain was a more available and affordable choice by the late 19th century, but is not generally found with such frequency in archaeological contexts. Ironstone, semiporcelain, and ivory body ceramic are hallmarks of a late 19th century assemblage. Temporally complimentary artifacts include manganese glass and turn-moulded glass. Thus, the historical artifact assemblage dates c.1880-1915. The porcelain toys are evidence of children.

Common artifacts typically recovered from archaeological sites dating to the 19th century were absent from this assemblage. These included smoking pipes, utilitarian ceramics such as glazed coarse earthenware and stoneware, nails, and faunal remains.

Location 2 (AeHk-44)

Location 2 was identified in the northern portion of the agricultural field to the southwest of the Glencoe Outlet Drain. It consisted of a scatter of about 285 artifacts scattered over a 105m (north-south) by 75m (east-west) area with outliers that would extend the site area to a 130m (north-south) by 75m (east-west) area (Images 18-21; Table 4). A concentration of artifacts was observed in the field, with a large set of outliers. The scatter was likely plough-dragged to the northeast-southwest and further dispersed. All refined ceramic and pre-contact artifacts, as well as a representative sample of other 19th century artifacts, were collected in order to assist in the accurate dating of the site. Roughly 70 glass sherds were left in the field in order to assist with future site relocation.

Four modern items, one native artifact and 207 historical artifacts were collected from Location 2 (Table 4; Appendix C). The modern items were two sherds of machine-made glass, a sherd of window glass with frosted décor, and a sherd of a coarse earthenware handle with a dark blue glaze. The native artifact was a retouched flake manufactured from Kettle Point chert (Image 21). Historical artifacts were classed by function and a majority were classed into food & beverage (n=168), and most of these were ceramic sherds. Ceramic types included RWE (n=4), ironstone (n=76), ivory body (n=2), semiporcelain (n=30), porcelain (n=27), yellowware (n=1), coarse earthenware (n=3), and coarse stoneware (n=3). There were also 11 sherds of unidentified white earthenware.

Table 4: Location 2 (AeHk-44) Artifacts by Function

Function	Total
Food & beverage	168
Health & hygiene	10
Lighting	4
Architectural	3
Clothing	2
Modified	2
Furniture	1
Unknown	17
Total Historical Artifacts	**207**
Native	**1**
Modern	*4*
Total	**212**

Decoration on RWE included flown and brown transfer print. Decoration on ironstone comprised brown transfer print and moulded. Wheat and Seashore moulded patterns were identified. The Wheat pattern was instantly popular when it was introduced in 1859 and was widely copied by numerous potters. Seashore was registered by W. & E. Corn. A registration date for the pattern is not known, but the W. & E. Corn pottery was established in 1864 (Godden 1964:175). There were also six sherds that were undecorated. The ivory body sherds had brown transfer print décor, and decoration on semiporcelain was transfer printed and moulded. Four sherds of transfer printed semiporcelain represented a tea cup and the décor was accented with gilt. Four other transfer-printed semiporcelain sherds also had moulded décor. Decoration on porcelain included decal, moulded, painted, and transfer printed. A porcelain base sherd had an incomplete double mark depicting an eagle in green and GER(many) (Image 19). The eagle is likely Carl Tielsch's mark, a porcelain potter located in Altwasser, Germany. Tielsch used the eagle mark c.1875-1900 (Kempster 2009-2012). More importantly, the Germany portion was from a separate mark that would have read MADE IN GERMANY (Image 20). This mark complied with the British Merchandise Marks Act of 1887 which required imports into Britain to be marked with the country of origin (Conrad 2010:334). Thus, this sherd dates 1887-1900. The yellowware was Rockingham glazed.

Glass artifacts classed as food & beverage included wine bottles, a soda bottle, an alcohol bottle, a jar liner, a fluted tumbler, and other tableware glass. All the bottles were mould blown, including one that was turn moulded. The soda bottle took a Hutchinson spring stopper. The Hutchinson stopper was patented in 1879 and consisted of a loop of wire attached to a rubber gasket (Jones & Sullivan 1989:162). It was designed for carbonated drinks and the carbonation helped to keep the stopper in place. The crown cap, patented in 1892, eventually replaced the Hutchinson stopper, though the two styles overlapped into the 20th century (Jones & Sullivan 1989:162-163). Aside from the tumbler, the tableware glass could not be identified by vessel. One sherd was opaque white and the other was marbled opaque purple and white.

All health & hygiene artifacts were glass pharmaceutical containers and represented ten vessels: a complete drug bottle, four medicinal bottles, and three small ointment jars. One jar was complete and the other two were identical but incomplete. The jars were squat, 12-sided and marked on the base CHESEBROUGH MFG CO. NY. Robert Chesebrough is best known as the creator of Vaseline, patented in 1865 (Unilever 2016). Vaseline was originally sold in cans, then in glass containers by 1887. Chesebrough's products included Vaseline Pomade, White Vaseline, and Blue-Seal Vaseline which were sold in bottles, and Vaseline Cold Cream which was packaged in an opaque white glass jar (Lockhart 2015:4). The original Cold Cream jars had metal lids with paper labels.

Other artifacts included a decorated glass lamp chimney rim, three sherds of opaque white lamp glass, window glass, two Prosser buttons, utilized glass sherds, a porcelain figurine, an ironstone handle and a sherd of semiporcelain (both of these could be tableware or toiletry vessels), an opaque white glass lid, and sherds of glass containers that were mould blown, turn moulded or manganese. Lamp chimney rims were typically straight and the decorated lamp chimney rims were not common in Canada before c.1885 (Woodhead et al. 1984:62).

Numerous artifacts in the Location 2 assemblage date post-1880: the decorated lamp chimney rim, the Chesebrough Cold Cream jars, the Hutchinson soda bottle, the ivory body ceramic, the Made in Germany porcelain, and the semiporcelain. All the other artifacts fit comfortably into the post-1880 era, including the manganese and turn-moulded glass, the ironstone, and the porcelain. The four sherds of RWE are not out of place in this context, as flown décor and brown transfer print were popular in the late 19th century. Thus, the assemblage dates c.1880-1915 and possibly beyond. Given the late date of the artifacts, it is possible the modern items collected are associated with the assemblage, as opposed to being intrusive items deposited later.

Similar to Location 1, this assemblage was atypical in that it lacked commonly found artifacts. Absent from this assemblage were smoking pipes, faunal remains, and nails. The low quantity of architectural artifacts in general is unusual and suggests the site is not associated with a structure.

Location 3 (no Borden number assigned)

Location 3 was identified in the center of the southern portion of the agricultural field to the southwest of the Glencoe Outlet Drain. It consisted of a diffuse scatter of about 38 artifacts scattered over a 170m (north-south) by 26m (east-west) area (Image 22; Table 5). No artifact concentrations were observed, and the diffuse nature of the site was likely the result of ploughing. All refined ceramic, as well as a representative sample of other 19th century artifacts, were collected in order to assist in the accurate dating of the site. Roughly seven glass artifacts were left in the field in order to assist with future site relocation.

A total of 31 historical artifacts were collected from Location 3 (Table 5; Appendix D). These were 28 ceramic sherds classed as food & beverage, one sherd of a manganese glass handle, a sherd of utilized glass, and two artifacts classed as unknown. Ceramic types included RWE (n=1), ironstone (n=11), semiporcelain (n=6), and porcelain (n=6). There were also two sherds of unidentified white earthenware and one sherd of unidentified white vitrified ceramic. The RWE had brown transfer print décor. Decoration on ironstone included moulded and transfer print. One of the moulded sherds was identified as the Seashore shape. Semiporcelain had transfer print décor and one of these was a combination of transfer print and moulded décor. Another sherd of semiporcelain had a partial turquoise transfer printed maker's mark identifying it as semiporcelain and had the first two letters of 'England.' British ceramics marked England were in compliance with the American McKinley Tariff Act of 1891 which required the country of origin to be marked on imports (Godden 1964:11). Decoration on porcelain included transfer print and moulded. The artifacts classed as unknown were a sherd of opaque white glass and a small ironstone lid with a bird's nest. This item could be from a toy set or a child's jewellery box.

Table 5: Location 3 Artifacts by Function

Function	Total
Food & beverage	28
Modified	1
Unknown	2
Total Historical Artifacts	**31**

The presence of ironstone, semiporcelain and manganese glass dates the assemblage c.1880-1915.

Location 4 (AeHk-45)

Location 4 was identified in the southern portion of the agricultural field to the southeast of the standing barn. It consisted of a scatter of about 115 artifacts scattered over a 25m (north-south) by 30m (east-west) area with outliers that would extend the site area to a 53m (north-south) by 55m (east-west) area (Image 23; Table 6). All refined ceramic, as well as a representative sample of other 19th century artifacts, were collected in order to assist in the accurate dating of the site. Roughly 30 glass sherds were left in order to assist with future site relocation.

A total of eight modern items and 74 historical artifacts were collected (Table 6; Appendix E). The modern items were six sherds of machine-made container glass and two sherds of ribbed window glass. Two container base sherds were marked with the Dominion Glass logo of the letter D inside a diamond. Dominion Glass adopted this trademark in 1928 (King 1987:248). Historical artifacts were classed by function and a majority were classed into food & beverage (n=68), and most of these were ceramic sherds. Ceramic types included RWE (n=1), ironstone (n=16), ivory body (n=1),

semiporcelain (n=15), porcelain (n=18), and coarse stoneware (n=3). There were also 12 sherds of unidentified white earthenware and one sherd of unidentified white vitrified ceramic. The RWE had flown décor. Decoration on ironstone included transfer print, moulded (Seashore) and decal while the ivory body had brown transfer print decor. Decoration on semiporcelain comprised transfer print, decal and moulded. A burnt sherd of semiporcelain had a transfer-printed maker's mark identifying Wood & Son as the manufacturer. This particular mark was used between 1891 and 1907 (Godden 1964:689). Porcelain had decal and gilded décor. All three sherds of coarse stoneware were Albany slipped. One sherd of a glass alcohol bottle was recovered, though the method of manufacture could not be determined.

Table 6: Location 4 (AeHk-45) Artifacts by Function

Function	Total
Food & beverage	68
Architectural	2
Health & hygiene	2
Personal	1
Unknown	1
Total Artifacts	**74**
Modern	*8*
Total	**82**

The architectural artifacts were a sherd of window glass and a porcelain electrical item. The other artifacts collected were a sherd of an opaque white glass Vaseline Cold Cream jar, a sherd of another opaque white glass ointment jar (brand unknown), a porcelain toy doll dish, and a sherd of a manganese glass container. The Cold Cream jar was the same as the jars recovered from Location 2.

Similar to the first three Locations, the presence of ironstone, semiporcelain, ivory body, decal décor, and manganese glass suggest a date of c.1880-1915.

Locations 1-4 Summary

All four locations were temporally contemporary (c.1880-1915) and the artifact assemblages were similar. The assemblages were dominated by tableware ceramics and included the same ceramic types and decorations. One example was the Seashore pattern on ironstone which was found in three of four assemblages (Table 5). Another connection was the Vaseline Cold Cream jars, found in Locations 2 and 4. The locations were also similar in artifact absences. Smoking/tobacco-related artifacts were absent, along with faunal remains and nails. Architectural artifacts were few in general, as were utilitarian ceramics (coarse earthenware and stoneware). The similarities in the assemblages suggest the locations are related, that is, were deposited by one family, and all four locations were encountered within Lot 24. Furthermore, the late 19th century date and the lack of variety in artifacts suggests Locations 1 to 3 could be "back forty" dumps, refuse areas located

far from the home. The practice of disposing of garbage away from the house was common in the late 19th century (MacDonald 1997:60).

Table 7: Refined Tableware Ceramics – all Locations

Ceramic	Decoration	Loc.1	Loc.2	Loc.3	Loc.4
RWE	Flown	2	3		1
	Transfer, blue	2			
	Transfer, brown	1	1	1	
	Transfer, green	3			
	Transfer, red	1			
	TOTAL RWE	***9***	***4***	***1***	***1***
Ironstone	Slipped	1			
	Undecorated		6		
	Transfer print	2	9	1	1
	Moulded, Seashore		1	1	1
	Moulded, Wheat	1	2		
	Moulded, unid.	2	11	2	
	Decal				2
	Misc.	11	47	7	12
	TOTAL Ironstone	***17***	***76***	***11***	***16***
Semiporcelain	Transfer print	1	20	3	3
	Decal				2
	Moulded	3	1		1
	Misc.	5	9	3	9
	TOTAL Semiporcelain	***9***	***30***	***6***	***15***
Porcelain	Decal	3	4		6
	Gilded	1			2
	Moulded	2	5	1	
	Painted	2	1		
	Transfer		1	3	
	Misc.	23	16	2	10
	TOTAL Porcelain	***31***	***27***	***6***	***18***
VEW		***1***		***1***	***1***
Ivory Body	Transfer print	***1***	***2***		***1***
Unid. White EW		***29***	***11***	***2***	***12***
Yellowware			***1***		
	TOTAL	**97**	**151**	**27**	**64**

3.3 Analysis and Conclusions

A Stage 2 field assessment was carried out in keeping with the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). This demonstrated that the majority of the lands had not been heavily disturbed by prior activity. The pedestrian survey documented four archaeological locations. Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* establishes criteria whereby the cultural heritage value of archaeological finds can be evaluated and the need for follow up Stage 3 testing and/or Stage 4 mitigation of construction impacts established. The land-use history of the subject property within part of Lot 24, Second Range North is summarized below, followed by an evaluation of each archaeological location.

John Thomson was a farmer who owned a portion of the northern half of Lot 24, Second Range North, according to historical mapping from 1878 and directories from 1896 to 1901. No structures are depicted within the subject property on the 1878 map, although the Thomson homestead may have fronted Dundonald Road, as this was the major thoroughfare. In the 1881 and 1891 censuses the Scottish-born Thomson is recorded as being 41 and 51 years old, respectively, and living with his wife Catherine (36 and 47 years, respectively), who was born in Ireland. He can be tied to the property as early as 1878, according to historical mapping, and as late as 1901, according to the county directory. Thomson is listed as both a lumber merchant and a farmer. John Thomson died in 1923 and Catherine Thomson in 1921; both are buried in the Oakland Cemetery in Strathburn, Mosa Township, southeast of Glencoe (CanadaGenWeb's Cemetery Project). Thomson's period of residence on the property is estimated as roughly pre-1878 to post-1901.

From what is currently known of the residence history, it seems that the most likely occupants of Locations 1-4 would be John Thomson and his wife Catherine (pre-1878 to post-1901). However, as land registry records were not considered for this study, there may be additional information that could help verify or refute this interpretation.

Location 1 (AeHk-43)

Location 1 consists of a scatter of late 19th century domestic artifacts, modern objects and an undiagnostic pre-contact artifact. Location 1 is a c.1880-1915 site, which coincides with the Thomson occupation of the lot in the late 19th century, and may represent a refuse area that was set back from the Thomson homestead. No structures are depicted on the 1878 map in this area, and the lack of architectural materials also suggests that the site does not represent an outbuilding on the property. The site generated more than 20 artifacts pre-dating 1900 and appears to relate to a late-19th century occupation of the property. Given this, the site has further cultural heritage value and interest (CHVI) and meets provincial criteria for further investigation. If post-1870 occupation is confirmed via land registry research and additional archaeological research, the site may not qualify for Stage 4 mitigation (Section 3.4.2 Standard 1.a). As per Section 7.2.1 of *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario,* further background research and Stage 3 controlled surface pick-up (CSP), in combination with the Stage 2 survey results, may be adequate in order to sufficiently document Location 1.

The native component of Location 1 is a single utilized flake of indeterminate cultural or temporal affiliation. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre area (MTC 2011:41; Section 2.2, Standard 1.a.i), the pre-contact component of Location 1 does not meet provincial standards for Stage 3 assessment and has no further cultural heritage value or interest (CHVI) within the provincial framework. If diagnostics or higher quantities of native artifacts are recovered during the Stage 3 assessment of the 19th century component, the native component of

Location 1 should be re-evaluated and potentially subject to an additional Stage 3 archaeological assessment.

Location 2 (AeHk-44)

Location 2 consists of a scatter of late 19th century domestic artifacts, modern objects and an undiagnostic pre-contact artifact. Similar to Location 1, Location 2 is a c.1880-1915 site, which coincides with the Thomson occupation of the lot in the late 19th century, and may represent a refuse area that was set back from the Thomson homestead. No structures are depicted on the 1878 map in this area, and like Location 1, a paucity of architectural materials suggests that the site does not represent an outbuilding on the property. The site generated more than 20 artifacts pre-dating 1900 and appears to relate to a late-19th century occupation of the property. Given this, the site has CHVI and meets provincial criteria for further investigation. If post-1870 occupation is confirmed via land registry research and additional archaeological research, the site may not qualify for Stage 4 mitigation (Section 3.4.2 Standard 1.a). As per Section 7.2.1 of *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario*, further background research and Stage 3 CSP, in combination with the Stage 2 survey results, may be adequate in order to sufficiently document Location 2.

The native component of Location 2 is a single retouched flake of indeterminate cultural or temporal affiliation. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre area (MTC 2011:41; Section 2.2, Standard 1.a.i), the pre-contact component of Location 2 does not meet provincial standards for Stage 3 assessment and has no further CHVI within the provincial framework. If diagnostics or higher quantities of native artifacts are recovered during the Stage 3 assessment of the 19th century component, the native component of Location 2 should be re-evaluated and potentially subject to an additional Stage 3 archaeological assessment.

Location 3 (no Borden number assigned)

Location 3 is a small and highly diffuse scatter of late 19th century domestic artifacts measuring approximately 100 metres (southwest-northeast) by 25 metres (southeast-northwest). There were no higher density concentrations of artifacts within the overall scatter. Given the highly dispersed nature of Location 3, the site likely represents a small artifact scatter that was distributed in a wider manner by the action of a plough. Similar to Locations 1, 2 and 4, Location 3 is a c.1880-1915 site that contains no architectural materials. However, given the low density of artifacts and highly diffuse nature of Location 3, the site has been sufficiently documented during Stage 2 survey and has no further CHVI.

Location 4 (AeHk-45)

Location 4 consists of a scatter of late 19th century domestic artifacts and modern objects. Location 4 is a c.1880-1915 site, which coincides with the Thomson occupation of the lot in the late 19th century, and may represent a refuse area. No structures are depicted on the 1878 map in this area, and the lack of architectural materials also suggests that the site does not represent a former structure on the property. The site generated more than 20 artifacts pre-dating 1900 and appears to relate to a late-19th century occupation of the property. Given this, the site has further CHVI and meets provincial criteria for further investigation. If post-1870 occupation is confirmed via land registry research and additional archaeological research, the site may not qualify for Stage 4 mitigation (Section 3.4.2 Standard 1.a). As per Section 7.2.1 of *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario,* further background research and Stage 3 CSP, in combination with the Stage 2 survey results, may be adequate in order to sufficiently document Location 4.

3.4 Recommendations

A Stage 1 and 2 archaeological assessment was conducted for a roughly 20 hectare rural agricultural parcel, located within part of Lot 23 and 24, Second Range North in the Geographic Township of Ekfrid, now in the Municipality of Southwest Middlesex, in Middlesex County, Ontario. Archaeological material was reported in four locations. Our recommendations with respect to each of these locations and the overall property are presented below.

1) *Location 1 (AeHk-43)* is a multicomponent site with a late-19th century component and an undiagnostic native component.
    a. The 19th century component meets provincial standards for Stage 3 testing and further investigation is recommended. The site is potentially associated with the late-19th/early-20th century occupation by John Thomson and his family. Given that more than 20 artifacts of a pre-1900 date were collected, the site qualifies for additional investigation based on provincial standards. As it is as yet uncertain as to whether the site will qualify for Stage 4 mitigation of construction impacts, the proposed Stage 3 strategy should consist of two preliminary activities: a) additional background research and land registry review; and b) controlled surface collection of artifacts. Based on *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario,* it may be then possible to present a solid case to cease Stage 3 testing if it can be confirmed that the site relates to the late-19th/early-20th century Thomson occupation. In the latter case, the site's CHVI would be considered adequately documented. If the site cannot be confirmed to be a

late-19th century occupation, the standard Stage 3 unit testing will be required (Section. 3.4.2, Standard 1.a).

b. The native component of Location 1 is one undiagnostic lithic artifact. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented. If diagnostics or higher quantities of native artifacts are recovered during the Stage 3 assessment of the 19th century component, the native component should be re-evaluated and potentially subject to an additional Stage 3 archaeological assessment.

2) *Location 2 (AeHk-44)* is a multicomponent site with a late-19th century component and an undiagnostic native component.

a. The 19th century component of the site meets provincial standards for Stage 3 testing and further investigation is recommended. The site is potentially associated with the late-19th/early-20th century occupation by John Thomson and his family. Given that more than 20 artifacts of a pre-1900 date were collected, the site qualifies for additional investigation based on provincial standards. As it is as yet uncertain as to whether the site will qualify for Stage 4 mitigation of construction impacts, the proposed Stage 3 strategy should consist of two preliminary activities: a) additional background research and land registry review; and b) controlled surface collection of artifacts. Based on *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario*, it may be then possible to present a solid case to cease Stage 3 testing if it can be confirmed that the site relates to the late-19th/early-20th century Thomson occupation. In the latter case, the site's CHVI would be considered adequately documented. If the site cannot be confirmed to be a late-19th century occupation, the standard Stage 3 unit testing will be required (Section. 3.4.2 Standard 1.a).

b. The native component of Location 2 is one undiagnostic lithic artifact. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented. If diagnostics or higher quantities of native artifacts are recovered during the Stage 3 assessment of the 19th century component, the native component should be re-evaluated and potentially subject to an additional Stage 3 archaeological assessment.

3) *Location 3* is a highly diffuse scatter of late-19th century artifacts. Due to the dispersed nature of the site, which likely represents a small refuse area that was distributed by ploughing, no further work is recommended as the site is considered sufficiently documented.

4) *Location 4 (AeHk-45)* is a scatter of late-19th century artifacts. As such, the site meets provincial standards for Stage 3 testing and further investigation is

recommended. The site is potentially associated with the late-19th/early-20th century occupation by John Thomson and his family. Given that more than 20 artifacts of a pre-1900 date were collected, the site qualifies for additional investigation based on provincial standards. As it is as yet uncertain as to whether the site will qualify for Stage 4 mitigation of construction impacts, the proposed Stage 3 strategy should consist of two preliminary activities: a) additional background research and land registry review; and b) controlled surface collection of artifacts. Based on *The Archaeology of Rural Historical Farmsteads: A DRAFT Technical Bulletin for Consultant Archaeologists in Ontario*, it may be then possible to present a solid case to cease Stage 3 testing if it can be confirmed that the site relates to the late-19th/early-20th century Thomson occupation. In the latter case, the site's CHVI would be considered adequately documented. If the site cannot be confirmed to be a late-19th century occupation, the standard Stage 3 unit testing will be required (Section. 3.4.2 Standard 1.a).

The areas within the subject property that were not found to contain archaeological resources are considered free of archaeological concern and no further work is recommended.

Our recommendations are subject to the conditions laid out in Section 5.0 of this report and Ministry of Tourism, Culture and Sport review of this report and its acceptance into the provincial registry.

4.0 SUMMARY

A Stage 1 and 2 archaeological assessment was conducted for a roughly 20 hectare rural agricultural parcel, located within part of Lot 23 and 24, Second Range North in the Geographic Township of Ekfrid, now in the Municipality of Southwest Middlesex, in Middlesex County, Ontario. A Stage 1 background study of soils, physiography, and drainage, as well as former and current land use, indicated that the property had potential for the discovery of archaeological resources. As such, a Stage 2 field assessment was undertaken, involving a pedestrian survey of ploughed lands and a test pit survey of unploughable areas using a five or ten metre transect interval. This resulted in the discovery of four archaeological locations, three of which (Location 1 – AeHk-43, Location 2 – AeHk-44, and Location 4 – AeHk-45) meet provincial standards for Stage 3 testing. Further investigation is recommended for these sites.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*. Further, archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Small Business and Consumer Services. The Registrar of Cemeteries, Cemeteries Regulation Unit can be reached at (416)326-8404 or (416)326-8393.

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1851 Agricultural Census for Middlesex County

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1897–98	Foster's London City and Middlesex County Directory
1898–99	Foster's London City and Middlesex County Directory
1901	Foster's London City and Middlesex County Directory
1881	Census for Middlesex County
1891	Census for Middlesex County
1901	Census for Middlesex County

7.0 IMAGES

Image 1: Overview of Agricultural Field (looking east)

Image 2: Standing Barn and Well (looking west)

Image 3: Gravel Roadway with Buried Utilities and Pumping Station (looking southwest)

Image 4: Grassed Area in North Corner of Property (looking south)

Image 5: Glencoe Outlet Drain (looking southeast)

Image 6: Pedestrian Survey in Progress (looking northeast)

Image 7: Surface Visibility

Image 8: Test Pit Survey in Progress (looking northwest)

Image 9: Test Pit Survey in Progress (looking northwest)

Image 10: Typical Test Pit near Barn

Image 11: Typical Test Pit in Grassed Area of North Corner of Property

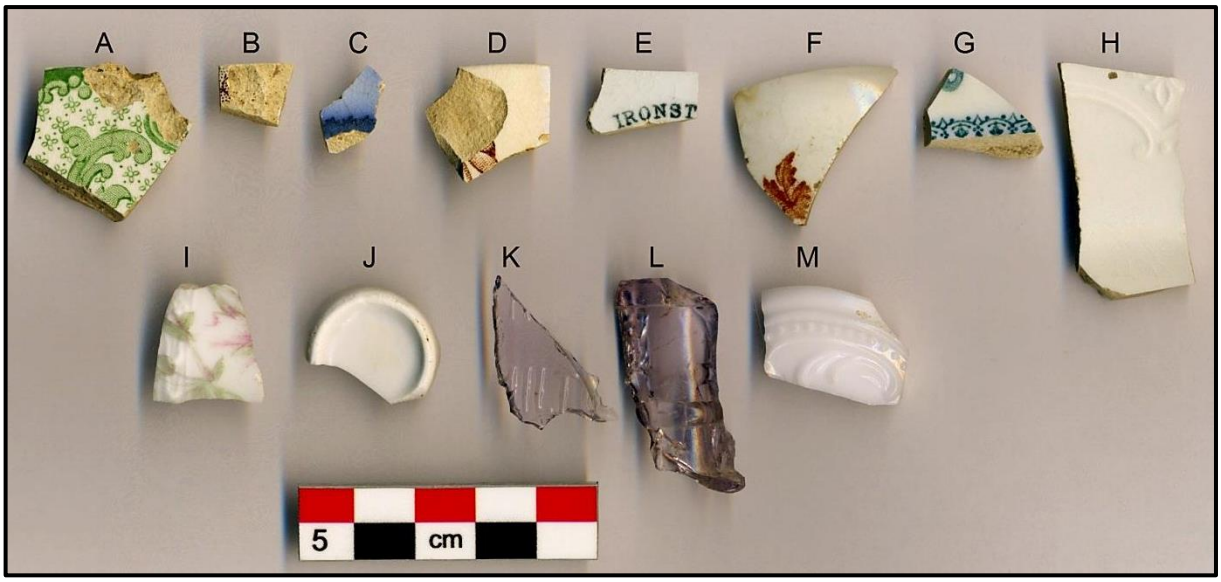
Image 12: Intensified Pedestrian Survey over Surface Scatter (looking northwest)

Image 13: Intensified Pedestrian Survey over Surface Scatter (looking south)

Image 14: Intensified Pedestrian Survey over Surface Scatter (looking southeast)

Image 15: Ditched Drainage in North Corner of Subject Property (looking southwest)

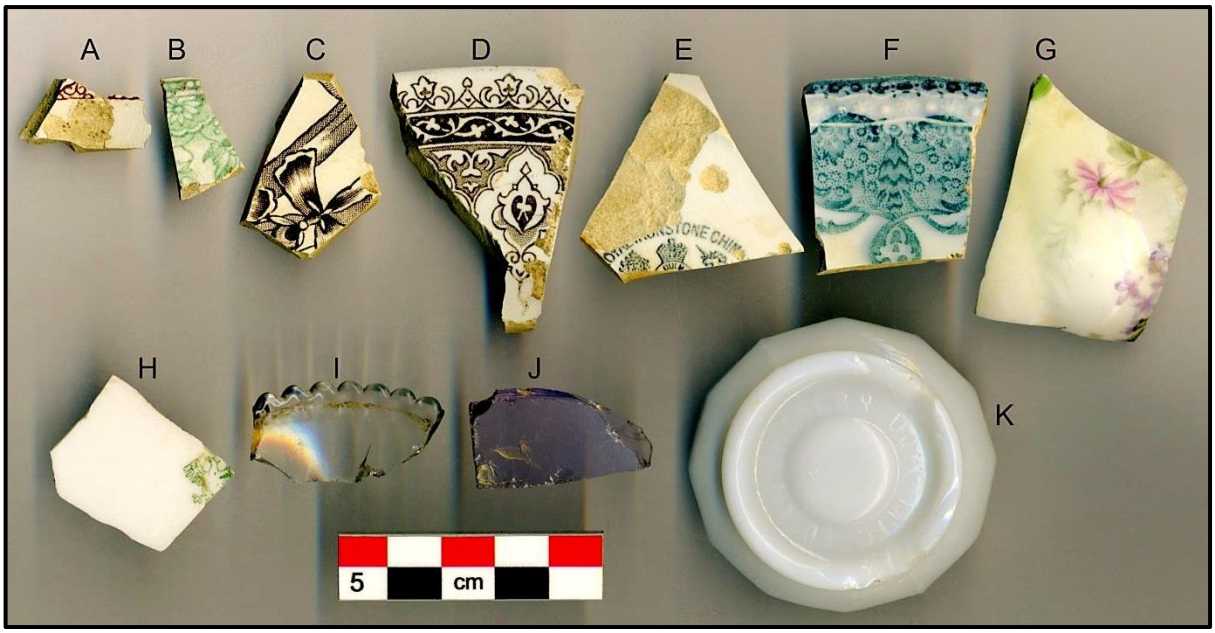
Image 16: Location 1 (AeHk-43) Artifacts



A & B) RWE, transfer print, cat.30 & 43; C) RWE, flown, cat.70; D) ivory body, transfer print, cat.44; E) ironstone, cat.31; F) ironstone, transfer print, cat.45; G) semiporcelain, transfer print, cat.73; H) semiporcelain, moulded, cat.33; I) porcelain, decal & moulded, cat.80; J) porcelain doll dish, 75; K & L) manganese glass containers, cat.62 & 64; M) opaque white glassware, cat.12

Image 17: Location 1 (AeHk-43) Native Artifact, cat.105

Image 18: Location 2 (AeHk-44) Artifacts



A & B) RWE, transfer print, cat.33 & 18; C) ivory body, transfer print, cat.27; D) ironstone, transfer print, cat.31; E) ironstone, maker's mark, cat.41; F) semiporcelain, transfer print & moulded, cat.20; G) porcelain, decal, cat.5; H) porcelain, Carl Tielsch mark, cat.2; I) decorated glass lamp chimney rim, cat.68; J) manganese glass, cat.70; K) opaque white Vaseline Cold Cream glass jar (base shown), cat.94

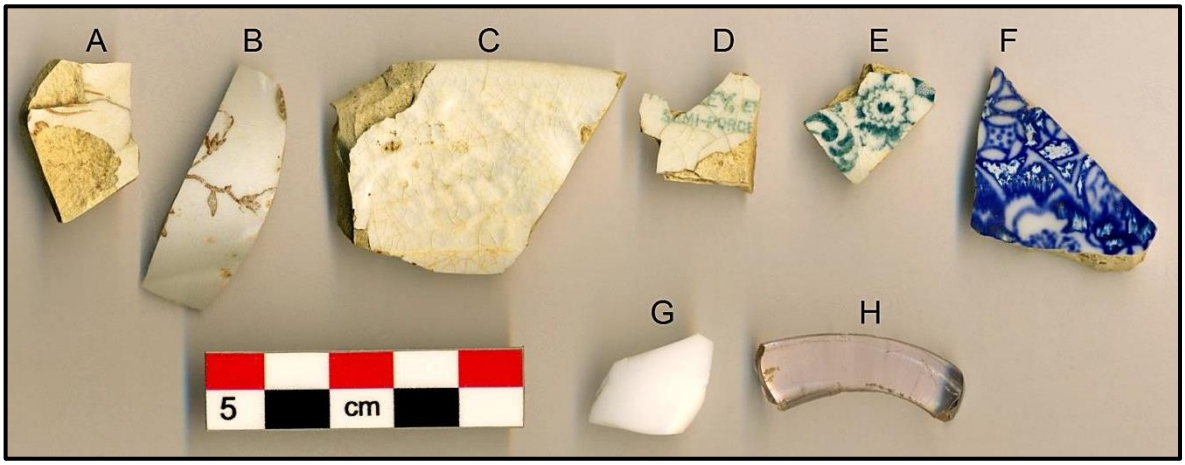
Image 19: Location 2 (AeHk-44) Detail of Carl Tielsch Mark, cat.2

Image 20: Example of a Complete Carl Tielsch Mark

Source: http://www.rsprussia.net/mark.html

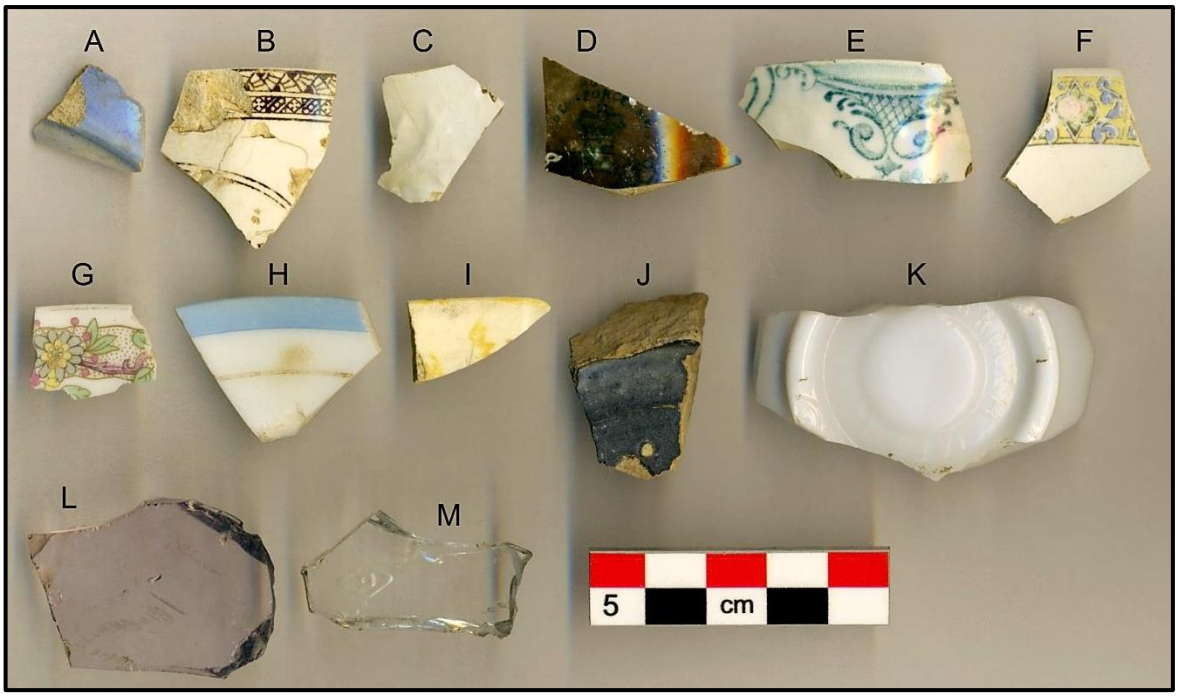
Image 21: Location 2 (AeHk-44) Native Artifact, cat.100

Image 22: Location 3 Artifacts



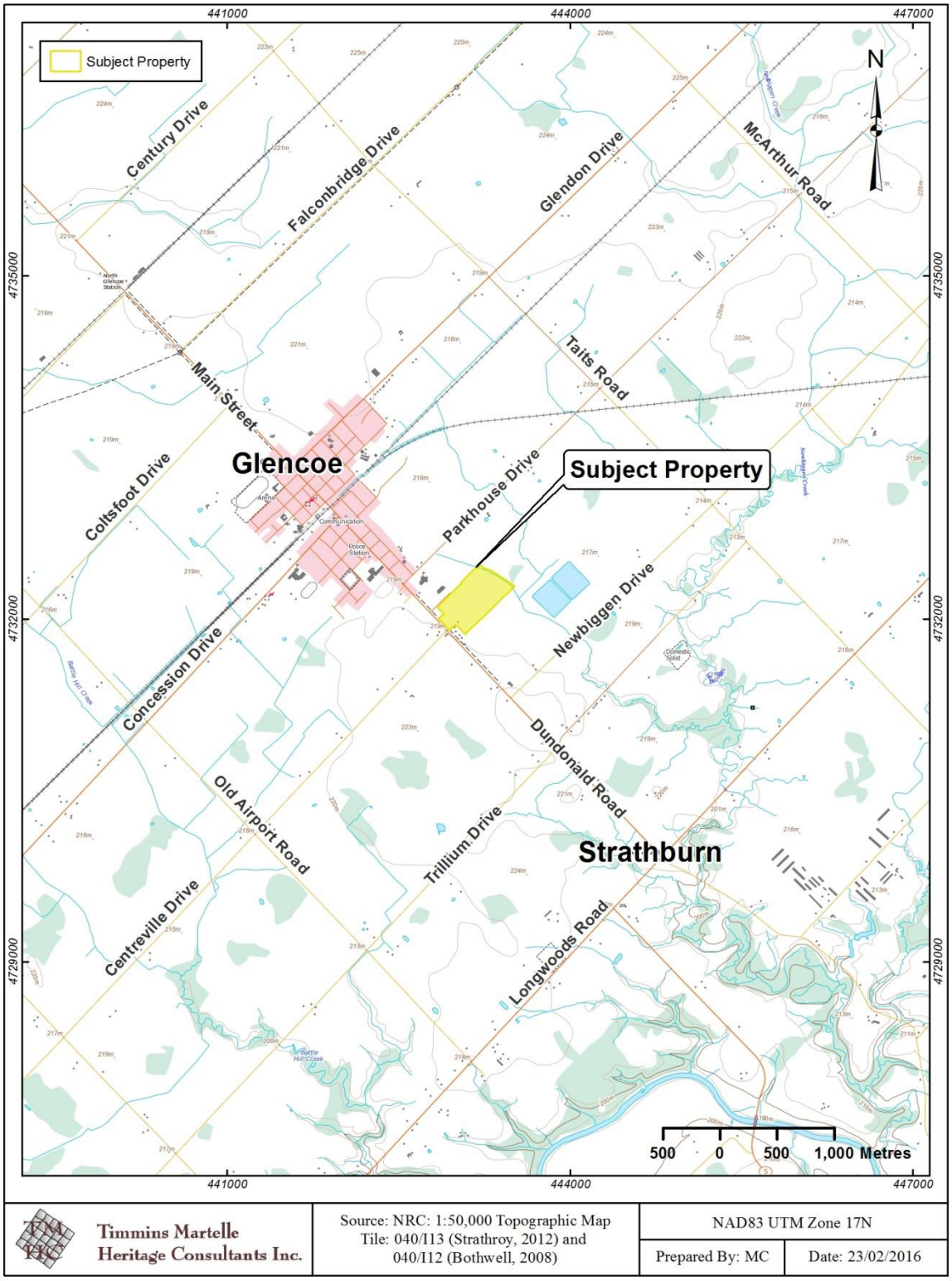
A) RWE, transfer print, cat.11; B) ironstone, transfer print, cat.10; C) ironstone, moulded Seashore, cat.17; D) semiporcelain, maker's mark, cat.5; E) semiporcelain, transfer print, cat.7; F) porcelain, transfer print, cat.13; G) opaque white glass, cat.2; H) manganese glass handle, cat.1

Image 23: Location 4 (AeHk-45) Artifacts



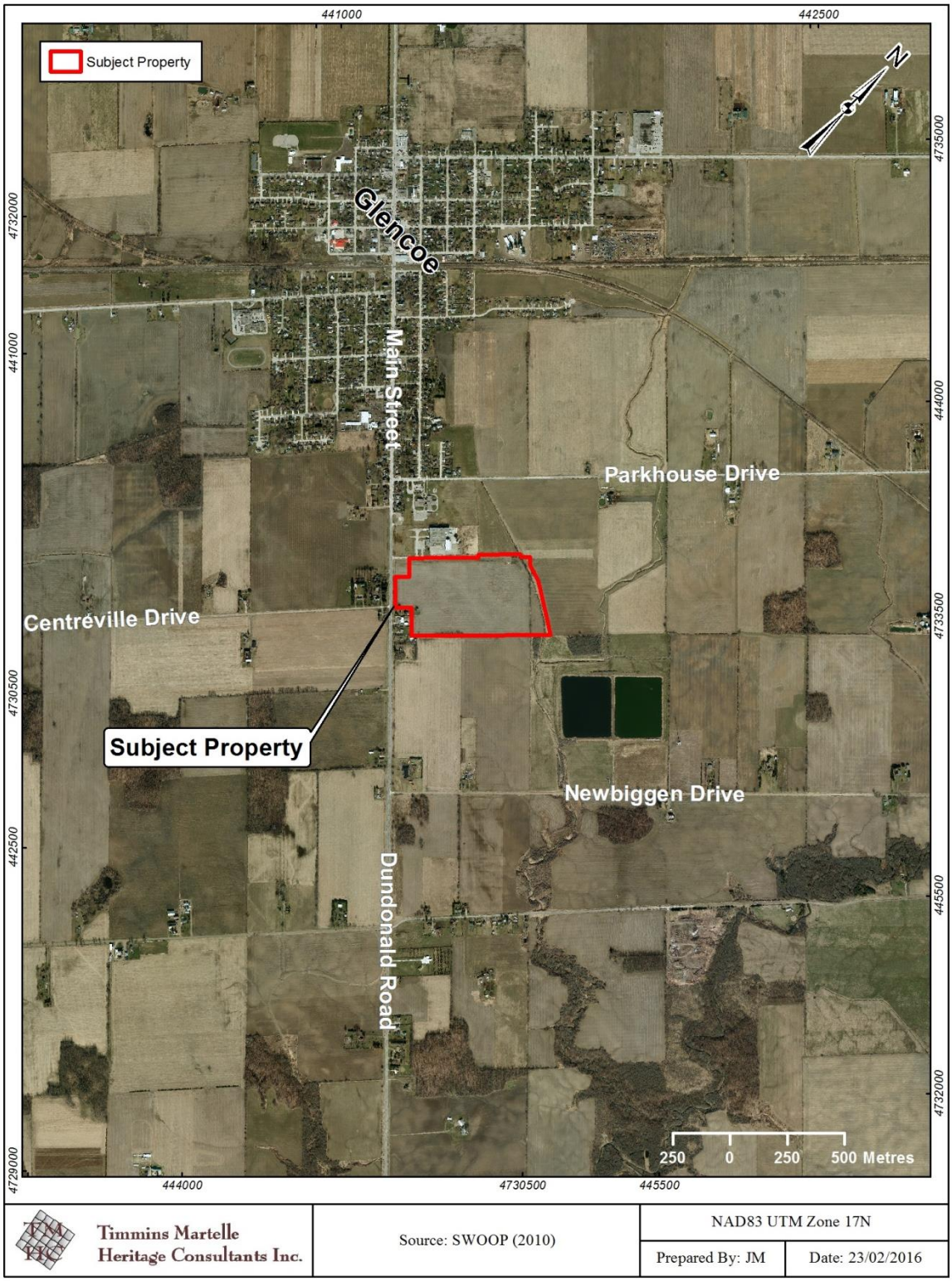
A) RWE, flown, cat.20; B) ivory body, transfer print, cat.18; C) ironstone, moulded Seashore, cat.16; D) semiporcelain, Wood & Son maker's mark, burnt, cat.1; E) semiporcelain, transfer print, cat.11; F) semiporcelain, decal, cat.12; G) porcelain, decal & gilded, cat.2; H) porcelain, coloured bands, cat.6; I) unidentified white EW, decorated, cat.30; J) coarse stoneware, Albany slipped, cat.34; K) opaque white Vaseline Cold Cream glass jar, cat.38; L) manganese glass container, cat.36; M) machine-made Dominion Glass container base, cat.40

8.0 MAPS

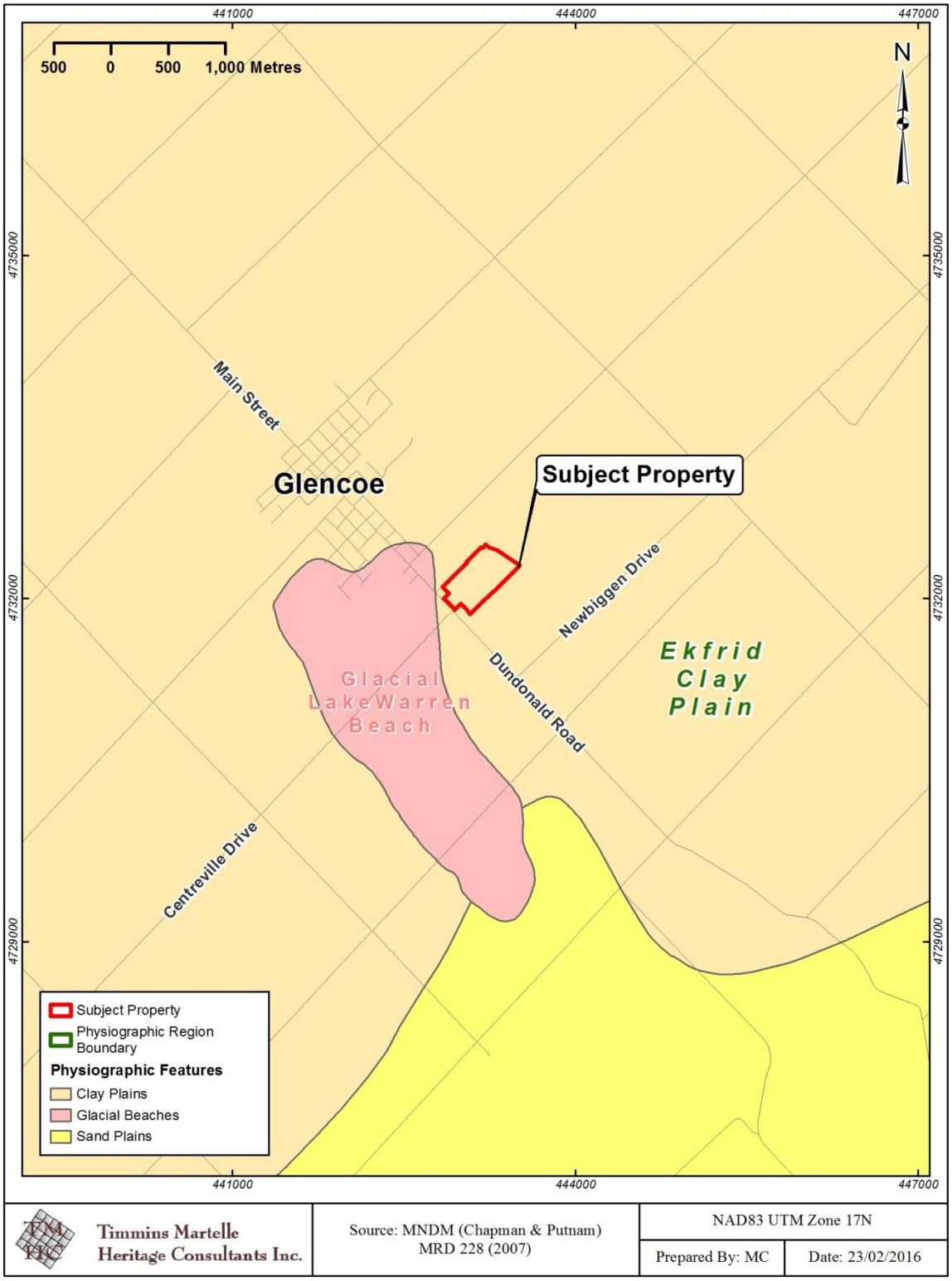


Timmins Martelle Heritage Consultants Inc.	Source: NRC: 1:50,000 Topographic Map Tile: 040/I13 (Strathroy, 2012) and 040/I12 (Bothwell, 2008)	NAD83 UTM Zone 17N	
		Prepared By: MC	Date: 23/02/2016

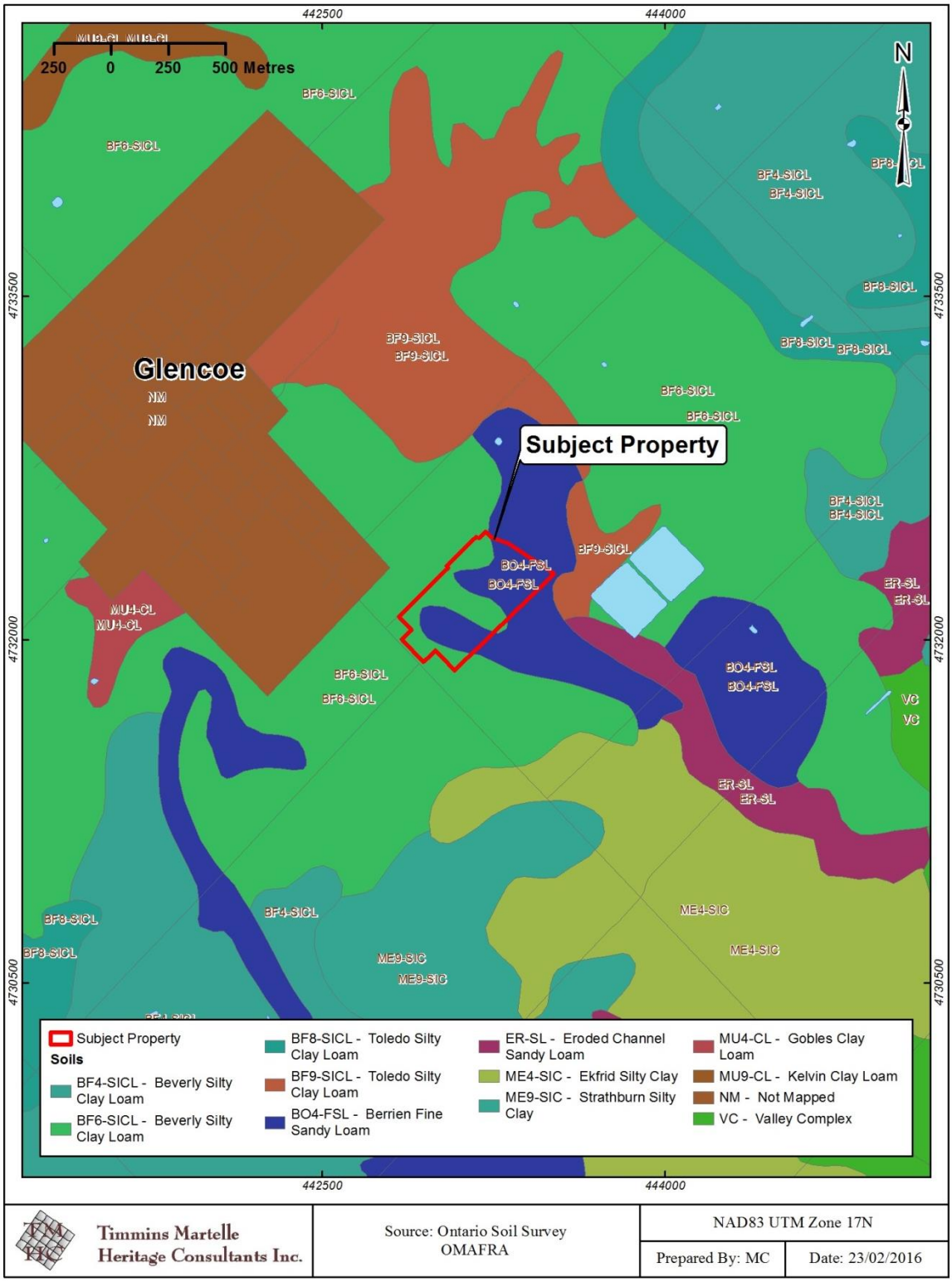
Map 1: Location of the Subject Property near Glencoe, ON



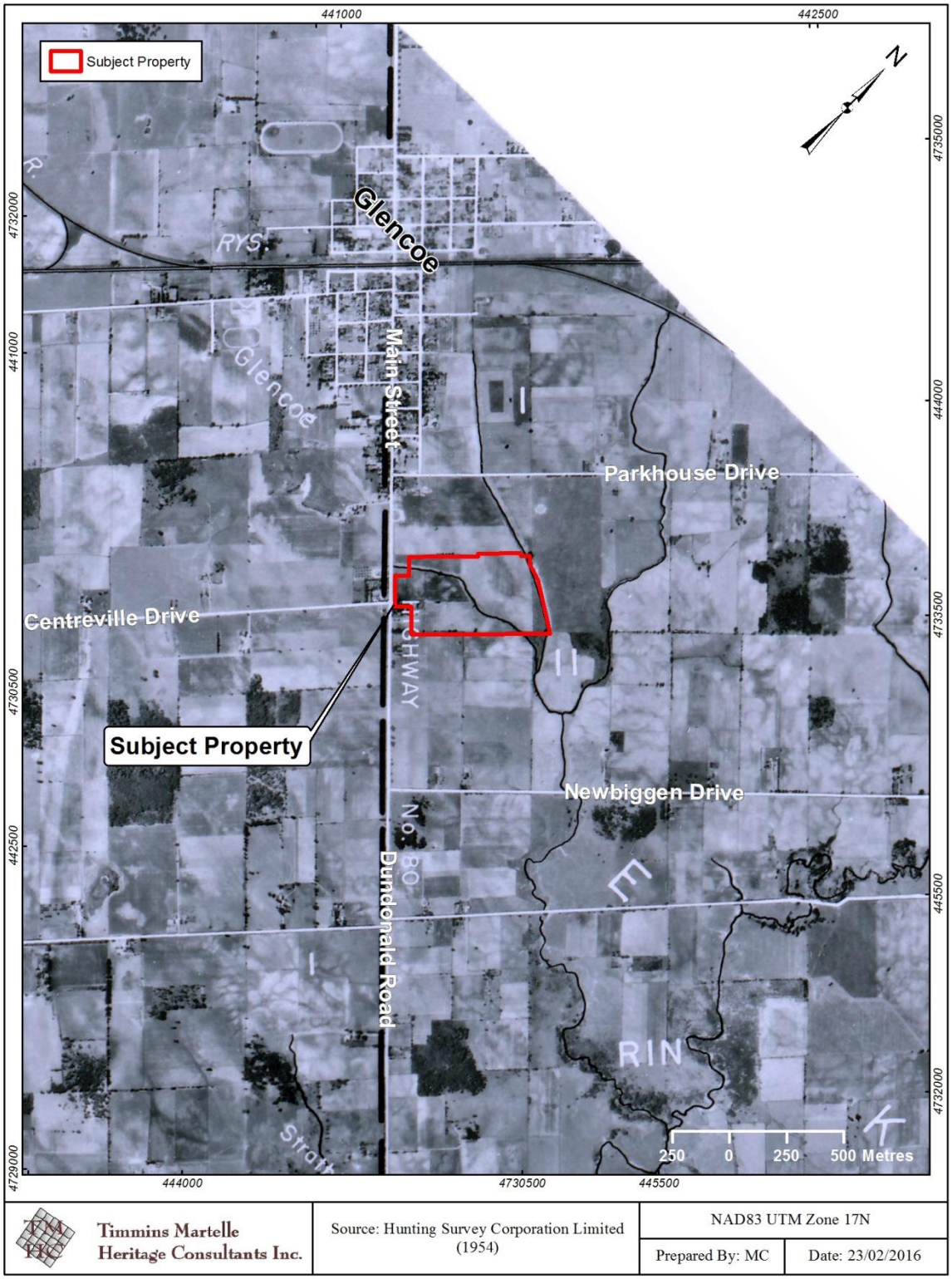
Map 2: Aerial Photograph Showing the Location of the Subject Property near Glencoe, ON



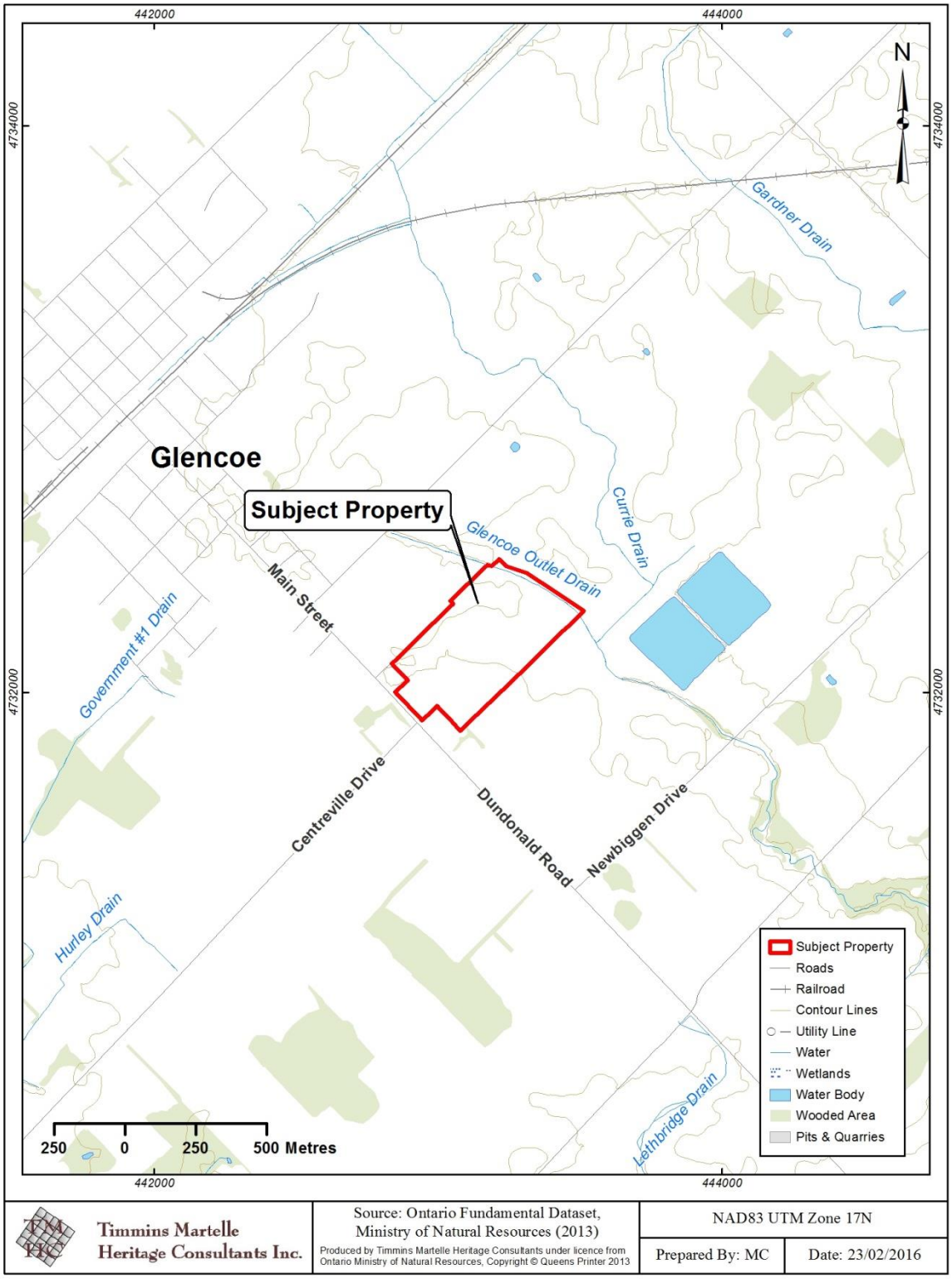
Map 3: Physiography within the Vicinity of the Subject Property



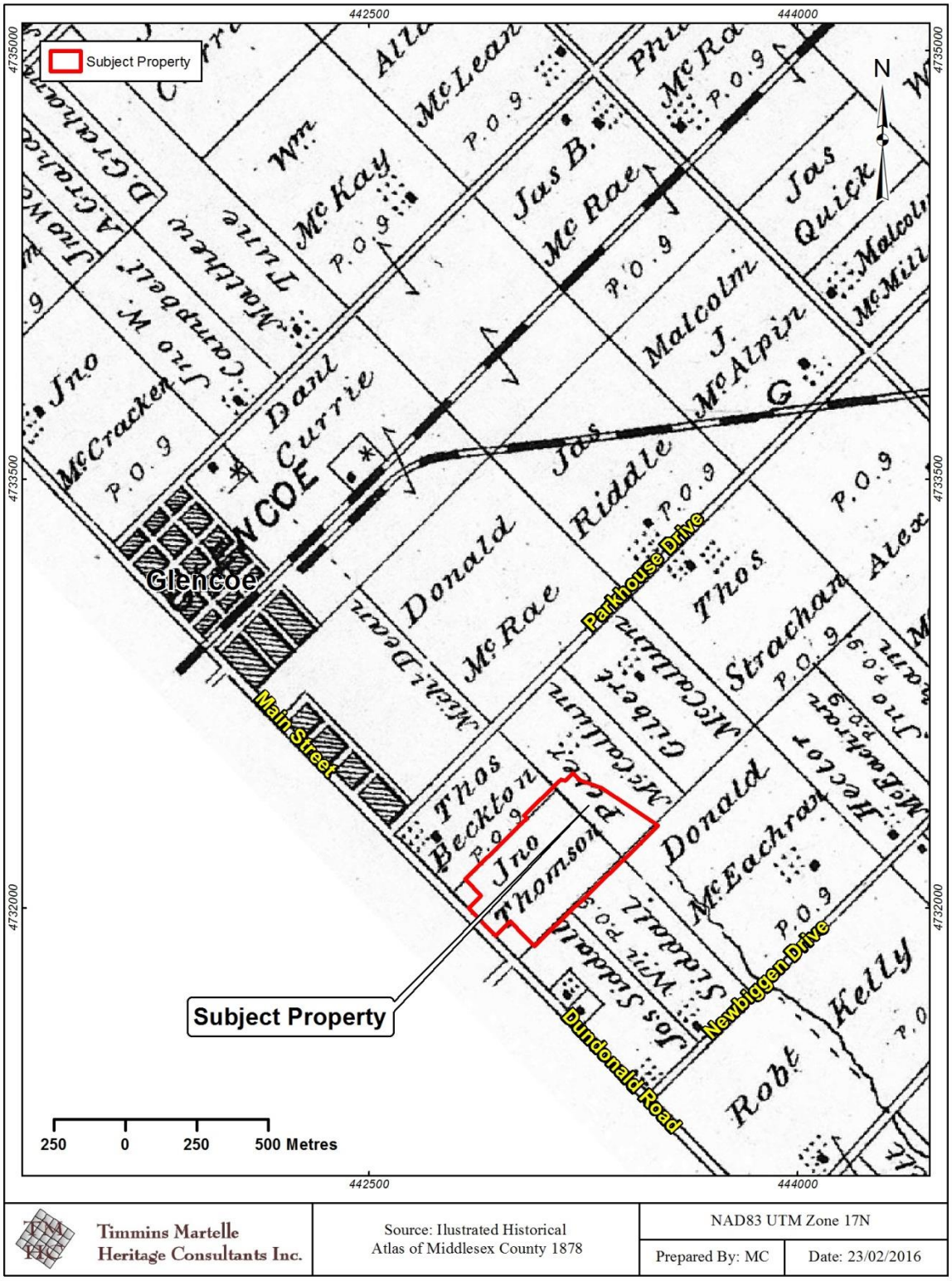
Map 4: Soils within the Vicinity of the Subject Property



Map 5: 1954 Aerial Photograph Showing the Location of the Subject Property in Glencoe, Ontario



Map 6: Drainage within the Vicinity of the Subject Property



Map 7: Location of the Subject Property Shown on the 1878 Illustrated Historical Atlas of Middlesex County

Timmins Martelle Heritage Consultants Inc.

- Subject Property
- Report Photo/Image Location & Orientation

Water Courses

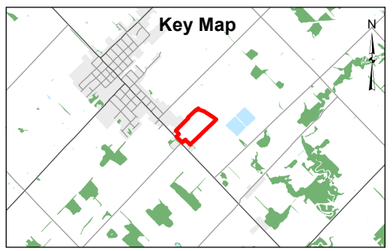
- Former Watercourse
- Glencoe Outlet Drain

Areas of Archaeological Potential

- Ploughed Agricultural Field (Pedestrian Survey, 5m)
- Manicured Lawn (Test Pit Survey, 5m)
- Confirmed Disturbance (Test Pit Survey, 10m)

Areas of Low Archaeological Potential

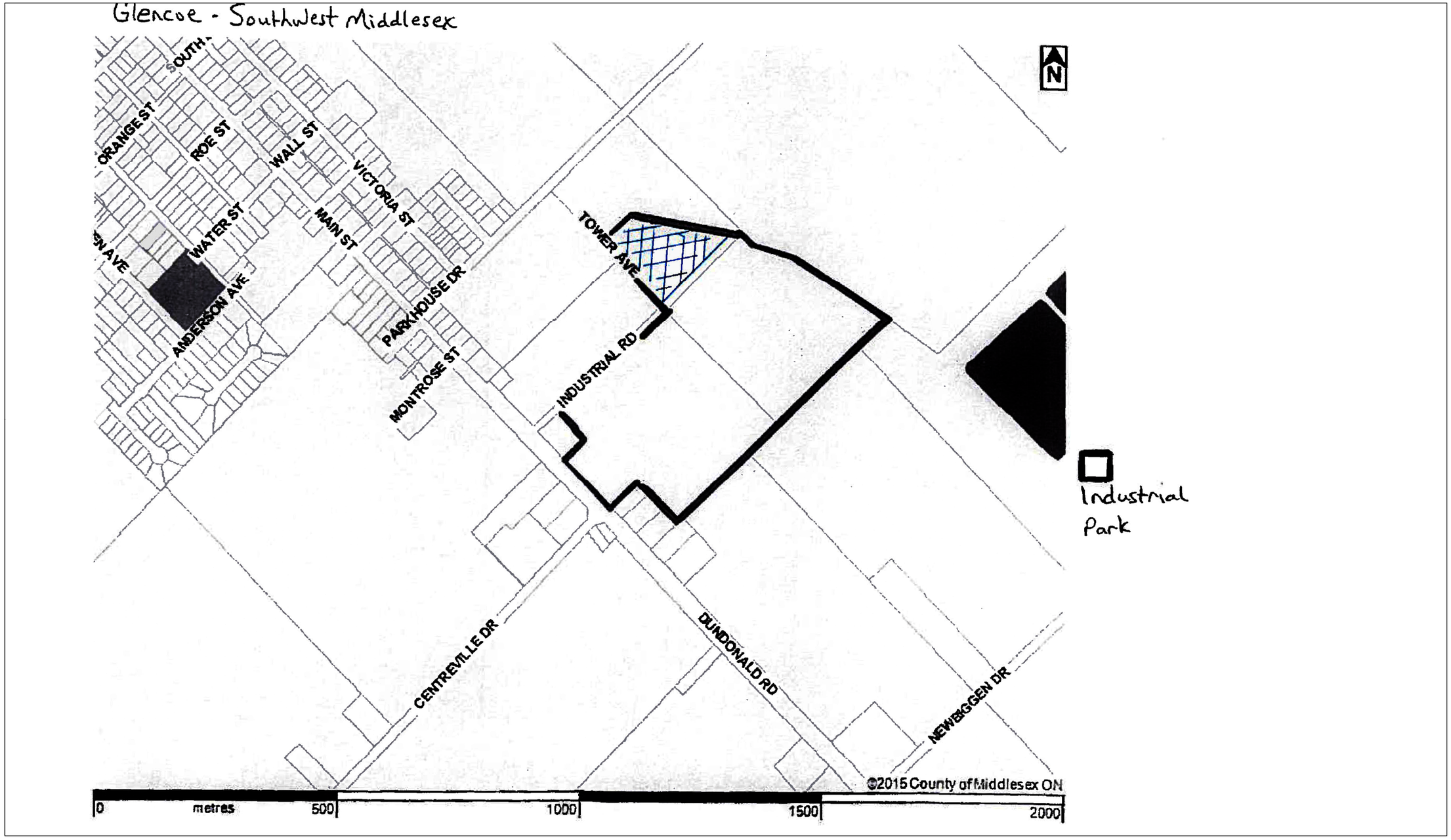
- Disturbed (Photo-Documented)
- Low Lying and Wet (Photo-Documented)



Source: SWOOP (2010) and OMNR and Forestry	
Coordinate System: NAD 1983 UTM Zone 17N	
Date: 24/02/2016	Prepared By: MC

Map 8: Stage 2 Field Conditions and Assessment Methods

Z:\Desktop Mapping\Projects\2015-028 Southwest Middlesex Certified Site St 1&2\Maps\Stage 2\Methods.mxd



Map 9: Proponent Mapping

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APPENDIX A: SUBJECT PROPERTY BOUNDARIES

The subject property boundaries were determined based on rough preliminary mapping (Map 9) and instructions provided by the client (see correspondence below); in conjunction with municipal lot boundaries provided the Municipality of Southwest Middlesex.

From: Janneke Newitt [mailto:JNewitt@southwestmiddlesex.ca]
Sent: April-09-15 5:02 PM
To: Matt Beaudoin
Subject: RE: Ploughing Requirements for Archaeological Assessment

Hello Matt,

The deadline issues is understood. We can work within that. I'm sure we can extend it if a Stage 3 or 4 assessment is required.

Re the farmhouse. If you're referring to the building with the green roof, it's an old dilapidated shed and yes, it's on the subject property. Please also refer to the map attached here. It's revised from the one sent earlier – removing the crosshatched portion of the site. That section will NOT be ploughed. Please don't include it in your proposal. All the rest of the property will be ploughed as it's being farmed now.

Janneke

Janneke Newitt, B.A., AMCT
Administrator/Clerk
Municipality of Southwest Middlesex
jnewitt@southwestmiddlesex.ca
519-287-2015, ext. 109

APPENDIX B: ARTIFACT CATALOGUE FOR LOCATION 1 (AeHk-43)

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1	surface collection	1	Glass	Food & Bev.	Closure	Mould blown		amber, club sauce stopper
2	surface collection	1	Glass	Food & Bev.	Closure	Mould blown		amber, club sauce stopper
3	surface collection	1	Glass	Modified	Utilized bottle	Mould blown		amber, finish/neck/partial shoulder, stopper bore, max L 57.57mm, T 4.74mm, utilized on shoulder edge, 26.14mm long, convex, possibly utilized on finish
4	surface collection	2	Glass	Food & Bev.	Beverage bottle	Mould blown		amber, flask, body and base sherds, possibly utilized on base
5	surface collection	1	Glass	Unknown	Bottle	Turn paste mould		amber, base/body sherd, cylindrical, possibly utilized
6	surface collection	1	Glass	Unknown	Unid. container glass	Mould blown		amber, base sherd
7	surface collection	1	Glass	Unknown	Unid. container glass	Turn paste mould		amber, body sherd
8	surface collection	2	Glass	Unknown	Unid. container glass	Mould blown		amber, small body sherds
9	surface collection	1	Glass	Unknown	Unid. container glass	Unknown		cobalt blue, small body sherd
10	surface collection	1	Glass	Unknown	Unknown	Unknown		opaque grey,
11	surface collection	1	Glass	Unknown	Molten glass	Unidentifiable		opaque blue
12	surface collection	1	Glass	Food & Bev.	Glassware	Opaque white		decorated
13	surface collection	1	Glass	Lighting	Lamp	Opaque white		
14	surface collection	1	Glass	Unknown	Unid. container glass	Opaque white		base/body sherd, cylindrical, partial embossed label on base M_C…
15	surface collection	1	Glass	Unknown	Unid. container glass	Opaque white		body sherd
16	surface collection	1	Glass	Modified	Utilized window	Unknown		trapezoid, max L 24.16, W 15.11mm, T 2.04mm, utilized on one short edge, 11.13mm long, straight
17	surface collection	3	Glass	Food & Bev.	Alcohol bottle	Turn paste mould		green, body sherds
18	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, base/body sherd, rectangular, slight circular scar on base with embossed 176 with shadow number
19	surface collection	4	Glass	Architectural	Pane glass	Not applicable		
20	surface collection	1	Glass	Modified	Utilized container	Mould blown		aqua, cylindrical body sherd, rectangular parallelogram, max L 67.16mm, W 31.83mm, T 5.14mm, utilized on one long edge, 19.07mm long, straight, cut-out

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
21	surface collection	1	Glass	Modified	Utilized container	Mould blown		aqua, base sherd, with embossed V and shadow V, max L 75.78mm, W 55.53mm, T 6.12mm, utilized on 4 edges: a) 18.65mm long, straight; b) 18.27mm long, straight, cut-out; c) 17.59mm long, straight; d) 21.02mm long, straight, cut-out
22	surface collection	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, base sherd, cylindrical, large, hint of embossed number in centre, possibly utilized
23	surface collection	1	Glass	Modified	Utilized container	Mould blown		aqua, neck/finish sherd, max L 40.04mm, W 26.08mm, T 5.14mm, utilized on one neck edge, 13.59mm long, straight
24	surface collection	4	Glass	Unknown	Unid. container glass	Unknown		aqua, misc. sherds
25	surface collection	1	Glass	Unknown	Bottle	Mould blown		bright green, neck/finish sherd, possibly utilized
26	surface collection	2	Glass	Unknown	Unid. container glass	Mould blown		pale green, small sherds
27	surface collection	1	Glass	Modified	Utilized container	Mould blown		green body sherd, max L 33.30mm, W 23.49mm, T 4.19mm, utilized on one edge, 15.90mm long, straight
28	surface collection	1	Glass	Food & Bev.	Alcohol bottle	Turn paste mould		green, body sherd
29	surface collection	1	Ceramic	Personal	Doll	Porcelain		one perforation, pink
30	surface collection	2	Ceramic	Food & Bev.	Plate	RWE, transfer	green	wide scallops, rim sherds
31	surface collection	1	Ceramic	Food & Bev.	Tableware	Ironstone		small base sherd, partial black transfer maker's mark IRONST…
32	surface collection	2	Ceramic	Food & Bev.	Tea cup	Ironstone		base sherds
33	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		
34	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		base sherd
35	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain, decal	green, brown, blue	unglazed base
36	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain, painted	green, blue, gold	with gilt
37	surface collection	1	Ceramic	Food & Bev.	Tableware	Porcelain, moulded	blue, gold	gilt, with blue
38	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain, gilt	gold	impressed rim
39	surface collection	1	Ceramic	Unknown	Unknown	Porcelain, moulded		small rim sherd, leaf?
40	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ironstone, slipped	blue	
41	surface collection	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	blue	

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
42	surface collection	1	Ceramic	Food & Bev.	Hollowware	RWE, transfer	blue	small rim sherd
43	surface collection	1	Ceramic	Food & Bev.	Hollowware	RWE, transfer	brown	small rim sherd
44	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ivory body, transfer	brown	small rim sherd
45	surface collection	2	Ceramic	Food & Bev.	Tableware	Ironstone, transfer	brown	misc. sherds
46	surface collection	1	Ceramic	Food & Bev.	Tea cup	VEW, transfer	turquoise	body sherd, handle scar
47	surface collection	3	Ceramic	Food & Bev.	Flatware	Unid. white EW	turquoise	transfer print
48	surface collection	1	Ceramic	Food & Bev.	Hollowware	Unid. white EW	green	small sherd, green band
49	surface collection	1	Ceramic	Food & Bev.	Tableware	Ironstone, moulded		rim sherd
50	surface collection	1	Ceramic	Food & Bev.	Tableware	Unid. white EW	black	moulded, hint of black décor, possibly flown
51	surface collection	1	Ceramic	Food & Bev.	Tableware	Unid. white EW	blue	small sherd, blue décor
52	surface collection	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		Wheat, small rim sherd
53	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		rim sherd
54	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ironstone, moulded		body sherd
55	surface collection	17	Ceramic	Food & Bev.	Tableware	Porcelain		misc. sherds
56	surface collection	7	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
57	surface collection	2	Ceramic	Food & Bev.	Tableware	Semiporcelain		
58	surface collection	1	Ceramic	Food & Bev.	Hollowware	Unid. white EW		
59	surface collection	19	Ceramic	Food & Bev.	Tableware	Unid. white EW		misc. sherds
60	surface collection	2	Brick	Architectural	Construction block	Unknown		red, frags
61	surface collection	1	Glass	Food & Bev.	Glassware	Manganese decoloured		base/body sherd, decorated base
62	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		small body sherd, partial embossed label …MILT…
63	surface collection	3	Glass	Unknown	Unid. container glass	Manganese decoloured		misc. sherds
64	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck sherd, mould blown, one knop
65	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck, mould blown
66	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck sherd, mould blown
67	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck sherd, mould blown
68	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Unknown		colourless, body sherd, partial embossed label …NTM…
69	surface collection	1	Ceramic	Architectural	Drain pipe/tile	C red EW, unglazed		
70	surface collection	2	Ceramic	Food & Bev.	Tableware	RWE, flown	blue	
71	surface collection	1	Ceramic	Food & Bev.	Tableware	RWE, transfer	red	

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
72	surface collection	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	green	small sherd
73	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	
74	surface collection	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	blue	moulded, blue décor
75	surface collection	1	Ceramic	Personal	Doll dish	Porcelain		
76	surface collection	1	Ceramic	Food & Bev.	Saucer	Semiporcelain, moulded		rim sherd
77	surface collection	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		base sherd
78	surface collection	1	Ceramic	Food & Bev.	Tableware	Porcelain, moulded		
79	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain, decal	green	with moulded décor
80	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain, decal	green, pink	with moulded décor
81	surface collection	1	Ceramic	Food & Bev.	Tableware	Porcelain, painted	orange, black	small sherd
82	surface collection	2	Ceramic	Food & Bev.	Tea cup	Porcelain		
83	surface collection	1	Ceramic	Personal	Doll dish	Porcelain		
84	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain		fugitive décor
85	surface collection	3	Ceramic	Food & Bev.	Tableware	Porcelain		misc. sherds
86	surface collection	1	Ceramic	Unknown	Hollowware	Porcelain		possibly utilized
87	surface collection	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
88	surface collection	3	Ceramic	Food & Bev.	Tableware	Unid. white EW		small sherds
89	surface collection	2	Glass	Architectural	Pane glass	Not applicable		
90	surface collection	2	Glass	Unknown	Unknown	Opaque white		
91	surface collection	1	Glass	Food & Bev.	Wine bottle	3 or more piece mould		green, shoulder sherd
92	surface collection	1	Glass	Food & Bev.	Wine bottle	Mould blown		green
93	surface collection	1	Glass	Food & Bev.	Alcohol bottle	Machine made		green
94	surface collection	2	Glass	Unknown	Unid. container glass	Manganese decoloured		misc. sherds
95	surface collection	1	Glass	Unknown	Hollowware	Unknown		colourless, container?
96	surface collection	1	Glass	Unknown	Unid. container glass	Turn paste mould		amber, body sherd
97	surface collection	1	Glass	Unknown	Unid. container glass	Mould blown		amber, body sherd, possibly utilized
98	surface collection	1	Glass	Food & Bev.	Beverage bottle	Mould blown		aqua, neck/finish
99	surface collection	3	Glass	Unknown	Unid. container glass	Mould blown		aqua, misc. sherds
100	surface collection	1	Glass	Modified	Utilized container	Manganese decoloured		body sherd, max L 25.35mm, W 20.30mm, T 2.56mm, utilized on one long edge, 15.85mm long, concave

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
101	surface collection	1	Glass	Modified	Utilized container	Unknown		body sherd, aqua, max L 36.50mm, W 23.48mm, T 3.48mm, utilized on one short edge, 13.09mm long, irregular
102	surface collection	1	Glass	Modified	Utilized container	Unknown		aqua, body sherd, max L 30.53mm, W 27.58mm, T 3.22mm, utilized one two edges: a) 13.43mm long, straight; b) 13.48mm long, concave
103	surface collection	1	Glass	Modified	Utilized window	Unknown		decorated textured window, max L 38.42mm, W 25.77mm, T 3.91mm, utilized on 3 edges: a) 20.50mm long, concave; b) 15.00mm long, concave; c) 17.97mm long, irregular
104	surface collection	1	Brick	Architectural	Construction block	Unknown		yellow, small frag
105	surface collection	1	Chert	Native	UFL	Unknown		till chert, secondary flake
	Total	**176**						

APPENDIX C: ARTIFACT CATALOGUE FOR LOCATION 2 (AeHk-44)

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1	surface collection	2	Ceramic	Clothing	Button	Prosser		white, two sizes
2	surface collection	2	Ceramic	Food & Bev.	Tableware	Porcelain		base sherd, fugitive décor, partial green transfer printed maker's mark of an eagle with outstretched wings and a fugitive label GER…
3	surface collection	1	Ceramic	Food & Bev.	Handle	Porcelain		
4	surface collection	2	Ceramic	Food & Bev.	Flatware	Porcelain, decal	green	
5	surface collection	1	Ceramic	Food & Bev.	Tea cup	Porcelain, decal	green, pink, purple	
6	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain, decal	green	burnt, with moulded décor
7	surface collection	1	Ceramic	Food & Bev.	Saucer	Porcelain, painted	blue, gold	
8	surface collection	1	Ceramic	Food & Bev.	Tableware	Porcelain		fugitive décor, hint of pink
9	surface collection	1	Ceramic	Furniture	Figurine	Porcelain		
10	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		small rim sherd
11	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded		
12	surface collection	3	Ceramic	Food & Bev.	Tableware	Porcelain, moulded		misc. sherds
13	surface collection	11	Ceramic	Food & Bev.	Tableware	Porcelain		misc. sherds
14	surface collection	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain		fugitive décor
15	surface collection	4	Ceramic	Food & Bev.	Tea cup	Semiporcelain, transfer	green, gold	with gilt
16	surface collection	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	green	
17	surface collection	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small base sherd, partial green transfer print maker's mark SEMI…
18	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	green	small rim sherd
19	surface collection	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd, fugitive décor
20	surface collection	2	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	with moulded décor
21	surface collection	2	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	
22	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	with moulded décor
23	surface collection	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	turquoise	
24	surface collection	4	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	misc. sherds
25	surface collection	1	Ceramic	Unknown	Flatware	Semiporcelain, transfer	black	with moulded décor, corner sherd of shallow, rectangular vessel, tableware or toiletry
26	surface collection	2	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	black	

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
27	surface collection	2	Ceramic	Food & Bev.	Flatware	Ivory body, transfer	brown	
28	surface collection	2	Ceramic	Food & Bev.	Plate	Ironstone, transfer	brown	with moulded décor
29	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ironstone, transfer	brown	with moulded décor
30	surface collection	2	Ceramic	Food & Bev.	Hollowware	Ironstone, transfer	brown	
31	surface collection	3	Ceramic	Food & Bev.	Plate	Ironstone, transfer	brown	
32	surface collection	1	Ceramic	Food & Bev.	Tableware	Ironstone, transfer	brown	
33	surface collection	1	Ceramic	Food & Bev.	Hollowware	RWE, transfer	brown	
34	surface collection	1	Ceramic	Food & Bev.	Saucer	Semiporcelain, transfer	brown	
35	surface collection	1	Ceramic	Food & Bev.	Tableware	Unid. white EW		hint of brown décor or mark
36	surface collection	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd, partial brown transfer print maker's mark …ME…
37	surface collection	1	Ceramic	Food & Bev.	Hollowware	RWE, flown	blue	small rim sherd
38	surface collection	2	Ceramic	Food & Bev.	Saucer	RWE, flown	blue	
39	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		base sherd, hint of blue décor
40	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain, transfer	black	small rim sherd
41	surface collection	1	Ceramic	Food & Bev.	Saucer	Ironstone		base sherd, partial black transfer maker's mark of Royal Arms with (r)OYAL IRONSTONE CHINA above
42	surface collection	1	Ceramic	Food & Bev.	Flatware	Ironstone		base sherd, partial black transfer maker's mark of Royal Arms with (ro)YAL IRONSTO(ne)... above
43	surface collection	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone, moulded		
44	surface collection	3	Ceramic	Food & Bev.	Tea cup	Ironstone, moulded		Grapes
45	surface collection	1	Ceramic	Food & Bev.	Saucer	Ironstone, undec.		
46	surface collection	1	Ceramic	Food & Bev.	Saucer	Ironstone, moulded		Wheat
47	surface collection	3	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		misc. sherds
48	surface collection	3	Ceramic	Food & Bev.	Hollowware	Ironstone, moulded		misc. sherds
49	surface collection	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		Wheat
50	surface collection	1	Ceramic	Food & Bev.	Tea/ coffee pot	Ironstone, moulded		Seashore, spout sherd
51	surface collection	1	Ceramic	Food & Bev.	Tea cup	Ironstone, moulded		handle sherd
52	surface collection	1	Ceramic	Unknown	Handle	Ironstone, moulded		large vessel
53	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		rim sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
54	surface collection	2	Ceramic	Food & Bev.	Tea cup	Ironstone, undec.		
55	surface collection	2	Ceramic	Food & Bev.	Plate	Ironstone, undec.		
56	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	with moulded décor, small rim sherd
57	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		fugitive décor
58	surface collection	1	Ceramic	Food & Bev.	Flatware	Ironstone, undec.		rim sherd
59	surface collection	5	Ceramic	Food & Bev.	Tableware	Semiporcelain		misc. sherds
60	surface collection	44	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
61	surface collection	10	Ceramic	Food & Bev.	Tableware	Unid. white EW		
62	surface collection	1	Ceramic	Food & Bev.	Hollowware	Yellowware, Rockingham		
63	surface collection	3	Ceramic	Food & Bev.	Hollowware	CEW, glazed		yellow fabric, beige glaze both surfaces
64	surface collection	1	Ceramic	Food & Bev.	Hollowware	C STNW, Salt-glaze		grey
65	surface collection	1	Ceramic	Food & Bev.	Lid	C STNW, Albany int.		
66	surface collection	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.		base/body sherd
67	surface collection	1	Ceramic	Food & Bev.	Handle	C red EW, glazed		dark blue glaze, likely modern
68	surface collection	1	Glass	Lighting	Lamp chimney	Beaded/crimped		colourless
69	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		mould blown
70	surface collection	3	Glass	Unknown	Unid. container glass	Manganese decoloured		misc. sherds
71	surface collection	1	Glass	Food & Bev.	Soda bottle	Hutchinson stopper		aqua, finish
72	surface collection	1	Glass	Health & Hygiene	Drug bottle	Mould blown		aqua, complete
73	surface collection	1	Glass	Unknown	Unid. container glass	Mould blown		cobalt blue, base sherd
74	surface collection	1	Glass	Food & Bev.	Closure	Mould blown		aqua, jar liner
75	surface collection	1	Glass	Food & Bev.	Glassware	Unknown		marbled opaque purple and white, embossed décor
76	surface collection	1	Glass	Food & Bev.	Glassware	Opaque white		
77	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Perry Davis finish		aqua, mould blown
78	surface collection	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		amber, stopper bore
79	surface collection	1	Glass	Unknown	Bottle	Turn paste mould		amber, stopper bore
80	surface collection	2	Glass	Unknown	Bottle	Mould blown		amber, flask?
81	surface collection	1	Glass	Food & Bev.	Beverage bottle	Machine made		bright green, base sherd, hint of diamond logo
82	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, body sherd, partial embossed label
83	surface collection	2	Glass	Unknown	Unid. container glass	Mould blown		aqua, misc. sherds

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
84	surface collection	4	Glass	Unknown	Unid. container glass	Unknown		aqua, misc. sherds, one possibly utilized
85	surface collection	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		colourless, base/body sherd, square
86	surface collection	1	Glass	Unknown	Unid. container glass	Machine made		colourless, small sherd, partial embossed label … CO. WIN….
87	surface collection	3	Glass	Architectural	Pane glass	Not applicable		
88	surface collection	1	Glass	Architectural	Pane glass	20th Century		frosted décor
89	surface collection	3	Glass	Lighting	Lamp	Opaque white		small sherds
90	surface collection	1	Glass	Food & Bev.	Wine bottle	Turn paste mould		green
91	surface collection	4	Glass	Food & Bev.	Wine bottle	Mould blown		green, base and push-up sherds
92	surface collection	1	Glass	Unknown	Lid	Opaque white		
93	surface collection	1	Glass	Unknown	Unknown	Opaque white		
94	surface collection	1	Glass	Health & Hygiene	Jar	Opaque white		complete, chipped, 12-sided ext., squat, 3 threads, embossed label on base CHESEBROUGH MFG CO. NY
95	surface collection	3	Glass	Health & Hygiene	Jar	Opaque white		incomplete, CHESEBROUGH, same vessel type as cat.94
96	surface collection	1	Glass	Health & Hygiene	Jar	Opaque white		incomplete, same vessel type as cat.94
97	surface collection	1	Glass	Modified	Utilized container	Mould blown		green, alcohol bottle body sherd, trapezoid, max L 19.84mm, W 16.17mm, T 2.74mm, utilized on one edge (top), 13.66mm long, concave
98	surface collection	1	Glass	Modified	Utilized container	Mould blown		green, wine bottle base/body sherd, max L 80.18mm, W 43.93mm, T 14.21mm, utilized on base, 37.74mm long, irregular
99	surface collection	1	Glass	Food & Bev.	Tumbler, fluted	Pressed		colourless rummer, base, 14 flutes, possibly leaded
100	surface collection	1	Chert	Native	RTF	Unknown		Kettle Point chert
	Total	**212**						

APPENDIX D: ARTIFACT CATALOGUE FOR LOCATION 3

Cat. #	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1	surface collection	1	Glass	Food & Bev.	Handle	Manganese decoloured		
2	surface collection	1	Glass	Unknown	Unknown	Opaque white		
3	surface collection	1	Glass	Modified	Utilized container	Unknown		cobalt blue, body sherd, max L 19.64mm, W 16.50mm, T 3.41mm, utilized on one edge, 13.00mm long, straight
4	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded		
5	surface collection	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small base sherd, partial turquoise transfer printed maker's mark …EY EN(gland) / SEMI-PORCE(lain)
6	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	with moulded décor
7	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	floral, small sherd
8	surface collection	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	green	base sherd
9	surface collection	1	Ceramic	Food & Bev.	Flatware	Unid. white EW	brown	floral transfer print, burnt
10	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ironstone, transfer	brown	
11	surface collection	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	brown	
12	surface collection	1	Ceramic	Food & Bev.	Hollowware	VEW, transfer	blue	
13	surface collection	2	Ceramic	Food & Bev.	Flatware	Porcelain, transfer	blue	
14	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain, transfer	blue	rim sherd, Willow
15	surface collection	1	Ceramic	Food & Bev.	Hollowware	Unid. white EW	blue	flown, small sherd
16	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain		fugitive décor
17	surface collection	1	Ceramic	Food & Bev.	Plate	Ironstone, moulded		Seashore
18	surface collection	1	Ceramic	Food & Bev.	Plate	Ironstone, moulded		rim sherd
19	surface collection	1	Ceramic	Food & Bev.	Handle	Ironstone, moulded		
20	surface collection	1	Ceramic	Unknown	Lid	Ironstone, moulded		toy? small, rectangular octagonal lid with a bird's nest, impressed on underside 57 with a logo in a shield
21	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain		small rim sherd
22	surface collection	2	Ceramic	Food & Bev.	Tableware	Semiporcelain		
23	surface collection	7	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
	Total	**31**						

APPENDIX E: ARTIFACT CATALOGUE FOR LOCATION 4 (AeHk-45)

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1	surface collection	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		burnt, transfer printed maker's mark of crown with banner and RO(yal) / SEMIPORCELAIN / WOOD & SON
2	surface collection	2	Ceramic	Food & Bev.	Saucer	Porcelain, decal	pink, green, brown, grey, yellow	
3	surface collection	3	Ceramic	Food & Bev.	Flatware	Porcelain, decal	green	misc. sherds
4	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain, decal	pink	
5	surface collection	1	Ceramic	Personal	Doll dish	Porcelain		
6	surface collection	1	Ceramic	Food & Bev.	Saucer	Porcelain	blue, brown	painted bands?
7	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain	yellow, green	
8	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain	green	
9	surface collection	1	Ceramic	Food & Bev.	Hollowware	Porcelain, gilt	blue, gold	with blue décor
10	surface collection	1	Ceramic	Architectural	Electrical item	Porcelain		
11	surface collection	2	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	turquoise	rim sherds, 1 burnt
12	surface collection	2	Ceramic	Food & Bev.	Tableware	Semiporcelain, decal	blue, yellow, black, green, pink	
13	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ironstone, decal	pink, green, brown	
14	surface collection	1	Ceramic	Food & Bev.	Flatware	Ironstone, decal	pink, green, black	
15	surface collection	1	Ceramic	Food & Bev.	Tableware	Ironstone, transfer	black	
16	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ironstone, moulded		Seashore
17	surface collection	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	brown	
18	surface collection	1	Ceramic	Food & Bev.	Hollowware	Ivory body, transfer	brown	
19	surface collection	1	Ceramic	Food & Bev.	Hollowware	Vitrified White	blue	decal?
20	surface collection	1	Ceramic	Food & Bev.	Tableware	RWE, flown	blue	
21	surface collection	1	Ceramic	Food & Bev.	Flatware	Ironstone	green	thin green band
22	surface collection	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, moulded		
23	surface collection	1	Ceramic	Food & Bev.	Handle	Ironstone		burnt
24	surface collection	1	Ceramic	Food & Bev.	Flatware	Porcelain, gilt		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
25	surface collection	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone		oval, base/body sherd
26	surface collection	2	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		
27	surface collection	9	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
28	surface collection	7	Ceramic	Food & Bev.	Tableware	Porcelain		misc. sherds
29	surface collection	8	Ceramic	Food & Bev.	Tableware	Semiporcelain		misc. sherds
30	surface collection	2	Ceramic	Food & Bev.	Flatware	Unid. white EW	orange	likely modern
31	surface collection	1	Ceramic	Food & Bev.	Tableware	Unid. white EW		moulded décor
32	surface collection	5	Ceramic	Food & Bev.	Tableware	Unid. white EW		misc. sherds
33	surface collection	2	Ceramic	Food & Bev.	Tableware	Unid. white EW		burnt
34	surface collection	3	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.		
35	surface collection	1	Glass	Food & Bev.	Beverage bottle	Machine made		bright green
36	surface collection	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
37	surface collection	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green, body sherd
38	surface collection	1	Glass	Health & Hygiene	Jar	Opaque white		base/body sherd, cosmetic or cream, partial embossed label C(hese)BROUGH MFG CO NY
39	surface collection	1	Glass	Health & Hygiene	Jar	Opaque white		rim/body sherd
40	surface collection	1	Glass	Unknown	Unid. container glass	Machine made		colourless, base sherd, embossed logo of D in a diamond
41	surface collection	1	Glass	Unknown	Unid. container glass	Machine made		colourless, base sherd, embossed logo of D in a diamond, with a small valve mark
42	surface collection	2	Glass	Unknown	Unid. container glass	Machine made		colourless
43	surface collection	1	Glass	Unknown	Unknown	Machine made		colourless, decorated
44	surface collection	1	Glass	Architectural	Pane glass	Not applicable		
45	surface collection	2	Glass	Architectural	Pane glass	20th Century		ribbed glass
	Total	**82**						

APPENDIX ‘E’

Stage 3 Archaeological Assessment

Prepared by Timmins Martelle Heritage Consultants

Stage 3 Archaeological Assessment Southwest Middlesex Certified Site Location 1&2 (AeHk-43 & AeHk-44), and Location 4 (AeHk-45) Part of Lot 24, Second Range North Geographic Township of Ekfrid Municipality of Southwest Middlesex Middlesex County, Ontario

Submitted to

Municipality of Southwest Middlesex
153 McKellar Street, P.O. Box 218, Glencoe, ON N0L 1M0

and

The Ontario Ministry of Tourism, Culture and Sport

Prepared by

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Our File: 2016-027
PIF Number: P324-0117-2016, P324-0118-2016, P324-0119-2016

October 2016
(Original report submitted to the Ministry of Tourism, Culture and Sport 4 October 2016)

Executive Summary

A Stage 1 and 2 archaeological assessment was previously conducted for a roughly 20 hectare rural agricultural parcel, falling within part of Lots 23 and 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County (now the Municipality of Southwest Middlesex), Ontario. The archaeological assessment was undertaken as part of the Certified Site Program and to satisfy, in advance, any *Planning Act* or other requirements that may be imposed by future development.

Three historical archaeological sites (Location 1- AeHk-43; Location 2 - AeHk-44; and Location 4 - AeHk-45) were identified during Stage 2 pedestrian survey that met the provincial criteria for a Stage 3 archaeological assessment. This report describes the results of Stage 3 controlled surface collection (CSC) and historical background research of AeHk-43, AeHk-44 and AeHk-45. This work was conducted in accordance with the provisions of the *Planning Act* and *Provincial Policy Statement*.

Historical research indicates that John and Catherine Thomson owned and occupied the lot from 1873 until 1917. The Thomson homestead is described in census records as a brick, two-storey dwelling with 12 rooms. While the structure is not depicted on historical mapping, it likely fronted Dundonald Road.

A Stage 3 controlled surface collection (CSC) was undertaken for Locations 1, 2 and 4, in keeping with *The Archaeology of Rural Historical Farmsteads: A Technical Bulletin for Consultant Archaeologists in Ontario* (MTCS 2014). As the sites were located within a recently ploughed agricultural field, the sites were subject to a pedestrian survey at a one metre interval or less, under conditions of good weathering and 80% surface visibility or better. As Locations 1 and 2 are large sites with dense scatters of artifacts, the surface collection was undertaken using 5 by 5 metre grid units as is appropriate for large sites (Section 3.2.1, Standard 3). Due to the close proximity of Locations 1 and 2, and the consistent timeframe of the sites, the grid was established over both sites, and the CSC was conducted for these two sites combined. Artifacts at Location 4 were flagged and their location mapped using a Topcon GRS-1 RTK GPS/Glonass Network Rover, a high precision survey unit. A total of 1,248 items were collected from Location 1&2, including 54 modern items, six native lithics and 1,188 historical artifacts. At Location 4, a total of 183 items were collected including 19 modern items, two native lithic artifacts and 162 historical artifacts.

Our recommendations with respect to each of these locations are presented below.

1) Location 1&2 (AeHk-43 & AeHk-44) is a large multicomponent site with a late-19th/20th century component and an undiagnostic native component.
    a. The 19th century component is a c. 1885 through 1930 domestic site spanning the ownership of the north part of Lot 24, Second Range North by the Thomson family. As the occupation of the site post-dates 1870, the

site does not qualify for Stage 4 mitigation of construction impacts based on provincial standards. The site should be deemed sufficiently documented and no further assessment is recommended.

b. The native component of Location 1&2 is six undiagnostic lithic artifacts. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented.

2) Location 4 (AeHk-45) is a multicomponent site with a late-19th/20th century component and an undiagnostic native component.
   a. The 19th century component is a c. 1885 through 1930 domestic site spanning the ownership of the north part of Lot 24, Second Range North by the Thomson family. As the occupation of the site post-dates 1870, the site does not qualify for Stage 4 mitigation of construction impacts based on provincial standards. The site should be deemed sufficiently documented and no further assessment is recommended.
   b. The native component of Location 4 is two undiagnostic lithic artifacts. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented.

These recommendations are subject to report review and acceptance by the Ministry of Tourism, Culture and Sport and to the provisions established in Section 4.0 of this report.

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TMHC would like to thank the following staff members who contributed to this project:

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Janneke Newitt *Administrator and Clerk*
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Stage 3 Archaeological Assessment
Southwest Middlesex Certified Site
Location 1&2 (AeHk-43 & AeHk-44),
and Location 4 (AeHk-45)
Part of Lot 24, Second Range North
Geographic Township of Ekfrid
Municipality of Southwest Middlesex
Middlesex County, Ontario

1.0 PROJECT CONTEXT

1.1 Development Context

1.1.1 Introduction

A previous Stage 1 and 2 archaeological assessment was conducted for a roughly 20 hectare rural agricultural parcel, falling within part of Lots 23 and 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County (now the Municipality of Southwest Middlesex), Ontario. The archaeological assessment was undertaken as part of the Certified Site Program and to satisfy, in advance, any *Planning Act* or other requirements that may be imposed by future development.

Three historical archaeological sites (Location 1- AeHk-43; Location 2 - AeHk-44; and Location 4 - AeHk-45) were identified during Stage 2 pedestrian survey that met the provincial criteria for a Stage 3 archaeological assessment. This report describes the results of Stage 3 controlled surface collection (CSC) and historical background research for AeHk-43, AeHk-44, and AeHk-45. This work was conducted in accordance with the provisions of the *Planning Act* and *Provincial Policy Statement*.

All archaeological consulting activities were performed under the Professional Archaeological License of Matthew Beaudoin, Ph.D. (P324) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Permission to enter the property and carry out all required archaeological work, including collecting artifacts when present, was given by Janneke Newitt of the Municipality of Southwest Middlesex.

1.1.2 Purpose and Legislative Context

The *Ontario Heritage Act* makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the *Provincial Policy Statement* (PPS) which states:

> *development* and *site alteration* shall not be permitted on lands containing *archaeological resources* or *areas of archaeological potential* unless *significant archaeological resources* have been *conserved* …..
>
> In the PPS the term *conserved* means:
>
> the identification, protection, management and use of *built heritage resources, cultural heritage landscapes* and *archaeological resources* in a manner that ensures their cultural heritage value or interest is retained under the *Ontario Heritage Act*. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment and/or heritage impact assessment.

Section 3.5 of the *Planning Act* stipulates that municipalities shall have regard for the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest. A Stage 1 archaeological assessment is undertaken to satisfy a concern for archaeological resources. The purpose of a Stage 1 background study is to determine if there is potential for cultural resources to be found on a property for which a change in land use is pending. It is used to determine the need for a Stage 2 field assessment involving the search for archaeological sites. In accordance with *Provincial Policy Statement* 2.6, if significant sites are found during a Stage 2 field survey, these must be evaluated by Stage 3 testing to better document their size, natural, cultural and temporal affiliation and integrity. Following Stage 3 testing, sites are evaluated against provincially established criteria to determine if Stage 4 mitigation of construction impacts is warranted. Mitigation strategies include avoidance and long-term protection or documentation through complete excavation.

The subject property is currently enrolled in the Ontario Ministry of Economic Development, Employment & Infrastructure Certified Site Program. This program prepares a property for development, which means that a formal development plan and application for the lands may be prepared in the future. As part of the program requirements for a Certified Site designation, an archaeological assessment was triggered, in anticipation of a formal requirement of future development approval.

1.2 Project Context: Archaeological Context

1.2.1 Subject Property: Overview and Physical Setting

The subject property is a roughly 20 hectare rural agricultural parcel fronting the northeast side of Dundonald Road, located southeast of the community of Glencoe. The subject property encompasses part of Lots 23 and 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County, Ontario. The subject property is bounded to the northwest by Industrial Road, to the southwest by Dundonald Road, several residential/commercial properties and a fire hall, to the southeast by a treed line

that separates two agricultural fields, and to the northeast by the Glencoe Outlet Drain (Maps 1 to 2). The property consists primarily of a cultivated agricultural field, where the general topography of the property is flat to gently undulating. Areas of sandy soil within the field are generally elevated over more clay-like soils. AeHk-43, AeHk-44, and AeHk-45 were all found within the agricultural field. The property also contains an existing barn associated with a farmhouse fronting Dundonald Road. The northern corner of the parcel contains a portion of a gravel roadway, a grassed area, and a pumping station. The gravel laneway is an extension of Industrial Road, which is extensively ditched and has buried subsurface utilities (e.g., water and sewer) on the southeastern side. The lands to the southwest of the subject property also contain a recently built fire station. A small channelized watercourse (the Glencoe Outlet Drain) runs along the northeast property boundary. The lands to the north and east of the parcel are agricultural, to the south are largely residential, and to the west consist of a large industrial complex. This general area is still primarily rural, but contains a number of commercial businesses and industrial complexes.

The subject property falls within the Ekfrid Clay Plain physiographic region, as defined by Chapman and Putnam (1966:238). This is a region of stratified clays and nearly level surface topography covering parts of Elgin and Middlesex counties. The flat plain is interrupted in places by the valleys of the Thames and Sydenham rivers and by small knolls and ridges of sand and gravel that are superimposed on the clay (Chapman and Putnam 1966:238). A former glacial Lake Warren beach is located to the southwest of the property, and is within one kilometre from the edge of the subject property (Map 3).

The soils within the subject property consist of Beverly Silty Clay Loam, which is found within the north corner and center of the property, as well as Berrien Fine Sandy Loam, found within the eastern portion of the property and a portion of the southern half of the property (Map 4). Beverly soils are imperfectly drained and are part of the Brantford Association, which occur on level to gently sloping glaciolacustrine plains, or steeper slopes adjacent to stream courses (Hagerty and Kingston 1992:36). Berrien soils are part of the Bookton Association, which occur on shallow sandy knolls to nearly level to gently sloping glaciolacustrine clay plains (Hagerty and Kingston 1992:30). Berrien soils are also imperfectly drained.

The subject property falls within the Lower Thames River watershed. Evidence of a former watercourse that ran from the west corner of the property to the eastern edge, and joined what is now the Glencoe Outlet Drain is visible from modern aerial photography (Map 2) and can be seen on a 1954 aerial photograph of the property (Hunting Survey Corporation Ltd. 1954; Map 5). The Glencoe Outlet Drain currently runs along the northeastern boundary (Map 6).

1.2.2 Summary of Registered or Known Archaeological Sites

According to the Ministry of Tourism, Culture and Sport's provincial site database (searched June 3, 2016) there are no registered archaeological sites within one kilometre of the subject property. This is due primarily to the fact that there have been few archaeological assessments carried out in the immediate vicinity.

1.2.3 Summary of Past Archaeological Investigations Within 50 Metres

During the course of this study only one record was found of any archaeological investigations within 50 metres of the subject property, that of the Stage 1-2 archaeological assessment for the subject property (TMHC 2016). However, it should be noted that the Ministry of Tourism, Culture and Sport currently does not provide an inventory of archaeological assessments to assist in this determination.

The Stage 1 background study indicated potential for the discovery of First Peoples sites due to the proximity of the property to a water source, while the potential for the discovery of historic era sites was demonstrated by the proximity of a historic transportation route (Dundonald Road). The 19th century map did not show a building standing within the subject property at that time; however, the level of detail on the map is poor and historical records indicated that John Thomson lived and farmed within the land parcel from at least 1878 until the turn of the 19th century. A Stage 2 survey was subsequently recommended for the property.

The subject property consisted of an active agricultural field with a barn in the southern portion of the property and a gravel roadway and utility station in the northern corner. The Stage 2 investigation employed both a pedestrian and test pit survey (Map 7). The test pit survey was conducted at a five metre interval or 10 metre intervals in areas of disturbed soils, to confirm disturbance. A small portion of the subject property was considered low and wet, and another small area was considered previously disturbed. Both of the aforementioned areas were photo-documented.

Archaeological material was reported in four locations, three of which (Location 1 – AeHk-43, Location 2 – AeHk-44, and Location 4 – AeHk-45) met provincial standards for Stage 3 testing. All three sites were determined to represent c.1880-1915 sites, which were found to coincide with the Thomson occupation of the lot in the late 19th century. Further investigation was recommended for these sites. As per Section 7.2.1 of *The Archaeology of Rural Historical Farmsteads: A Technical Bulletin for Consultant Archaeologists in Ontario,* further background research and Stage 3 CSC were recommended to confirm that the sites relate to the Thomson's late 19th/early 20th century occupation of the lot. The results of this work are presented in a report entitled *Stage 1 & 2 Archaeological Assessment, Southwest Middlesex Certified Site, Part of Lots 23 and 24, Second Range North, Geographic Township of Ekfrid, Municipality of Southwest*

Middlesex, Middlesex County, Ontario (TMHC 2016; licensee Matthew Beaudoin, P324-0093-2015).

1.2.4 Dates of Archaeological Fieldwork

The Stage 3 CSC was conducted on June 7, 10, 15 and 17, 2016. The weather on June 7 and 15 was overcast, and on June 10 and 17 was sunny and warm.

1.3 Project Context: Historical Context

1.3.1 First Peoples Settlement in Middlesex County

The previous Stage 1 and 2 assessment reports (TMHC 2016) provided detailed summaries of First Peoples settlement in Middlesex County. As such, the same information is only provided in tabular format here (Table 1).

Table 1: Cultural Chronology for First Peoples Settlement in Middlesex County

Period			Time Range (circa)	Diagnostic Features	Complexes
Paleoindian	Early		9000 - 8400 B.C.	fluted projectile points	Gainey, Barnes, Crowfield
	Late		8400 - 8000 B.C.	non-fluted and lanceolate points	Holcombe, Hi-Lo, Lanceolate
Archaic	Early		8000 - 6000 B.C.	serrated, notched, bifurcate base points	Nettling
	Middle		6000 - 2500 B.C.	stemmed, side & corner notched points	Brewerton, Otter Creek, Stanly/Neville
	Late		2000 - 1800 B.C.	narrow points	Lamoka
			1800 - 1500 B.C.	broad points	Genesee, Adder Orchard, Perkiomen
			1500 - 1100 B.C.	small points	Crawford Knoll
	Terminal		1100 - 950 B.C.	first true cemeteries	Hind
Woodland	Early		950 - 400 B.C.	expanding stemmed points, Vinette pottery	Meadowood
	Middle		400 B.C. - A.D. 500	dentate, pseudo-scallop pottery	Saugeen
	Transitional		A.D. 500 - 900	first corn, cord-wrapped stick pottery	Princess Point
	Late	Early Iroquoian	A.D. 900 - 1300	first villages, corn horticulture, longhouses	Glen Meyer
		Middle Iroquoian	A.D. 1300 - 1400	large villages and houses	Uren, Middleport
		Late Iroquoian	A.D. 1400 - 1650	tribal emergence, territoriality, first Europeans	Neutral Iroquois
Contact		Aboriginal	A.D. 1700 - 1875	treaties, mixture of Native & European items	Chippewa, Ojibway, Oneida, Delaware
		Euro-Canadian	A.D. 1796 - present	English goods, homesteads	European settlement, pioneer life

1.3.2 Municipal Settlement

The archaeological locations are situated within what is currently and legally described as part of Lot 24, Second Range North in the Geographic Township of Ekfrid, Middlesex County. It falls immediately northeast of the Ekfrid Township – Mosa Township boundary and southeast of the crossroads community of Glencoe. A brief discussion of early Euro-Canadian settlement in these places is provided below, together with a consideration of features that would otherwise indicate historic era archaeological potential.

It was Lieut.-Governor John Graves Simcoe who first drew attention to the bounties of the wilderness that is now Middlesex County. On his journey to Detroit from Niagara, Simcoe came to admire the countryside, stopping at such places as Westminster Ponds and Munceytown. In fact, Simcoe was so taken by the Thames River and its environs that he aspired to establish the capital of Canada here. Although Simcoe's vision was never realized, the Thames River attracted settlement early in the 19th century.

Much of Middlesex County was surveyed by Colonel Mahlon Burwell, who laid out the southern part of the county, the town of London, the Caradoc Reserve and what was to become Talbot Road. The first permanent settlement in the County was in Delaware Township, in what is now the community of Delaware, along Longwoods Road, where Giddeon Tiffany and Ebenezer Allan constructed mills that helped to establish the town in the late 18th century. Shortly thereafter, the road now known as Longwoods Road was opened westward along an existing native trail. In its improved state, Longwoods Road was the thoroughfare that would provide much needed passage for troops, baggage and artillery during the War of 1812 (H.R. Page 1878:6). It was the escape route for General Proctor and his army as they retreated from the Battle of the Thames.

The Township of Ekfrid was surveyed in 1820 by Col. Burwell. Early on, much of the settlement occurred along Longwoods Road. Some of the earliest Euro-Canadian families to the township were the Millers, McTaggarts, McLauchlins, Elliotts, and Campbells. In 1842 the population of the township was 1,174 persons; by 1877 this number had grown to about 3,200 (H.R. Page & Co. 1878:10). Two of the most significant centres in the township were Appin (a station on the railway) and Melbourne. In 1888 Appin had a population of 200 which included a postmaster, general merchants, hotel keepers, a hardware dealer, banker, blacksmith, shoemaker, butcher, miller, grain buyers, a cabinet maker (Brock 1972:498). The community of Melbourne was known by many names (Old Fort, Longwood Post-office, and Wendigo) and emerged as a cross-roads community on Longwoods Road. The community was devastated by fire in 1878 but had re-established itself by 1888 when it had a population of over 300 persons. At that time the residents included a postmaster, merchants, milliners and dressmakers, a baker, a tinsmith, a harness maker, a cabinet maker, a hotel keeper, a butcher, carriage builders and a miller (Brock 1972:499).

In 1860, A.P. McDonald and Ross made the first plan of Glencoe, which at the time was described as swamp (Brock 1972:548). Formal settlement in the area had occurred prior to this time, although the village's original name was Dundonald. The construction of the Great Western Railway through the town occurred in 1853, and in 1856 the village was renamed Glencoe, after a village in the Scottish highlands (Glencoe & District Historical Society). The village of Glencoe was incorporated in 1875, and quickly became the largest village in the western portion of the township (H. R. Page & Co. 1878:13). The village contained a steam grist mill, a stave and saw mill, a sash, door and planning mill, and a large carriage shop. The population in 1878 numbered about 750

inhabitants. Dundonald Road, also named Main Street for the portion of the road that falls within the town limits, is the major thoroughfare for the community of Glencoe. Lot 24 fronts this roadway, which also serves to delineate the boundary of Ekfrid Township and Mosa Township.

AeHk-43, AeHk-44, and AeHk-45 fall within the northern half of Lot 24, in the Second Range Concession North. According to the abstract of the Lands Registry data (Table 2), the crown patent for all 100 acres of the north half of Lot 24 was granted to Alexander McKenzie in 1847. Alexander McKenzie transferred the property to John M. McLeod in 1871, who then transferred the land to George Corneil in 1872. The following year, George Corneil divided the lot into north and south halves, and transferred the south half of the north half of Lot 24 to Catherine Thomson. Thomson owned the lot until 1917, when she transferred the property to Rosalie Stuart.

Table 2: Summary of Land Registry Data for Lot 24, Concession 2RN

No.	Instrument	Date of Instrument	Date of Registration	Grantor	Grantee	Land and Remarks
	Patent	15 July 1847		The Crown	Alexander McKenzie	100 acres (N ½)
1963	Conveyance	6 Mar 1871	13 Mar 1871	Alexander McKenzie, et ux	John M. McLeod	N ½
2314	Conveyance	15 Mar 1872	3 Oct 1872	John M. McLeod, et ux	George Corneil	N ½
2392	Conveyance	28 Feb 1873	8 Mar 1873	George Corneil & wife	Thomas Beckton	N ½ of N ½ subject to payment of mortgage
2393	Conveyance	28 Feb 1873	8 Mar 1873	George Corneil & wife	Catherine Thomson	S ½ of N ½ subject to mortgage
11367	Conveyance	30 June 1917	17 July 1917	Catherine Thomson	Rosalie Stuart, widow	S ½ of N ½ subject to payment

According to available census data for Ekfrid Township (Table 3), in 1851 the northern half of Lot 24 was being farmed by Alexander McKenzie, a 30-year-old teacher from Scotland. Of the 100 acres he owned, only 30 acres was being cultivated, with 21 acres under pasture, and nine acres under crops. In the 1861 census A. McKenzie is listed as a labourer of Scottish origin, however it is not clear if this is the same Alexander McKenzie, as his age is given as 56. In 1871 the census data available for Ekfrid Township is limited. Alexander McKenzie is not listed; however George Corneil is recorded as a 58-year-old farmer from Ireland.

The 1881 census record for Ekfrid Township lists John Thomson as a lumber merchant of Scottish origin. The 1881 census lists Thomson as 41-years-old and married to Catherine Thomson with three children (Ada, Rose and Willey), all under the age of nine. Catherine is listed as a 36-years-old, Ontario-born of Irish origin. The 1891 census records John Thompson (not Thomson) as a 51-years-old farmer, married to Catherine, with six children (William, Maggie, Ada, Walter, Ophelia and Thomas), all born in Ontario. He is recorded as occupying a two-storey brick house with 12 rooms. The 1901 census lists John (age 62) and Catherine (age 57) Thomson as living with three of their children, including 17-year-old son Walter who is now listed as a farmer, 23-year-old Ada, and 15-year-old Ophelia.

Table 3: Summary of Census Data

Name	Age	Place of Birth	Religion	Occupation/House
1851 (N ½ Lot 24, Second Range Concession)				
Alexander McKenzie	30	Scotland	Free Church	Teacher
1861				
A. McKenzie	56	Scotland	Free Church	Labourer
1871				
George Corneil	58	Ireland	New Connexion Methodist	Farmer
1881				
John Thomson	41	Quebec (Scottish origin)	C. Presbyterian	Lumber Merchant
1891				
John Thomson	51	Quebec	Methodist	Farmer/Brick 2/12
1901				
John Thomson	62	Quebec	Methodist	Farmer

In the 1861, 1871, 1891, and 1901 census' for the Geographic Township of Ekfrid, several of the individuals identified in the land registry and directory data are identified; however, the schedule and agricultural censuses that indicate which lot they were occupying are absent at this time. As such, we could assume that these people inhabited the subject property, but it cannot be concretely determined.

The available directories for Middlesex County (Table 4) continue to record John Thomson as the owner of Lot 24, from 1884 to 1901. John Thomson died in 1923 and Catherine Thomson in 1921; both are buried in the Oakland Cemetery in Strathburn, Mosa Township, southeast of Glencoe (CanadaGenWeb's Cemetery Project).

The 1878 *Illustrated Historical Atlas of the County of Middlesex* (Map 8) shows the portion of Lot 24, Second Range North within the subject property was owned by Jno. Thomson. No structures are shown within Lot 24 on the 1878 map; however, historic maps do not always accurately depict all of the activities or structures within a property. As previously mentioned, Lot 24 fronts a major thoroughfare route (Dundonald Road), which was open by 1878. In addition, Parkhouse Drive, a concession road, is depicted as open, approximately 250 metres northwest of the subject property. A historic rail line (the Great Western Railroad) traverses the community of Glencoe to the northwest of the

subject property. Lastly, a watercourse is depicted within 100 metres of the southeastern edge of the subject property, which may have been channelized into the Glencoe Outlet Drain.

Table 4: Directories of Middlesex County

Name	Lot/Concession	Freeholder/Tenant
1884		
John Thomson	24/2rn	Freeholder
1890		
John Thomson	24/2rn	O [Owner?]
1896-1897		
John Thomson	24/2rn	Freeholder
1901		
John Thomson	24/2rn	Freeholder

According to land registry data and the agricultural census for 1851, Alexander McKenzie was the first owner and occupant of the north half of Lot 24, from 1847 to 1871. McKenzie is recorded as a teacher from Scotland, and no family members are listed. The land was then transferred to George Corneil in 1872, who is recorded in the 1871 census as a farmer of Irish descent. Corneil transferred the south half of the north half of the lot to Catherine Thomson in 1873. Catherine Thomson, of Irish descent, is the wife of John Thomson, a farmer of Scottish-origin. Catherine Thomson transferred the land to Rosalie Stuart in 1917, according to the land registry information for the lot. John Thomson died in 1923 and Catherine Thomson in 1921; both are buried in Strathburn, southeast of Glencoe. Thomson's period of residence on the property is 1873 to 1917, according to the land registry data, which means that the Thomson family occupied and farmed the land for nearly 45 years. No structures are depicted within the subject property on the 1878 map, although the Thomson homestead may have fronted Dundonald Road, as this was the major thoroughfare. The 1891 census lists the Thomson house as a brick, two-storey dwelling with 12 rooms. An existing two-storey brick farmhouse currently stands in the southern portion of the lot, fronting Dundonald Road; it is unknown if this is the former Thomson homestead.

2.0 STAGE 3 ARCHAEOLOGICAL ASSESSMENT

2.1 Field Methods

All fieldwork was undertaken in good weather and lighting conditions. No conditions were encountered that would hinder the identification or recovery of artifacts. The Stage 2 site locations were re-identified in the field using the Stage 2 field notes and recorded landscape markers, the GPS coordinates collected at the time of survey, and the location of surface artifacts.

A Stage 3 controlled surface collection (CSC) was undertaken for Locations 1, 2 and 4, in keeping with *The Archaeology of Rural Historical Farmsteads: A Technical*

Bulletin for Consultant Archaeologists in Ontario (MTCS 2014). As the sites were located within a recently ploughed agricultural field, they were subject to a pedestrian survey at a one metre interval or less (Images 1-2), under conditions of good weathering and 80% surface visibility or better (Images 3-4).

As Locations 1 and 2 are large sites with dense scatters of artifacts, the surface collection was undertaken using five by five metre grid units as is appropriate for large sites (Section 3.2.1, Standard 3). A five metre grid was established across the site using a total station and measuring tapes. Grid stakes were used to mark five or ten metre intervals along the east-west transect line. Each five by five metre grid unit was assigned a unique alphanumeric identifier based on north and east grid references of the southwest corner.

Due to the close proximity of Locations 1 and 2, and the consistent timeframe of the sites established from the Stage 2, the grid was established over both sites, and the CSC was conducted for these two sites combined. All of the surface artifacts from each grid unit were collected and bagged together. Survey continued for a minimum of 20 metres beyond all artifacts identified on the surface. Grid coordinates and datums were established and recorded with a high precision survey instrument, as well as additional landscape markers and tie in points, which were recorded at both locations (Image 5). The collection strategy at both sites was to collect all surface artifacts, with the exception of glass items and large metal artifacts. A representative sample of glass artifacts were collected, including all colours and manufacturers and any diagnostic pieces.

At Location 4, when artifacts were identified on the surface, these were flagged and their location mapped using a Topcon GRS-1 RTK GPS/Glonass Network Rover, a high precision survey unit that advertises subcentimetre accuracy (Image 6). Each artifact or immediate cluster of artifacts that was mapped was given a unique station or point identifier for use in cataloguing and in preparing a detailed surface distribution map. Survey continued for a minimum of 20 metres beyond all artifacts identified on the surface. All work was done in good weather and lighting conditions; there were no factors that inhibited the recognition and recovery of archaeological material. The results of the Stage 3 CSCs are presented in Maps 9 and 10. As no development plan is available at this time, only a low detail proponent map was provided. As such, we have not attempted to present the Stage 3 results on the proponent mapping. The Supplementary Documentation portion of this report includes maps showing more detail on the location of archaeological finds.

2.2 Record of Finds

Sites AeHk-43, AeHk-44 and AeHk-45 were subjected to Stage 3 CSC. A general description of our findings at each site is provided below, beginning with a summary of the artifact types encountered at the sites. More specific details about each location occur in the “Supplementary Documentation” portion this report. A complete catalogue of the

artifacts collected during the Stage 3 CSC is provided in Appendices A and B. Table 5 provides an inventory of documentary records accumulated during the Stage 3 CSC of Location 1&2 and Location 4.

Table 5: Documentary Records

Field Notes And Field Maps	Dated June 7, 10, 15, and 17, 2016
Photo Catalogue	June 7 (P1060570-72), June 10 (P1060645-53), June 15 (P1000115-16), June 17 (P1060674-84)
Artifact Collection	Artifacts are bagged individually with paper labels, and sorted into larger bags according catalogue number. All bags are stored within three banker's boxes: • **Box 1:** SW Middlesex Certified, 2016-027, Stage 3, Locations 1 and 2, AeHk-43 and AeHk-44, All Artifacts, Cat. 106-637. • **Box 2:** SW Middlesex Certified, 2016-027, Stage 3, Locations 1 and 2, AeHk-43 and AeHk-44, All Artifacts, Cat. 638-1260 • **Box 3:** Southwest Middlesex Certified: 2015-028, Stage 1 & 2, All Locations; 2016-027, Stage 3, AeHk-45, Location 4; All Artifacts These banker's boxes are currently being stored at our location in London, Ontario
Location of Records	Timmins Martelle Heritage Consultants Inc., @ the Museum of Ontario Archaeology, 1600 Attawandaron Road, London, Ontario N6G 3M6

2.2.1 Artifact Type Summaries

Ceramic Types

Refined White Earthenware (RWE)

RWE evolved from earlier white-bodied refined ceramics (creamware and pearlware) and began to replace them starting in the 1820s as the desirable choice because the glaze was closer to white. RWE was the dominant ceramic type on dining tables for much of the 19th century until it, too, lost popularity when the more robust ironstone became the popular choice. RWE did not disappear entirely, however.

Ironstone

Also known as white granite, ironstone was characterised by a robust body and moulded decoration. Developed in 1842, ironstone rose to popularity after the Wheat pattern was introduced in 1859 (Sussman 1985:7). Ironstone dominated in tableware, teaware and toiletry ceramics during the fourth quarter of the 19th century. Production of ironstone continued into the 20th century, although by this time its manufacture was largely restricted to toiletries and hotel ware (Wetherbee 1996:10).

Semiporcelain

Semiporcelain was a shift back to a delicate ware after the heaviness of ironstone. It was popular c.1890 to the 1920s (Majewski and O'Brien 1987:123, 155).

Ivory Body

Ivory Body was characterised by a cream or ivory-coloured body. It was most often decorated with transfer print in brown or black and was most common in the 1880s (Samford 2000:75).

Porcelain

Porcelain is a vitrified ceramic first produced by the Chinese. Chinese porcelain was introduced to Europeans in the late 16th century and its popularity with the elite encouraged English potters to emulate it. English potters achieved true porcelain by the mid-18th century (MACL 2015a). Nevertheless, porcelain remained an expensive commodity until it became more widely available in the late 19th century.

Unidentified White Earthenware

This category is used when a white-bodied ceramic sherd cannot be positively identified to a known ceramic type. Often these sherds are burnt or a small size and therefore are lacking identifiable traits. Other sherds, however, represent unknown ceramic types. Ceramics introduced into the Canadian market in the 20th century, for example, are not yet well-researched. Given the late date of the artifacts collected in Locations 1 to 4, it is possible that some of the unidentified white earthenware sherds are unknown 20th-century types.

Yellowware

Yellowware was characterised by a yellow fabric with clear glaze. Although it was refined or vitrified, yellowware was utilitarian. Common vessels included bowls, milk pans, pitchers, baking dishes, and chamber pots. Yellowware was introduced into the Canadian market in c.1840.

Ceramic Decorations

Transfer Print Décor

Transfer print décor was introduced in 1783. For the first time, potters could easily apply complex and intricate designs to ceramic. Hundreds of patterns were produced and pattern styles generally enjoyed popularity periods of ten to thirty years. The popularity of some colours also ebbed and flowed. For example, brown was popular in the 1830s, but returned to popularity in the 1880s (Samford 2000:75). Transfer print was probably the most enduring decoration style and was available throughout the 19th century.

Flown Décor

Flown décor was achieved by adding a volatizing agent to the ceramic during their firing. The effect was a soft and somewhat blurred image (Samford 2000:78). Flown décor was instantly popular with the Canadian market when it was introduced in the mid-1840s, then suffered a decline in popularity before a resurgence at the turn of the century. Transfer prints were most commonly flown, and stamped décor was flown occasionally also.

Decal

Decal decoration was a more sophisticated way to apply an image onto ceramic. The process was perfected in the 1890s and British potters initially applied it semiporcelain and porcelain prior to 1900 (Majewski and O'Brien 1987:147). At this time, however, decal-decorated ceramics were expensive. Ceramics with decal décor were advertised in the 1902 catalogue for Sears, Roebuck & Company (MACL 2015b).

Glass Manufacturing Techniques

Mould blown

The term mould blown refers to containers blown into a mould. Various types of moulds were used throughout the 19th century. Mould-blown glass manufacture was replaced by machine manufacture in the early 20th century.

Turn mould

The turn mould technique involved making a container by the mould-blown method, but water and steam were used while the vessel was turned to eliminate the mould seams. Bottles made this way were advertised as seamless bottles. The technique was used in Europe and transferred to North America in the 1870s. The date range for this method is c.1870 to the 1920s (Jones and Sullivan 1989:30-31).

Machine made

Production of wide-mouthed containers (example: canning jars) by semi-automatic machines began in the 1890s (Lindsey 2016). The first fully automatic machine for narrow and wide-mouthed containers was the Owen's machine, introduced in 1904 (Jones and Sullivan 1989:38-39). Machines did not immediately replace the mould-blown method due to cost and worker resistance, but by 1915 glass machines became common (Lindsey 2016).

Manganese decoloured

Glassmakers added manganese to the glass mixture to counteract iron oxides to make the glass colourless. The method worked, but resulted in a purplish tint after sustained exposure to sunlight (Jones and Sullivan 1989:13). The date range for this method is c.1875 to 1915.

Opaque White

Opaque white glass became a popular choice for tableware, containers and lighting devices in the late 19th century (Jones and Sullivan 1989:14).

2.2.2 Location 1&2 (AeHk-43 & AeHk-44) Artifact Analysis

A total of 1,248 items were collected from Location 1&2 (Images 7-9). The total included 54 modern items, six native lithics and 1,188 historical artifacts (Table 6). Anything manufactured after 1900 was considered a modern item. They were one piece of plastic, one piece of light bulb, two sherds of Jadeite glass, and 50 sherds of machine-made glass. Jadeite was an opaque green glassware introduced in the 1930s and popular throughout the mid-20th century. Among the machine-made glass containers were one complete and five incomplete Vaseline Cold Cream jars. Cold Cream was one of several Vaseline products manufactured by the Chesebrough Manufacturing Co. These jars were also recovered during the Stage 2 assessment but the method of manufacture could not be determined.

Table 6: Location 1&2 Artifacts by Function

Function	Total	%
Food & beverage	591	50
Architectural	169	14
Modified	50	4
Health & hygiene	28	2
Lighting	21	2
Personal	10	1
Furniture	6	<1
Activities	3	<1
Clothing	1	<1
Faunal & floral	1	<1
Unassigned material	3	<1
Unknown	305	26
Total Historical Artifacts	**1,188**	**100**
Native Artifacts	**6**	
Modern	*54*	
Total	**1,248**	

The lithic artifacts included two bifaces and four pieces of chipping detritus (Image 7). The first biface (cat.1028) is small fragment made on Onondaga chert that may represent a projectile point stem. The fragment resembles a round contracting base edge, and displays evidence of basal thinning. A possible junction of the base and shoulder is retained on one side of the fragment; the item is broken just above this feature. It measures 17.6 mm long, 14.7 mm width and 4.6 mm thick. The second biface (cat.1029) is made on Lockport chert and is broken along one edge and the base. The present cross section is biconvex and it retains a convex shape along the intact worked edge. Based on the shape, this biface fragment may be a projectile point blank. It measures 43.4 mm long, 23.8 mm wide and 4.8 mm thick. The flakes are indeterminate chert types and include three secondary flakes and one broken flake.

Half of the historical artifacts collected were classed as food & beverage (n=591 or 50%). Most of these were ceramic sherds (n=460) (Image 8). Ceramic types included RWE (n=58), ironstone (n=146), ivory body (n=7), semiporcelain (n=98), porcelain (n=92), yellowware (n=8), fine stoneware (n=1), coarse earthenware (n=2), and coarse stoneware (n=12). Many sherds could not be definitively identified, however. There were 30 sherds identified as ironstone or semiporcelain, one sherd identified as RWE or semiporcelain, two sherds of unidentified white earthenware, and three sherds of unidentified vitrified whiteware.

A minority of tableware ceramics were decorated. Decoration on RWE included transfer print (n=8) and moulded (n=1). Transfer print colours were blue, brown, black, green, and turquoise. One sherd had clobbered transfer print. Decoration on ironstone was also transfer print (n=10) and moulded (n=25). Transfer print colours were brown, blue, black, green, and red. Identified moulded patterns were Wheat and Seashore. Four maker's marks on ironstone identified either Alfred Meakin of Tunstall (1875+) or J & G Meakin of Hanley (1851+) as the potters. Two of the Meakin marks and a third mark included the country of origin, England, indicating a manufacture date after 1891 to comply with the American McKinley Tariff Act (Godden 1964:425, 427, 11).

Decoration on semiporcelain was more varied with moulded (n=13), flown (n=9), transfer print (n=38), and gilded (n=2). Flown colours were blue and turquoise while transfer print colours were blue, turquoise, green, brown, and black. A few sherds with flown and transfer print décor also had moulded décor. Decoration on porcelain included moulded (n=25), gilded (n=5), decal (n=7), and painted (n=2). Six of the seven sherds of yellowware were Rockingham.

The remaining 132 food & beverage artifacts were glass (Image 9). They included alcohol bottles, alcohol flasks, gin bottles, wine bottles, beverage bottles, stoppers, jars, canning jars, jar liners, tumblers and other tableware vessels. Identified manufacturing techniques were mould blown, turn moulded, manganese decoloured, and opaque white. One mould-blown beverage bottle had a crown cap finish. The crown cap was patented in

1892 and, given the bottle was made in a mould, the bottle was likely manufactured between 1892 and 1915 (Jones and Sullivan 1989:79).

The vast majority of architectural artifacts were sherds of window glass (n=159). Other architectural artifacts were sherds of coarse earthenware drainage tile, brick fragments, and a glass exterior insulator. All modified artifacts were sherds of utilized glass. Broken glass was sometimes used as expedient tools to cut, scrape, smooth, saw, and chisel. The reuse of glass sherds as tools has been observed around the world. In Canada and the United States the use of glass tools was a folk tradition used for woodworking, though there may have been other uses (Clark 1981; Brandon 2014). Glass appears to have been the preferred material, though ceramic was sometimes used. Health & hygiene artifacts were primarily glass pharmaceutical bottles but also included an ointment jar and an ironstone chamber pot. All lighting artifacts were glass oil lamp sherds, including three decorated rims. Decorated lamp chimney rims were not common in Canada before c.1885 (Woodhead et al. 1984:62). Other artifacts were coarse earthenware flower pots, a mould-blown glass ink bottle, a Prosser (ceramic) button, a mammal bone, porcelain figurines, doll dishes and doll, a ferrous nut, and miscellaneous metal. Most artifacts of unknown function were sherds of container glass where the original or intended contents could not be determined. These were mould blown or manganese decoloured. Also recovered was a lead disc of unknown function. The disc was imperfectly round with a maximum diameter of 16.30mm and 4.79mm thick with a pair of small holes that run lengthwise through the disc.

The artifacts recovered were similar in nature to those collected from Locations 1 and 2 during the Stage 2 assessment. The interpreted date range after the Stage 2 assessment was c.1880-1915. With the larger sample size from the Stage 3 assessment the date can be firmed up to c.1885-1930s. There were no diagnostic artifacts that date exclusively pre-1885 but several that date no earlier. These include decorated lamp chimney rims, semiporcelain, decal decoration, ceramics marked with the country of origin, a beverage bottle with a crown finish, and machine-made glass containers including the Vaseline Cold Cream jars. As the modern items account for four per cent of the assemblage, they are likely contemporaneous with it and not intrusive. The absence of smoking pipes also supports a turn of century date as cigarettes became the popular choice of smokers by this time.

2.2.3 Location 4 (AeHk-45) Artifact Analysis

A total of 183 items were collected from Location 4 (Images 10-11). The total included 19 modern items, two native lithic artifacts and 162 historical artifacts (Table 7). The modern items were 16 sherds of machine-made glass, a sherd of porcelain marked ‘Made in Japan’ and two sherds of a cream-coloured vitrified ceramic. One glass container was a Vaseline Cold Cream jar and another was a base sherd marked with the Dominion Glass logo of the letter D inside a diamond. Dominion Glass adopted this trademark in 1928 (King 1987:248).

The lithic artifacts include a burnt chert secondary flake and a projectile point fragment of made on an indeterminate chert type (Image 10). The projectile point is a blade fragment, which has been broken at the base and along one lateral edge. There is one barb still present on the shoulder of the artifact, which suggests that the point may have been corner-notched. It measures 42.2 mm long, 22.8 mm wide and 6.2 mm thick. The present cross section is biconvex.

Most of the 163 historical artifacts were classed as food & beverage (n=104). A majority of these were ceramics (Image 11). Ceramic types included RWE (n=4), ironstone (n=23), ivory body (n=1), semiporcelain (n=27), porcelain (n=21), coarse earthenware (n=1), and coarse stoneware (n=6). There were also two sherds of unidentified white earthenware, two sherds of vitrified whiteware, two sherds classed as RWE or semiporcelain, and one sherd of ironstone or semiporcelain.

Two sherds of RWE had decal decoration, both of the same floral pattern. Four sherds of ironstone had moulded décor while a fifth sherd had slipped décor. The ivory body sherd had brown transfer print décor. Decoration on semiporcelain included transfer print and decal. Two sherds of porcelain had moulded décor and a third had gilded décor.

Glass food & beverage artifacts were alcohol bottles, a jar, a jar liner, and tableware vessels. These included four pressed glass vessels, one mould-blown bottle, one turn-mould bottle, and four sherds that were manganese decoloured.

Table 7: Location 4 Artifacts by Function

Function	Total	%
Food & beverage	104	64
Architectural	17	10
Health & hygiene	7	4
Modified	6	4
Furniture	2	1
Clothing	1	1
Faunal & floral	1	1
Unknown	24	15
Total Historical Artifacts	**162**	**100**
Native Artifacts	**2**	
Modern	*19*	
Total	**183**	

Other artifacts collected were sherds of window glass, a yellow brick fragment, a mammal bone, a Prosser button, two sherds of a porcelain figurine, two sherds of an ironstone chamber pot, five sherds of mould-blown glass pharmaceutical bottles, unidentified glass containers, and sherds of utilized glass and ceramic. The unidentified glass containers were mould blown, manganese decoloured or opaque white. One container had a threaded finish. There were two sherds of utilized ceramic and four sherds of utilized glass. The utilized ceramics used at AeHk-45 were a sherd of porcelain

and a sherd of semiporcelain. The utilized glass included two manganese-decoloured container sherds and two window sherds.

The artifacts at Location 4 were similar to those collected from Location 1&2 which suggests that the locations are related. Location 4 dates c.1885-1930s based on the presence of ironstone, semiporcelain, ivory body, decal décor, manganese glass, opaque white glass, and machine-made glass, and the absence of smoking pipes.

2.3 Analysis and Conclusions

A Stage 3 CSC was carried out in keeping with the 2011 *Standards and Guidelines for Consultant Archaeologists* at Location 1&2 and Location 4. Section 3.4 of the *Standards and Guidelines for Consultant Archaeologists* establishes provincial criteria for determining if archaeological locations require Stage 4 mitigation of development impacts. Based on these criteria the requirement for Stage 4 mitigation for each location can be evaluated and is outlined below. A summary of land use history for Lot 24, Second Range Concession is first provided below.

The first town plan of Glencoe was not made until 1860, although the Great Western Railway was constructed through the town in 1853, indicating that the area was settled much earlier. The first occupant on Lot 24 was Alexander McKenzie, who received the patent for the land in 1847. He is listed on the lot in the 1851 census and is again listed in the 1861 census for Ekfrid Township. The lot is transferred to John M. McLeod in 1871, then to George Corneil the following year. In 1873 the Thomson family is first recorded on the lot. John and Catherine Thomson are recorded as owning the lot from 1873 until 1917, according to land registry records for Lot 24. They lived in a two-storey brick house and had six children. The family is shown on the lot on the 1878 map for the Township of Ekfrid, however, no structure is depicted anywhere on the property. Most likely, the Thomson homestead fronted Dundonald Road, and it is possible that the existing brick house on the property is the same structure that is recorded in the 1891 census. The south half of the north half of Lot 24 is transferred to Rosalie Stuart in 1917.

2.3.1 Location 1&2 (AeHk-43 & AeHk-44)

Location 1&2 (AeHk-43 & AeHk-44) is a large scatter of late 19th century to 20th century domestic artifacts. The artifact assemblage dates c.1885-1930. The date is derived from the presence of decorated lamp chimney rims, semiporcelain, decal decoration, ceramics marked with the country of origin, a beverage bottle with a crown finish, and machine-made glass containers in the assemblage. Other traits of the assemblage support this time period, such as the absence of smoking pipes. A variety of glass items were identified as 20th century materials. Based on the occupation date of c.1885-1930, Location 1&2 is most likely associated with the habitation of the Thomson family who owned and lived on the property from c.1873 and into the 20th century

(c.1917). The more modern items in the assemblage may reflect the continued occupation of the lot after the Thomson family.

Assuming that the Thomson homestead fronted Dundonald Road, the scatter at Location 1&2 could represent a 'back forty' dump, based on its location at the 'rear' of the lot. These areas of refuse disposal, located away from the house at the back of rural lots, are more common in the late 19th century, compared to earlier patterns that saw the disposal of refuse closer to the house (MacDonald 1997:60). The site measures approximately 200 metres by 160 metres. The diffuse nature of the site suggests that artifacts have been dispersed by the action of a plough. Two artifact concentrations were noted in the southeastern portion of the site; these could represent the initial refuse areas used during the Thomson occupation of the lot, which were then subjected to ploughing throughout the years that dragged artifacts across the field.

Section 3.4 of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:57) establishes the general criteria for evaluating cultural heritage value or interest. Additionally, Section 3.4.2 of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:59) establishes criteria for evaluating cultural heritage value or interest for domestic archaeological sites dating after 1830.

Sites with occupation spans that primarily pre-date 1870 are considered to have cultural heritage value or interest under the provincial framework and therefore would require Stage 4 mitigation of construction impacts. Since the site post-dates 1870, the 19th century component of Location 1&2 has been sufficiently documented and does not qualify for further Stage 3 archaeological assessment or Stage 4 mitigation.

The native component of Location 1&2 consists of two bifaces and four flakes of indeterminate cultural or temporal affiliation. The lithic artifacts are dispersed throughout the southwest portion of the site, and the distribution does not show any significant clustering or concentrations. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre pedestrian survey area (MTC 2011:41; Section 2.2, Standard 1.a.i), the native component of Location 1&2 does not meet provincial standards for Stage 3 assessment.

2.3.2 Location 4 (AeHk-45)

Location 4 (AeHk-45) is a large scatter of late 19th century to 20th century domestic artifacts. The artifact assemblage dates c.1885-1930. The date is derived from the presence of ironstone, semiporcelain, ivory body, decal décor, manganese glass, opaque white glass, and machine-made glass, and the absence of smoking pipes. The site measures approximately 50 metres by 30 metres and the results of the CSC do not show any significant artifact concentrations, although the artifacts are slightly denser along the southwestern field edge, suggesting the site could extend outside of the subject property boundary.

Based on the date of c.1885-1930, the major occupation period of the site, Location 4 is most likely associated with the habitation of the Thomson family (c.1873-1917). The details of the residence for the Thomson family indicated in the available census suggest that the family lived in a two-storey brick house, although the 1878 map unfortunately does not depict the location of the house on the property. The extant house on the lot, which matches the description of the Thomson homestead in the census record, fronts Dundonald Road. Given the location of the site, behind the existing brick house, Location 4 could represent a more accessible refuse area used by the Thomson family. This area of refuse disposal may have been closer to the house when compared to the refuse area at the rear of the lot that Location 1&2 may represent. The corresponding date range of Location 1&2 and Location 4 suggests that both sites can be tied to the Thomson occupation of the lot, however the differences in size, density and location on the property indicates a difference in the frequency of use of the two sites.

Section 3.4 of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:57) establishes the general criteria for evaluating cultural heritage value or interest. Additionally, Section 3.4.2 of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:59) establishes criteria for evaluating cultural heritage value or interest for domestic archaeological sites dating after 1830.

Sites with occupation spans that primarily pre-date 1870 are considered to have cultural heritage value or interest under the provincial framework and therefore would require Stage 4 mitigation of construction impacts. Since the site post-dates 1870, the 19th century component of Location 4 has been sufficiently documented and does not qualify for Stage 3 assessment.

The native component of Location 4 consists of only a burnt flake and an undiagnostic projectile point fragment. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre pedestrian survey area (MTC 2011:41; Section 2.2, Standard 1.a.i), the native component of Location 4 does not meet provincial standards for Stage 3 assessment.

2.4 Recommendations

A Stage 3 archaeological assessment consisting of historical background research and a CSC was conducted for Location 1&2 (AeHk-43 & AeHk-44), and Location 4 (AeHk-45), located within part of Lot 24, Second Range North in the Geographic Township of Ekfrid, now in the Municipality of Southwest Middlesex, in Middlesex County, Ontario. Our recommendations with respect to each of these locations are presented below.

1) Location 1&2 (AeHk-43 & AeHk-44) is a large multicomponent site with a late-19th/20th century component and an undiagnostic native component.

a. The 19th century component is a c. 1885 through 1930 domestic site spanning the ownership of the north part of Lot 24, Second Range North by the Thomson family. As the occupation of the site post-dates 1870, the site does not qualify for Stage 4 mitigation of construction impacts based on provincial standards. The site should be deemed sufficiently documented and no further assessment is recommended.
b. The native component of Location 1&2 is six undiagnostic lithic artifacts. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented.

2) Location 4 (AeHk-45) is a multicomponent site with a late-19th/20th century component and an undiagnostic native component.
   a. The 19th century component is a c. 1885 through 1930 domestic site spanning the ownership of the north part of Lot 24, Second Range North by the Thomson family. As the occupation of the site post-dates 1870, the site does not qualify for Stage 4 mitigation of construction impacts based on provincial standards. The site should be deemed sufficiently documented and no further assessment is recommended.
   b. The native component of Location 4 is two undiagnostic lithic artifacts. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented.

These recommendations are subject to report review and acceptance by the Ministry of Tourism, Culture and Sport and to the provisions established in Section 4.0 of this report.

3.0 SUMMARY

A Stage 3 archaeological assessment was conducted for Location 1&2 (AeHk-43 & AeHk-44) and Location 4 (AeHk-45), located within part of Lot 24, Second Range North in the Geographic Township of Ekfrid, now in the Municipality of Southwest Middlesex, in Middlesex County, Ontario. The Stage 3 work consisted of a CSC at each site and additional historical background research for Lot 24. Location 1&2 (AeHk-43 & AeHk-44) is a large multicomponent site with a c.1885-1930 domestic component associated with the Thomson family and a native component consisting of six undiagnostic lithic artifacts. Location 4 (AeHk-45) is a multicomponent site with a c.1885-1930 domestic assemblage associated with the Thomson family and a small native component that consists of two undiagnostic lithic artifacts. Both sites have been sufficiently documented and no further assessment is recommended.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the subject property of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*. Further, archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must notify the police or coroner and the Registrar of Burial Sites, War Graves, Abandoned Cemeteries and Cemetery Closures, Ontario Ministry of Government and Consumer Services. Effective as of January 16, 2016, Nancy Watkins, Senior Policy Analyst, is the new Registrar. Her telephone number is 416 212-7499 and her e-mail address is Nancy.Watkins@ontario.ca.

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Timmins Martelle Heritage Consultants Inc.
2016 *Stage 1 & 2 Archaeological Assessment, Southwest Middlesex Certified Site, Part of Lots 23 and 24, Second Range North, Geographic Township of Ekfrid, Municipality of Southwest Middlesex, Middlesex County, Ontario.* Report on file with the Ministry of Tourism, Culture and Sport. Licensee Matthew Beaudoin, P324-0093-2015.

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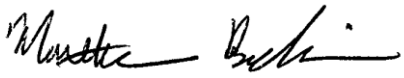
1851	Agricultural Census for Middlesex County
1861	Census for Middlesex County
1871	Census for Middlesex County
1881	Census for Middlesex County
1891	Census for Middlesex County
1901	Census for Middlesex County
1875	McAlpine's London city and county of Middlesex directory
1884	London city and Middlesex County directory
1890	London city and Middlesex County directory
1896–97	Foster's London City and Middlesex County Directory
1897–98	Foster's London City and Middlesex County Directory
1898–99	Foster's London City and Middlesex County Directory
1901	Foster's London City and Middlesex County Directory

Respectfully submitted,

Holly Martelle, Ph.D.
Archaeologist/Heritage Planner
Principal
Timmins Martelle Heritage Consultants Inc.



Matthew Beaudoin, Ph.D.
Manager – Archaeological Assessments
Timmins Martelle Heritage Consultants Inc.

6.0 IMAGES

Image 1: Ongoing Controlled Surface Collection (CSC) at Location 1&2 (looking northeast)

Image 2: Ongoing CSC at Location 4 (looking southeast)

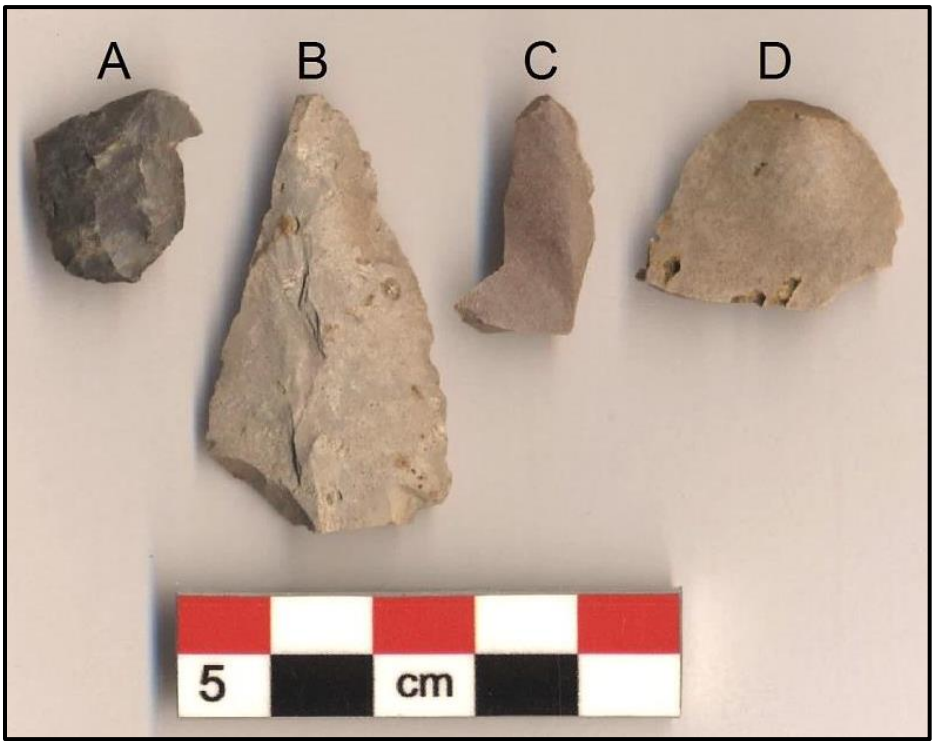
Image 3: Surface Visibility at Location 1&2

Image 4: Surface Visibility at Location 4

Image 5: Using the Total Station to Establish Grid over Location 1&2 (looking east)

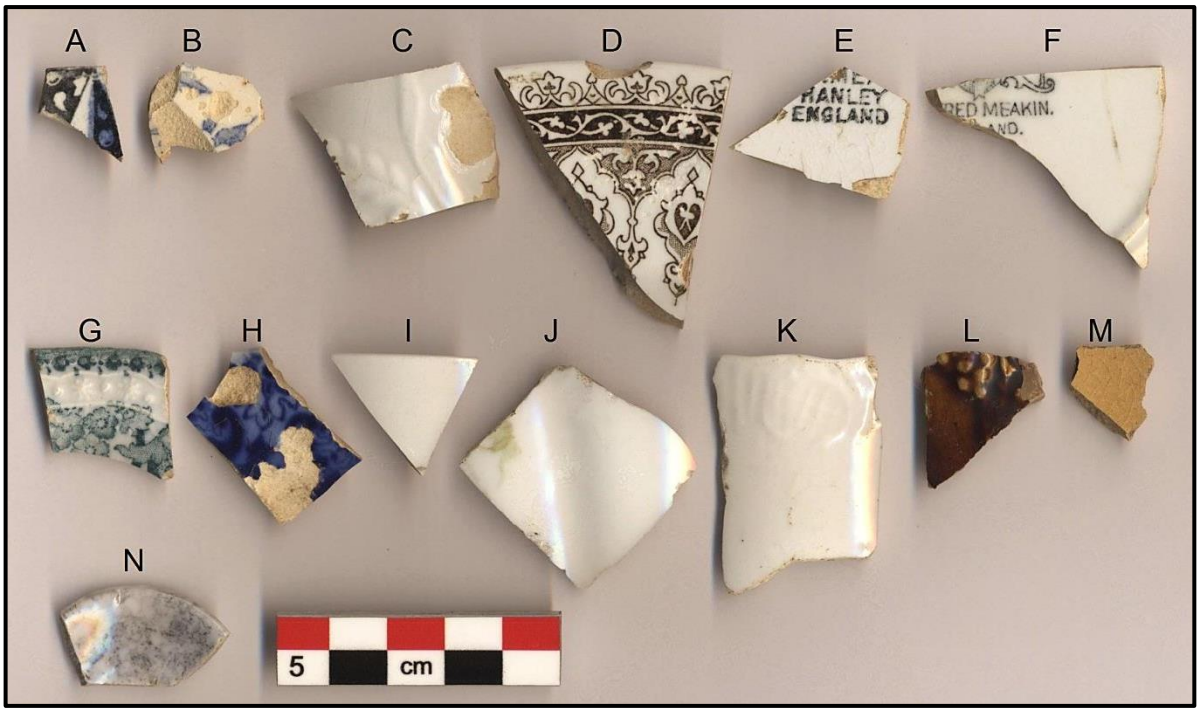
Image 6: Recording Surface Artifacts during CSC at Location 4 (looking east)

Image 7: Location 1&2 Lithics



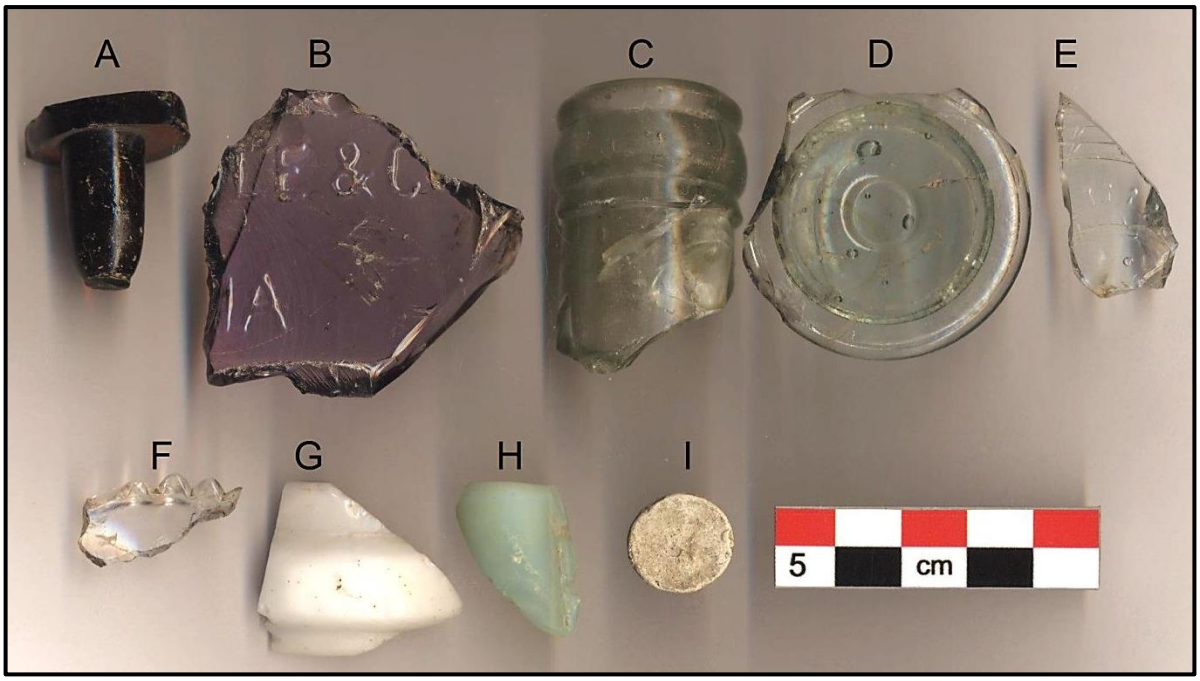
A) Biface, Onondaga, cat.1028; B) biface, Lockport, cat.1029;
C) CDE, Kettle Point, cat.1030; D) CDE, indeterminate, cat.1032

Image 8: Location 1&2 Ceramics



A) RWE, transfer print, cat.799; B) ivory body, transfer print, cat.834; C) ironstone, moulded Wheat, cat.632; D) ironstone, transfer print, cat.617; E) ironstone, maker's mark with ENGLAND, cat.110; F) ironstone, Alfred Meakin maker's mark with England, cat.642; G) semiporcelain, transfer print and moulded, cat.1129; H) semiporcelain, flown, cat.826; I) semiporcelain, gilded, cat.596; J) porcelain, decal, cat.1009; K) porcelain, gilded and moulded, cat.1006; L) yellowware, Rockingham, cat.534; M) yellowware, cat.182; N) porcelain doll dish, cat.857

Image 9: Location 1&2 Glass Artifacts

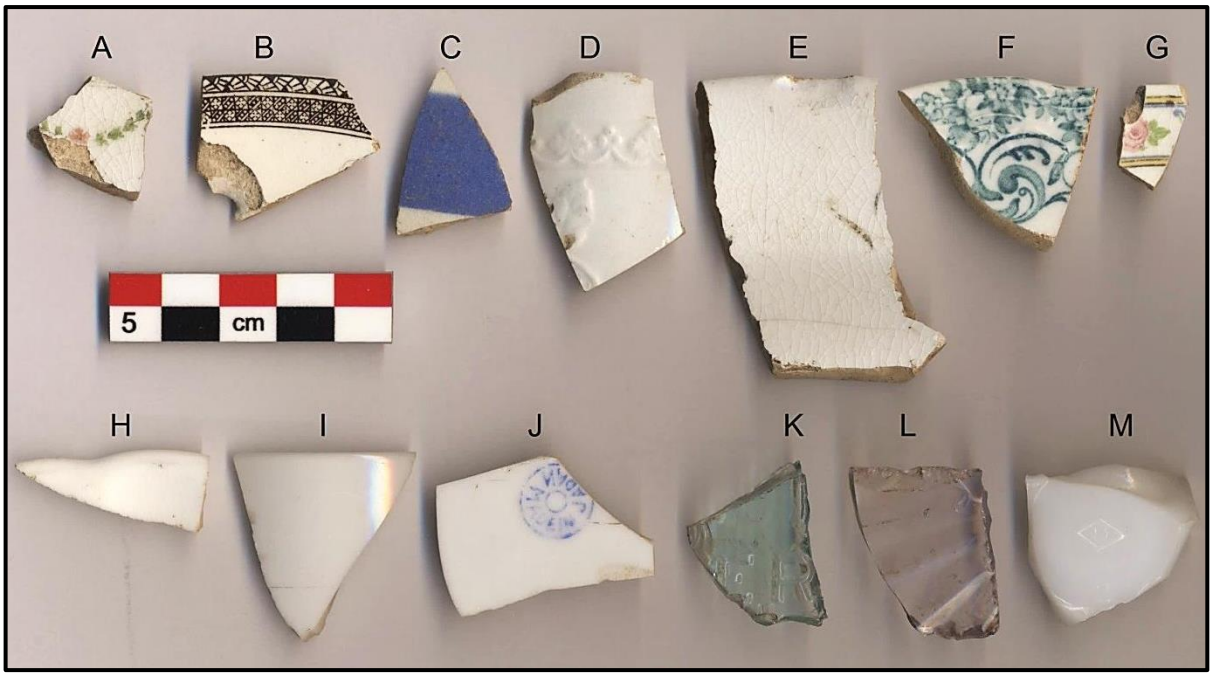


A) club sauce stopper, cat.294; B) manganese-decoloured bottle, cat.1126; C) mould-blown bottle, crown finish, cat.318; D) mould-blown closure, cat.1049; E) jar liner with embossed crown logo, cat.529; F) decorated lamp chimney rim, cat.562; G) machine-made, opaque white Vaseline Cold Cream jar, cat.528; H) jadeite, cat.580; I) lead disc, cat.700

Image 10: Location 4, AeHk-45, Lithics

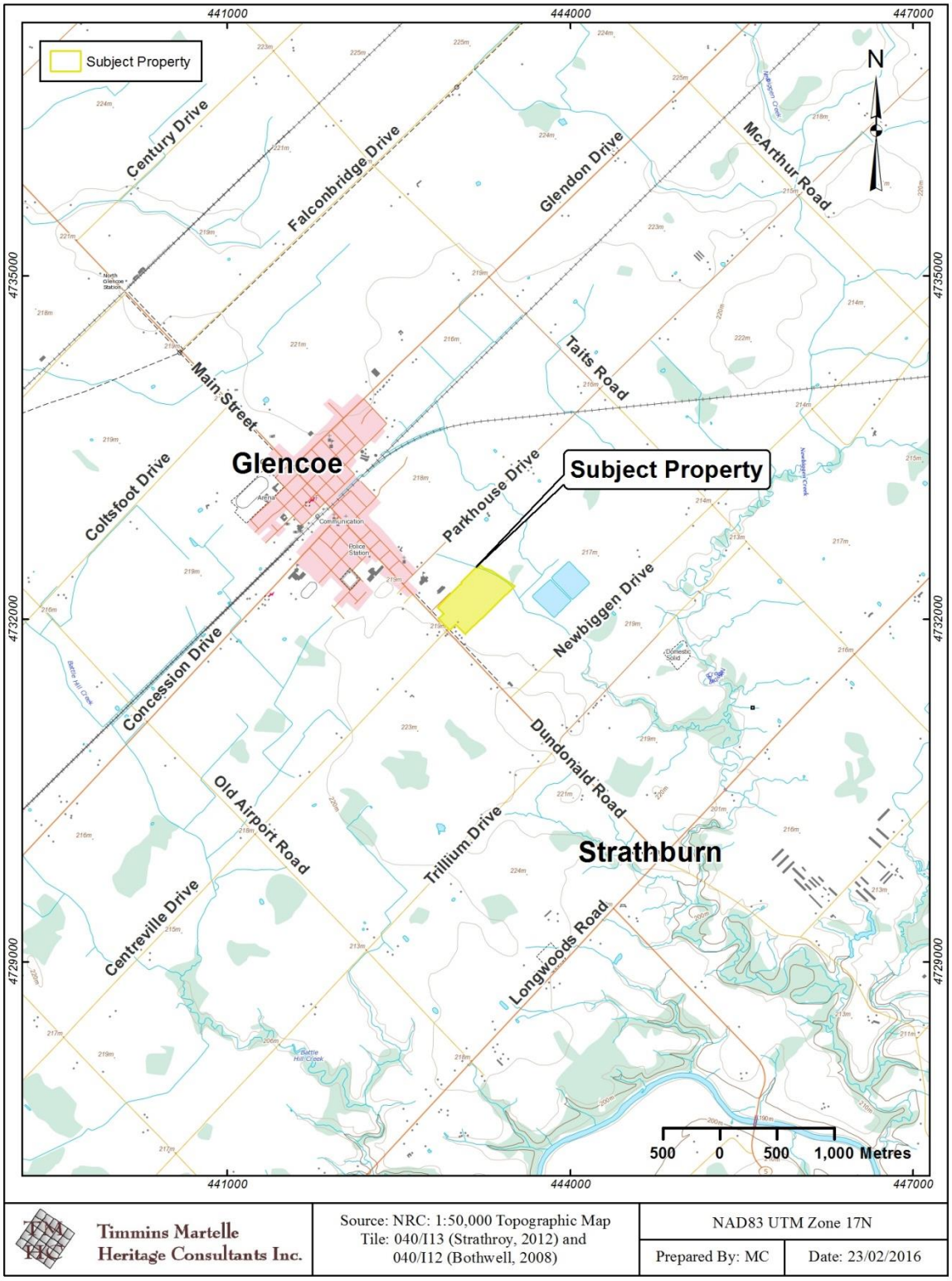
A) Burnt CDE, cat.223; B) projectile point fragment, cat.224

Image 11: Location 4, AeHk-45, Historical Artifacts & Modern Items



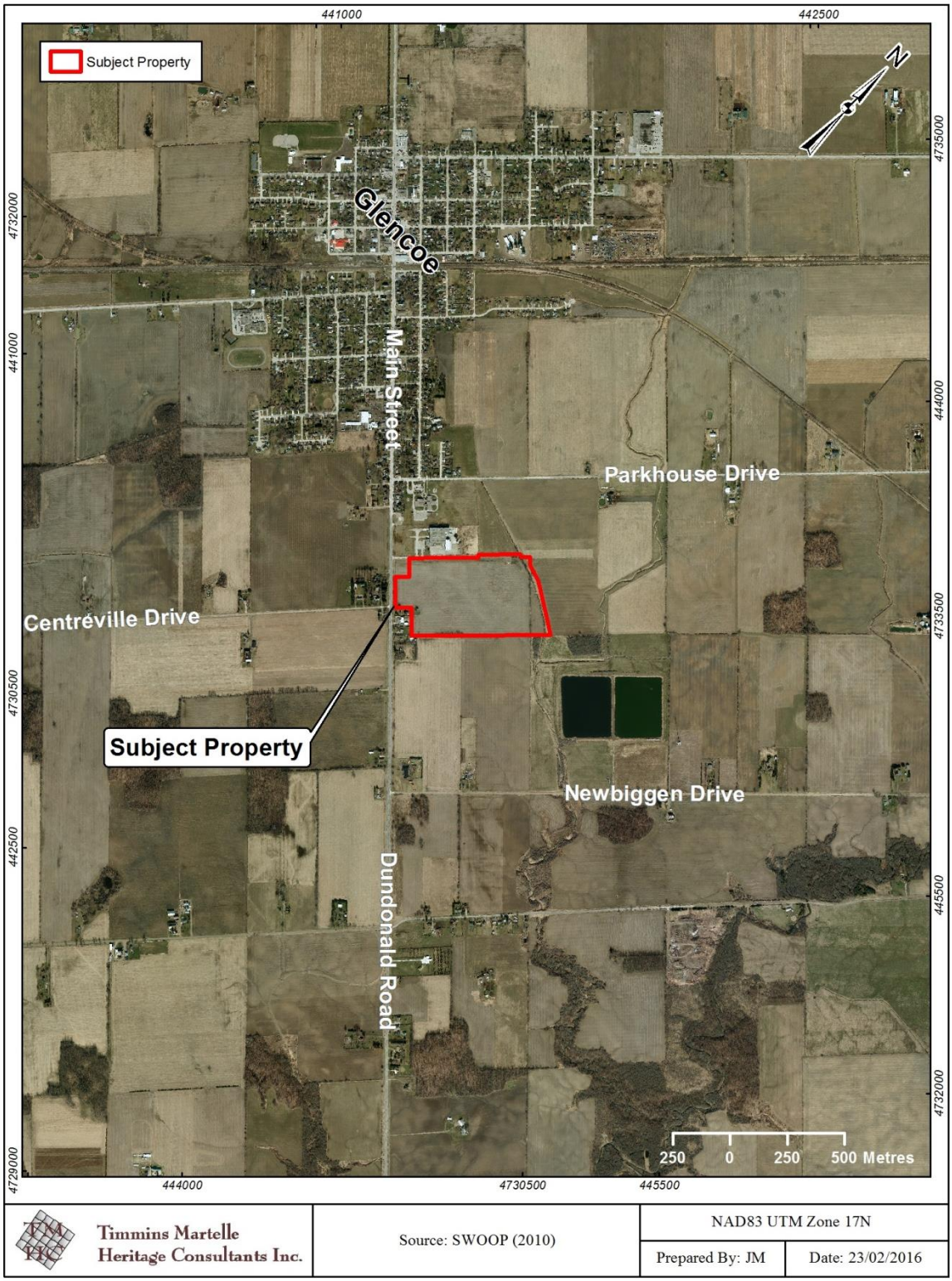
A) RWE, decal, cat.137; B) ivory body, transfer print, cat.59; C) ironstone, slipped, cat.158; D) ironstone, moulded, cat.164; E) ironstone, undecorated, cat.88; F) semiporcelain, transfer print & moulded, cat.155; G) semiporcelain, decal, cat.201; H) porcelain, moulded, cat.173; I) porcelain, gilded, cat.71; J) porcelain, MADE IN JAPAN, cat.70; K) mould-blown glass, cat.154; L) manganese-decoloured glass, cat.105; M) opaque white glass, Dominion logo, cat.150

7.0 MAPS

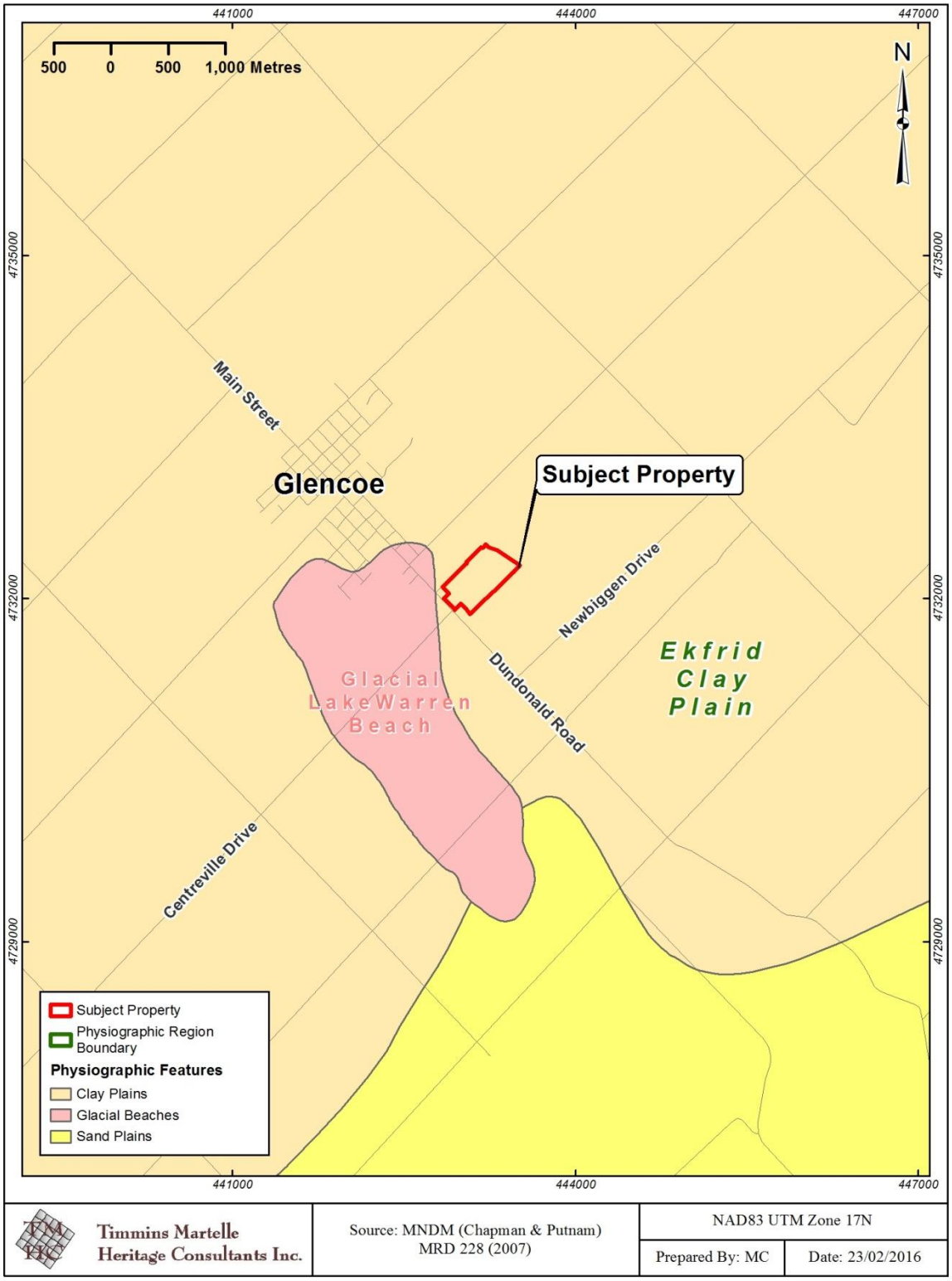


Timmins Martelle Heritage Consultants Inc.	Source: NRC: 1:50,000 Topographic Map Tile: 040/I13 (Strathroy, 2012) and 040/I12 (Bothwell, 2008)	NAD83 UTM Zone 17N	
		Prepared By: MC	Date: 23/02/2016

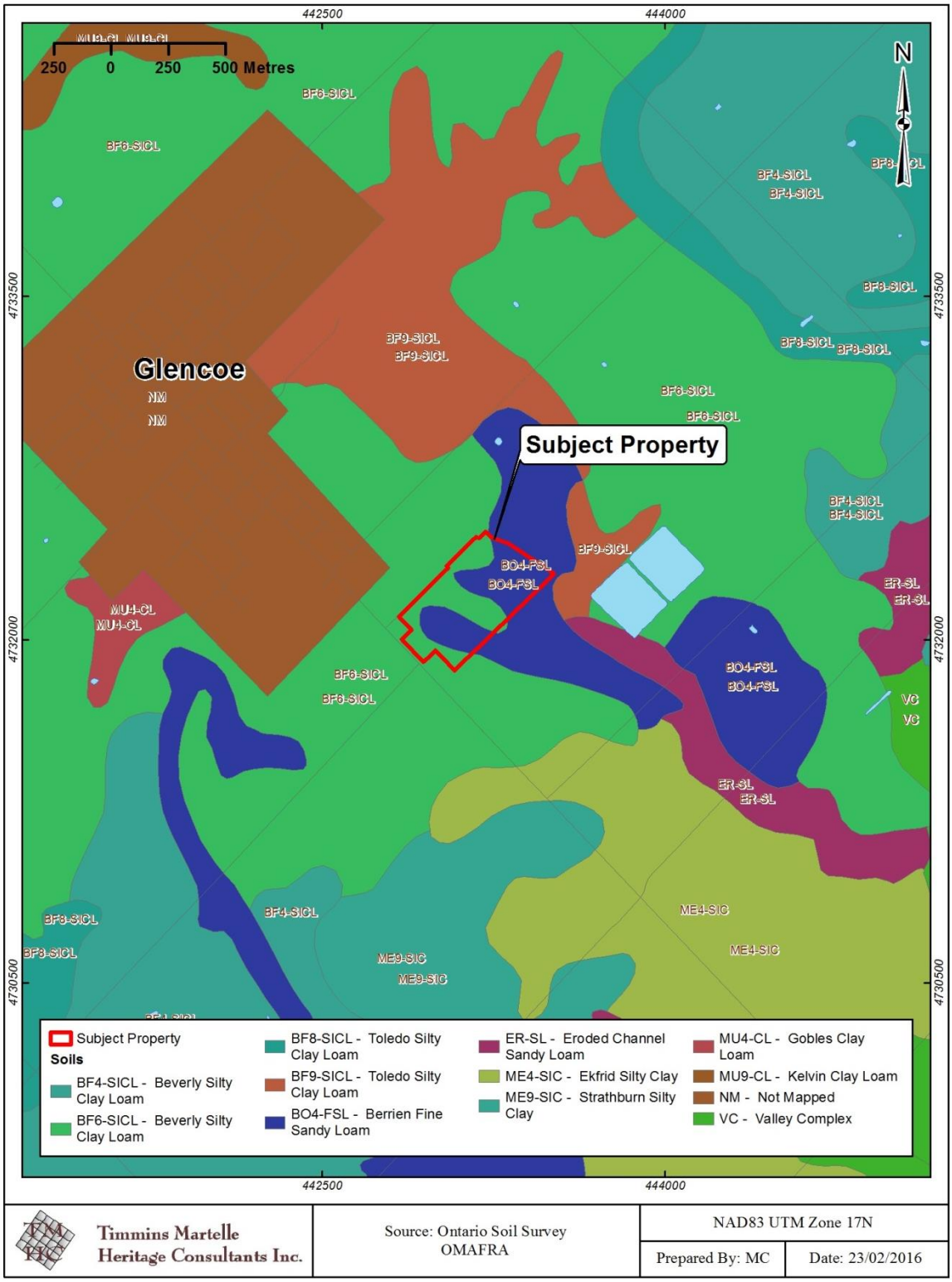
Map 1: Location of the Subject Property near Glencoe, ON



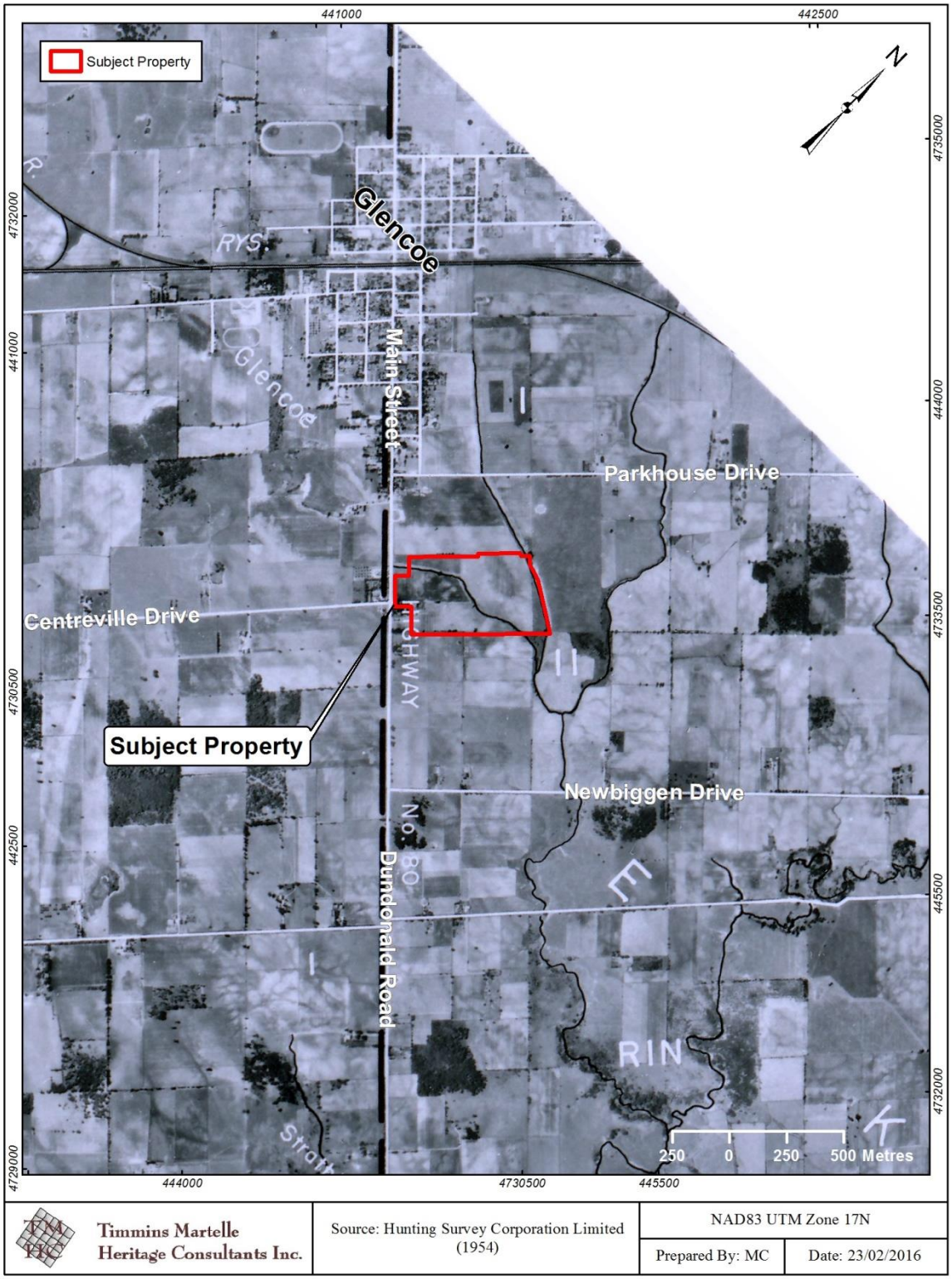
Map 2: Aerial Photograph Showing the Location of the Subject Property near Glencoe, ON



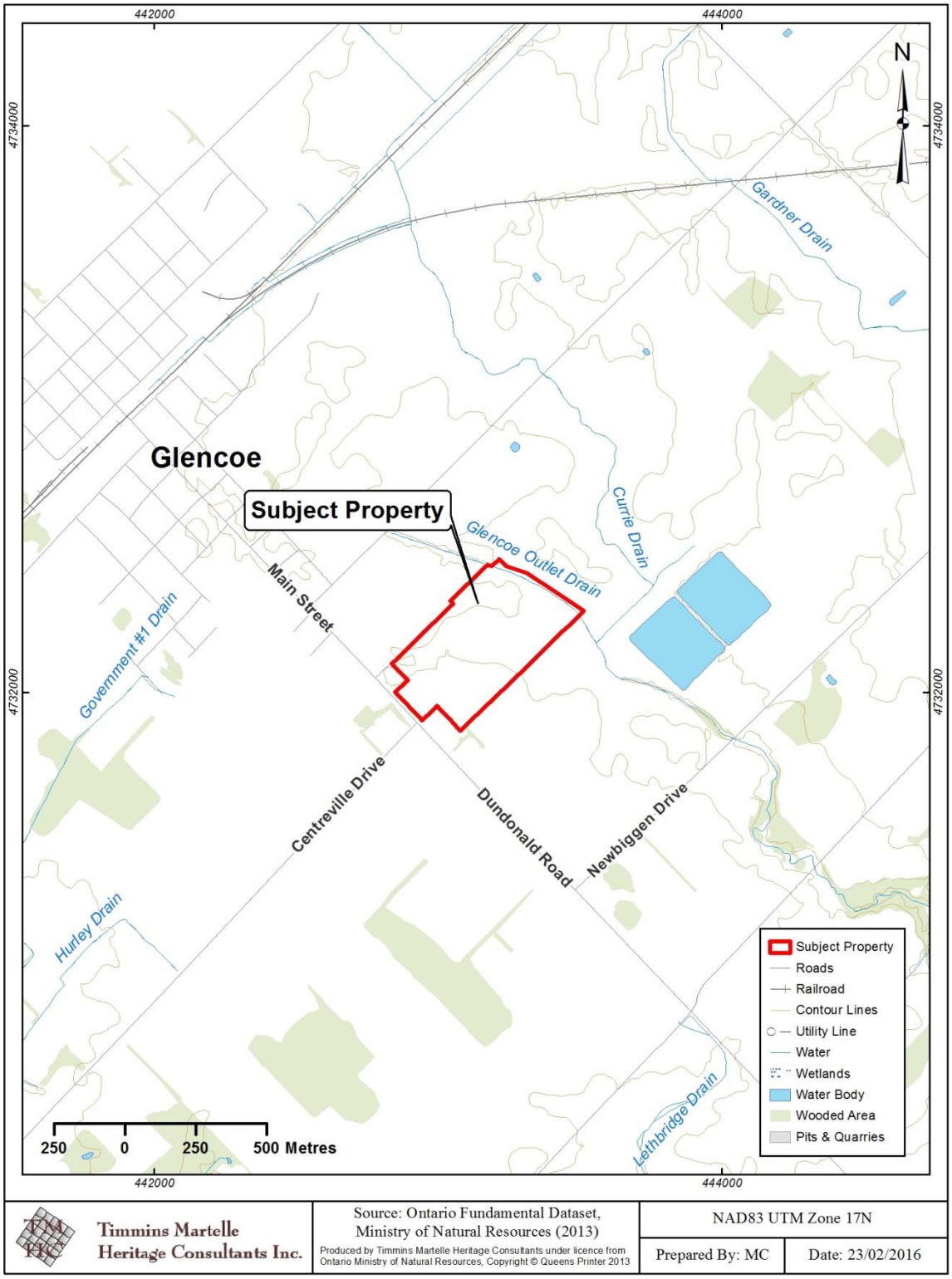
Map 3: Physiography within the Vicinity of the Subject Property



Map 4: Soils within the Vicinity of the Subject Property



Map 5: 1954 Aerial Photograph Showing the Location of the Subject Property in Glencoe, Ontario



Map 6: Drainage within the Vicinity of the Subject Property

Timmins Martelle Heritage Consultants Inc.

- Subject Property
- Report Photo/Image Location & Orientation

Water Courses

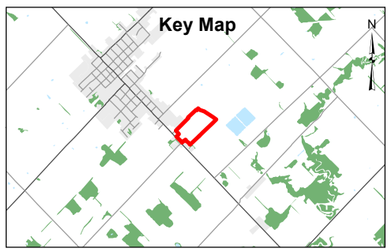
- Former Watercourse
- Glencoe Outlet Drain

Areas of Archaeological Potential

- Ploughed Agricultural Field (Pedestrian Survey, 5m)
- Manicured Lawn (Test Pit Survey, 5m)
- Confirmed Disturbance (Test Pit Survey, 10m)

Areas of Low Archaeological Potential

- Disturbed (Photo-Documented)
- Low Lying and Wet (Photo-Documented)



Source: SWOOP (2010) and OMNR and Forestry	
Coordinate System: NAD 1983 UTM Zone 17N	
Date: 24/02/2016	Prepared By: MC

Map 8: Stage 2 Field Conditions and Assessment Methods

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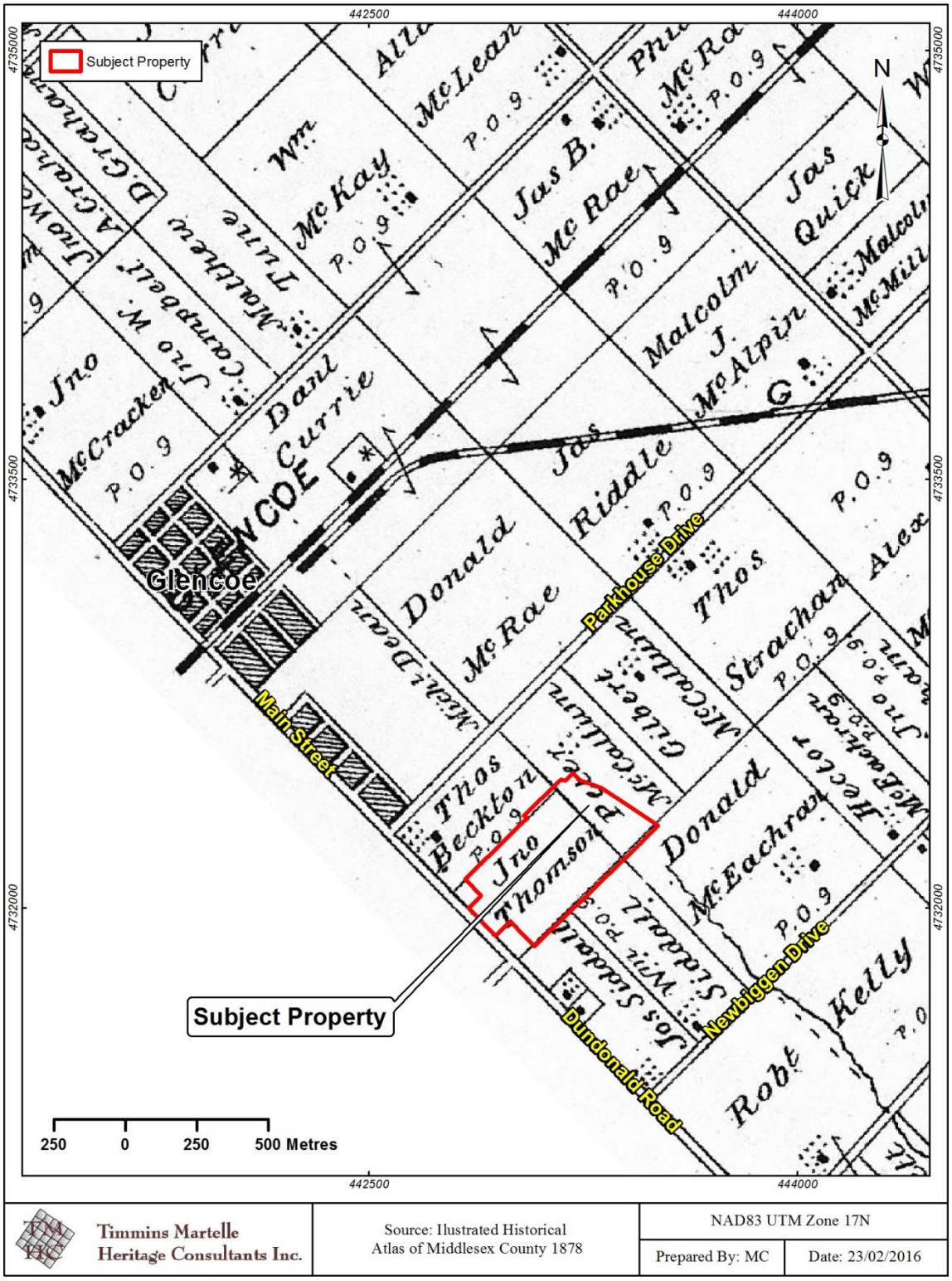
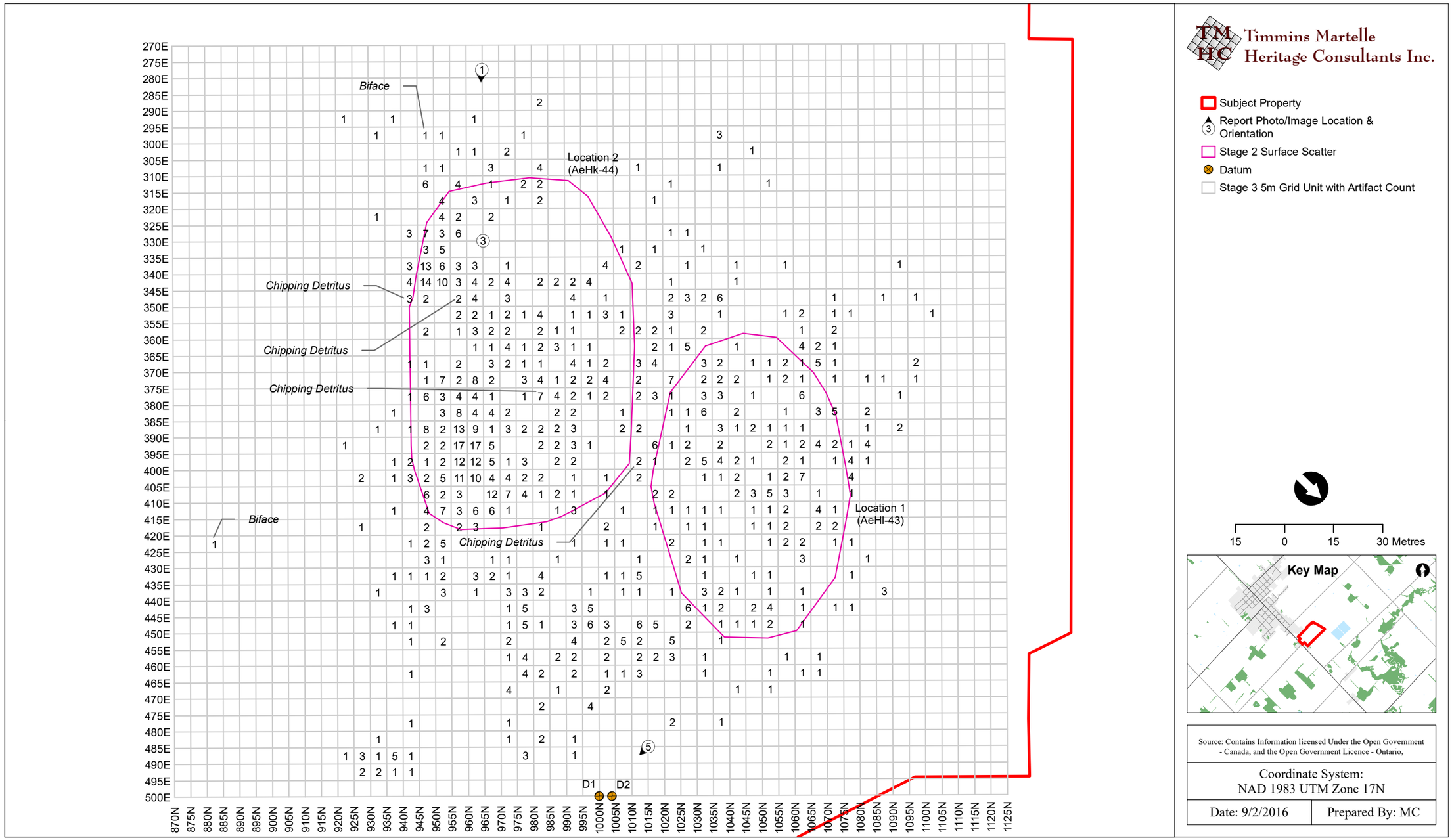


Map 8: Location of the Subject Property Shown on the 1878 Illustrated Historical Atlas of Middlesex County



Map 9: Location 1&2 (AeHk-43 & AeHk-44) Stage 3 CSC Results

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Map 10: Location 4 (AeHk-45) Stage 3 CSC Results

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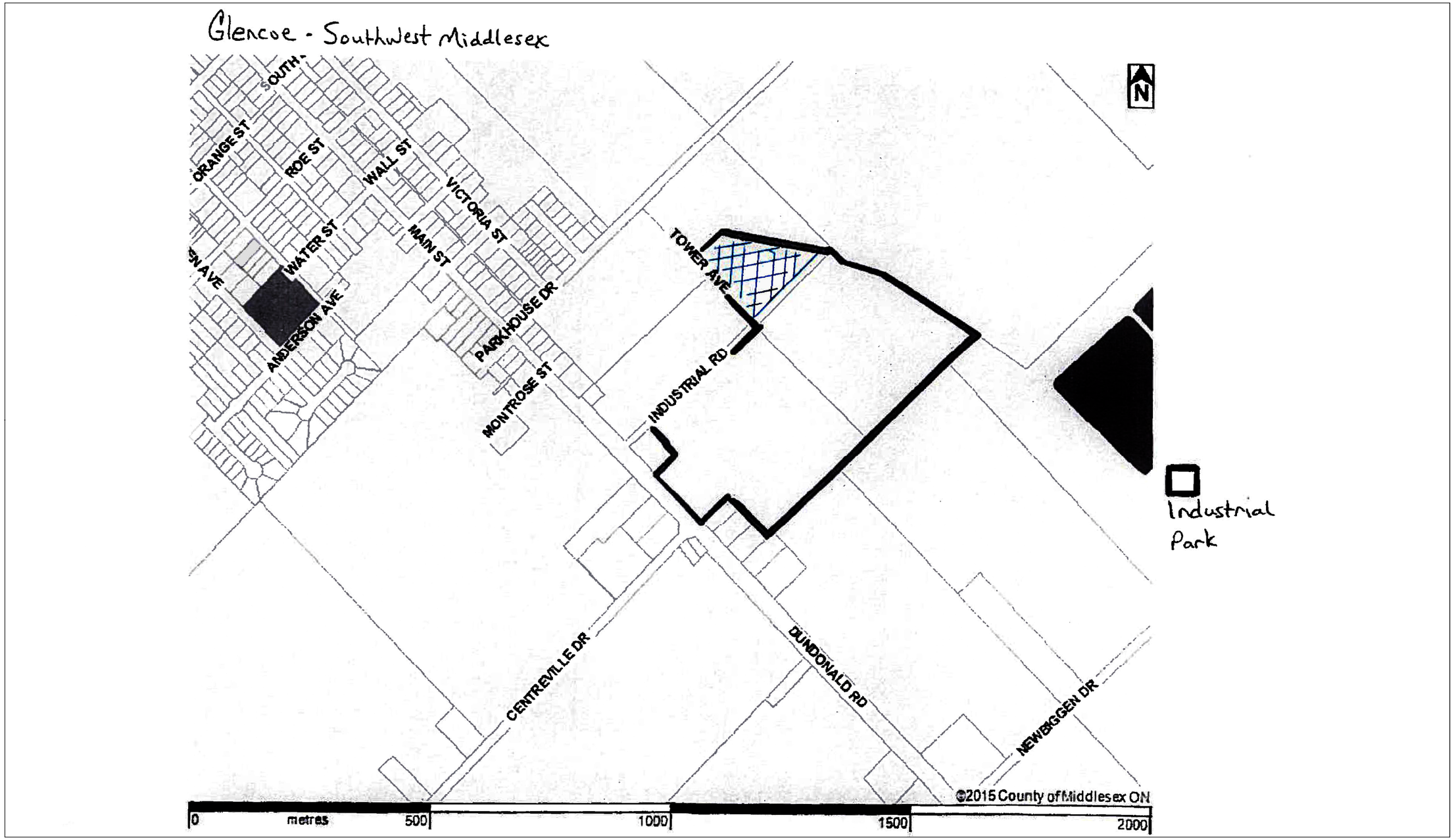

Map 11: Proponent Map

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APPENDIX A: Location 1&2 (AeHk-43 & AeHk-44) Stage 3 CSC Artifact Catalogue

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
106	960N 395E	1	Glass	Architectural	Pane glass	Not applicable		
107	960N 395E	2	Glass	Lighting	Lamp chimney	Unknown		colourless, straight rim
108	960N 395E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, body sherd
109	960N 395E	1	Glass	Unknown	Unid. container glass	Machine made		colourless, small base sherd, embossed P
110	960N 395E	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd, partial black transfer maker's mark HANLEY / ENGLAND
111	960N 395E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	green	with moulded décor
112	960N 395E	1	Ceramic	Food & Bev.	Tea cup	Ironstone, moulded		Wheat
113	960N 395E	2	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
114	960N 395E	1	Ceramic	Food & Bev.	Tableware	Ironstone, transfer	brown	
115	960N 395E	1	Ceramic	Food & Bev.	Tableware	Ivory Body		
116	950N 410E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		fugitive décor
117	950N 410E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
118	950N 410E	1	Ceramic	Food & Bev.	Hollowware	Yellowware, Rockingham		
119	950N 410E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
120	950N 410E	1	Glass	Unknown	Unid. container glass	Machine made		colourless base sherd, embossed 18 or 81 in centre
121	950N 410E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber, body/base sherd, embossed .NO. on base, possibly utilized
122	965N 405E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
123	965N 405E	1	Glass	Unknown	Unid. container glass	Mould blown		pale green
124	965N 405E	1	Glass	Unknown	Bottle	Mould blown		colourless
125	965N 405E	1	Glass	Unknown	Unid. container glass	Mould blown		cobalt blue, body sherd
126	965N 405E	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain, flown	blue	with moulded décor
127	965N 405E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		Wheat, rim sherd
128	965N 405E	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	brown	
129	965N 405E	3	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
130	965N 405E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small sherd
131	965N 405E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		fugitive décor
132	965N 370E	1	Glass	Architectural	Pane glass	Not applicable		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
133	965N 370E	1	Ceramic	Food & Bev.	Hollowware	Ivory Body		
134	955N 375E	1	Ceramic	Food & Bev.	Flatware	Porcelain		base sherd
135	955N 375E	1	Glass	Activities	Ink bottle	Mould blown		amber, complete, cylindrical with slopped shoulder
136	955N 375E	2	Glass	Lighting	Lamp chimney	Unknown		colourless
137	955N 390E	7	Glass	Architectural	Pane glass	Not applicable		
138	955N 390E	2	Glass	Unknown	Unid. container glass	Manganese decoloured		
139	955N 390E	1	Glass	Food & Bev.	Closure	Mould blown		colourless, jar liner
140	955N 390E	1	Glass	Unknown	Unknown	Opaque white		possible lighting
141	955N 390E	1	Ceramic	Food & Bev.	Tableware	Porcelain		base sherd, fugitive décor
142	955N 390E	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		Wheat
143	955N 390E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		base sherd
144	955N 390E	1	Ceramic	Unknown	Hollowware	Ironstone		base/body sherd, tableware or toiletry
145	945N 335E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		rim sherd, possibly utilized
146	945N 335E	1	Glass	Unknown	Unid. container glass	Machine made		amber
147	945N 335E	3	Glass	Architectural	Pane glass	Not applicable		
148	945N 335E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck/finish, mould blown
149	945N 335E	1	Glass	Unknown	Bottle	Manganese decoloured		mould blown
150	945N 335E	3	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		
151	945N 335E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber base/body sherd, embossed 160 O on base, flask
152	945N 335E	1	Glass	Modified	Utilized container	Unknown		max L 22.36mm, W 16.86mm, T 1.71mm, utilized on one short edge, 10.85mm long, straight
153	945N 335E	1	Glass	Modified	Utilized container	Unknown		max L 31.46mm, W 21.47mm, T 3.00mm, utilized on one long edge, 12.65mm long, concave
154	950N 370E	1	Bone	Faunal & Floral	Indeterminate	Unknown		calcined, small fragment
155	950N 370E	1	Glass	Unknown	Unid. container glass	Machine made		colourless, base/body sherd
156	950N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, heat altered
157	950N 370E	4	Glass	Food & Bev.	Glassware	Manganese decoloured		heavy stemmed vessel, conical bowl, decorated
158	970N 405E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		burnt
159	970N 405E	1	Ceramic	Food & Bev.	Tableware	Ironstone		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
160	970N 405E	1	Ceramic	Food & Bev.	Hollowware	CEW, glazed		yellow fabric, yellow glaze
161	970N 405E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Bristol		
162	970N 405E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
163	970N 405E	1	Glass	Food & Bev.	Canning jar	Manganese decoloured		ground lip, mould blown
164	970N 405E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		decorated
165	960N 400E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		rim sherd
166	960N 400E	2	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	brown	
167	960N 400E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, flown	blue	
168	960N 400E	2	Ceramic	Food & Bev.	Tableware	Refined White EW		
169	960N 400E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
170	960N 400E	1	Glass	Food & Bev.	Glassware	Machine made		colourless with pink film on one surface
171	960N 400E	1	Glass	Food & Bev.	Glassware	Machine made		marbled opaque purple and white, rim sherd with clovers
172	960N 400E	1	Glass	Modified	Utilized container	Unknown		green alcohol bottle body sherd, max L 28.15mm, W 26.91mm, T 3.34mm, utilized on one edge, 13.48mm long, concave
173	960N 370E	1	Glass	Architectural	Pane glass	Not applicable		heat altered
174	960N 370E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green, small body sherd
175	960N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
176	960N 370E	1	Glass	Unknown	Jar	Machine made		colourless
177	960N 370E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded		small rim sherd
178	960N 370E	1	Ceramic	Unknown	Hollowware	Ironstone		base sherd, tableware or toiletry
179	960N 370E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	brown	lid?
180	960N 370E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Bristol		
181	960N 410E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green, finish/neck sherd
182	960N 410E	1	Ceramic	Food & Bev.	Unknown	Yellowware		small sherd
183	960N 410E	2	Ceramic	Food & Bev.	Tableware	Semiporcelain		small sherds
184	960N 410E	1	Ceramic	Food & Bev.	Tableware	Ivory Body		
185	960N 410E	1	Ceramic	Unknown	Hollowware	Refined White EW		base sherd, tableware or toiletry
186	955N 400E	1	Glass	Architectural	Pane glass	Not applicable		
187	955N 400E	1	Glass	Unknown	Unknown	Opaque white		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
188	955N 400E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, possibly utilized
189	955N 400E	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain, flown	blue	with moulded décor
190	955N 400E	1	Ceramic	Food & Bev.	Flatware	Ironstone, transfer	brown	floral
191	955N 400E	1	Ceramic	Food & Bev.	Plate	VEW, transfer	brown	
192	955N 400E	1	Ceramic	Food & Bev.	Hollowware	Refined White EW		rim sherd
193	955N 400E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small base sherd
194	955N 400E	3	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
195	1075N 430E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
196	1070N 420E	1	Glass	Unknown	Unid. container glass	Vented mould		aqua, base sherd
197	1070N 415E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		
198	1070N 415E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber base/body sherd, like cat.151, embossed on base 160 J, possibly utilized
199	1070N 410E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		
200	1070N 395E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, possibly utilized
201	1060N 435E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		small rim sherd
202	1060N 445E	1	Glass	Unknown	Hollowware	Manganese decoloured		container or glassware
203	1065N 460E	1	Glass	Food & Bev.	Glassware	Unknown		colourless, decorated
204	1065N 455E	1	Ceramic	Food & Bev.	Tea cup	Ironstone, undec.		rim sherd
205	1070N 440E	1	Ceramic	Food & Bev.	Flatware	Porcelain, decal	green, pink	base sherd
206	1075N 440E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber base/body sherd, like cat.151, embossed on base 60, possibly utilized
207	1065N 415E	2	Glass	Architectural	Pane glass	Not applicable		
208	1060N 460E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		decorated
209	1060N 440E	1	Ceramic	Food & Bev.	Hollowware	Yellowware, Rockingham		
210	1060N 400E	1	Ceramic	Food & Bev.	Hollowware	Fine Stoneware		red-brown fabric, brown glaze both surfaces, moulded ext.
211	1060N 400E	2	Glass	Architectural	Pane glass	Not applicable		
212	1060N 400E	1	Glass	Food & Bev.	Closure	Unknown		aqua jar liner
213	1060N 400E	1	Glass	Food & Bev.	Tumbler	Manganese decoloured		base/body sherd
214	1060N 425E	1	Glass	Architectural	Pane glass	20th Century		6.34mm thick
215	1060N 425E	1	Glass	Architectural	Pane glass	Not applicable		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
216	1060N 425E	1	Glass	Modified	Utilized window	Unknown		max L 28.86mm, W 28.74mm, T 3.89mm, utilized on one short edge, 11.16mm long, straight
217	1055N 350E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small rim sherd
218	1060N 355E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
219	1060N 350E	1	Glass	Architectural	Pane glass	Not applicable		
220	1060N 350E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
221	1055N 335E	1	Glass	Architectural	Pane glass	Not applicable		
222	1065N 360E	1	Glass	Architectural	Pane glass	Not applicable		
223	1065N 360E	1	Glass	Modified	Utilized window	Unknown		max L 35.50mm, W 31.47mm, T 3.06mm, utilized on two edges: a) 17.37mm long, irregular; b) 10.56mm long, straight (entire)
224	1065N 405E	1	Glass	Architectural	Pane glass	Not applicable		
225	1065N 410E	1	Glass	Architectural	Pane glass	Not applicable		
226	1065N 410E	1	Glass	Architectural	Pane glass	Unknown		with red film on one surface
227	1065N 410E	1	Glass	Architectural	Pane glass	Not applicable		
228	1065N 410E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
229	1060N 360E	2	Glass	Architectural	Pane glass	Not applicable		
230	1060N 360E	1	Ceramic	Unknown	Unknown	Porcelain		tableware?
231	1060N 360E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua
232	1065N 365E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
233	1065N 365E	3	Glass	Architectural	Pane glass	Not applicable		
234	1065N 365E	1	Glass	Modified	Utilized window	Unknown		rectangular, max L 36.90mm, W 18.82mm, T 2.70mm, utilized on one long edge at centre, 16.59mm long, straight
235	1065N 380E	1	Ceramic	Clothing	Button	Prosser		white, 4 holes
236	1065N 380E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
237	1065N 380E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		possibly utilized
238	1065N 390E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
239	1065N 390E	2	Glass	Architectural	Pane glass	Not applicable		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
240	1065N 390E	1	Glass	Modified	Utilized container	Mould blown		amber flask body sherd, max L 41.96mm, W 31.22mm, T 5.61mm, utilized on one short edge, 14.15mm long, concave
241	1090N 375E	1	Glass	Architectural	Pane glass	Not applicable		
242	1095N 370E	1	Glass	Modified	Utilized glassware	Manganese decoloured		tumbler body sherd, max L 43.44mm, W 30.33mm, T 4.00mm, utilized on one long edge, 12.60mm long, concave
243	1095N 365E	1	Glass	Architectural	Pane glass	Not applicable		
244	1095N 365E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
245	1090N 335E	1	Glass	Architectural	Pane glass	Not applicable		
246	1095N 345E	1	Glass	Architectural	Pane glass	Not applicable		
247	1100N 350E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
248	1075N 405E	1	Ceramic	Food & Bev.	Tea cup	Ironstone, moulded		rim sherd
249	1075N 420E	1	Glass	Unknown	Unid. container glass	Machine made		amber, possibly utilized
250	1080N 425E	1	Ceramic	Unknown	Unknown	Porcelain		base sherd, not glazed on ext. surface, red transfer maker's mark of crown with VICTORIA
251	1075N 400E	1	Glass	Unknown	Unid. container glass	Mould blown		green body sherd
252	1075N 400E	1	Copper Alloy	Unknown	Decorative plate	Unknown		33.50mm
253	1075N 400E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
254	1085N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		amber base sherd
255	1080N 380E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
256	1080N 380E	1	Ceramic	Unknown	Unknown	Porcelain		unusual shape, one surface unglazed
257	1085N 435E	1	Glass	Architectural	Pane glass	Not applicable		
258	1085N 435E	1	Glass	Unknown	Bottle	Mould blown		colourless
259	1085N 435E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck/finish, mould blown
260	1090N 385E	2	Glass	Unknown	Unid. container glass	Manganese decoloured		one possibly utilized
261	1080N 385E	1	Glass	Food & Bev.	Glassware	Opaque white		utilized?
262	1080N 390E	1	Glass	Unknown	Unid. container glass	Machine made		amber body sherd
263	1080N 390E	2	Glass	Architectural	Pane glass	Not applicable		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
264	1080N 390E	1	Glass	Modified	Utilized window	Unknown		pentagon, max L 17.17mm, W 15.22mm, T 2.13mm, utilized on one long edge, 8.94mm long, concave
265	1080N 395E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
266	1075N 395E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		hobnail décor
267	1075N 395E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherd
268	1075N 395E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
269	1075N 395E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
270	1075N 390E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
271	1070N 390E	1	Glass	Architectural	Pane glass	Not applicable		
272	1070N 390E	1	Glass	Modified	Utilized window	Unknown		max L 21.72mm, W 20.92mm, T 2.20mm, utilized on one edge, 11.26mm, convex
273	1070N 380E	2	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	turquoise	small sherds
274	1070N 380E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
275	1070N 380E	1	Glass	Unknown	Molten glass	Unidentifiable		aqua
276	1070N 380E	1	Glass	Food & Bev.	Beverage bottle	Turn paste mould		amber body sherd
277	1070N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		colourless
278	1070N 365E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	green	with moulded décor, rim sherd
279	1070N 360E	1	Glass	Architectural	Pane glass	Not applicable		
280	1080N 370E	1	Glass	Unknown	Unid. container glass	Unknown		aqua body sherd
281	1085N 345E	1	Glass	Unknown	Unid. container glass	Mould blown		colourless
282	1075N 350E	1	Glass	Unknown	Bottle	Mould blown		aqua, neck/finish sherd
283	1070N 345E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		heat altered
284	1070N 350E	1	Glass	Food & Bev.	Beverage bottle	Turn paste mould		amber body sherd
285	1070N 355E	1	Glass	Food & Bev.	Glassware	Unknown		colourless with pink
286	1070N 355E	1	Ceramic	Unknown	Unknown	Porcelain, moulded		tableware or figurine
287	1015N 445E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
288	1015N 445E	1	Ceramic	Food & Bev.	Hollowware	Refined White EW	blue	blue décor
289	1015N 445E	3	Glass	Unknown	Unid. container glass	Manganese decoloured		misc. sherds
290	1025N 440E	1	Glass	Architectural	Pane glass	Not applicable		possibly utilized
291	1025N 440E	1	Glass	Food & Bev.	Beverage bottle	Turn paste mould		amber body sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
292	1025N 440E	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd, partial black transfer maker's mark of Royal Arms with … (me)AKIN / (han)LEY / (engla)ND
293	1010N 460E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
294	1010N 460E	1	Glass	Food & Bev.	Stopper	Mould blown		amber club sauce stopper, incomplete
295	1010N 460E	1	Glass	Modified	Utilized container	Mould blown		aqua body sherd, square, max L 36.66mm, W 36.39mm, T 7.33mm, utilized on two edges: a) 22.41mm long, straight; b) 23.92mm long, concave
296	1015N 390E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
297	1015N 390E	2	Glass	Lighting	Lamp chimney	Unknown		colourless
298	1015N 390E	1	Ceramic	Food & Bev.	Plate	Ironstone, moulded		Wheat
299	1015N 390E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
300	1015N 390E	1	Ceramic	Personal	Doll dish	Porcelain		
301	1005N 355E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		base sherd
302	1005N 355E	1	Ceramic	Food & Bev.	Tea cup	Ironstone, moulded		Seashore, rim/body sherd
303	1010N 385E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, small sherd
304	1010N 385E	1	Ceramic	Food & Bev.	Saucer	Ironstone		
305	1015N 360E	1	Glass	Modified	Utilized window	Unknown		max L 34.22mm, W 27.98mm, T 2.53mm, utilized on one long edge, 31.04mm, straight
306	1015N 360E	1	Glass	Health & Hygiene	Jar	Machine made		complete Vaseline Cold Cream jar, opaque white, embossed on base CHESEBROUGH MFG CO NY
307	975N 440E	1	Ceramic	Food & Bev.	Flatware	Ironstone		small rim sherd
308	975N 440E	1	Ceramic	Food & Bev.	Plate	Ironstone, transfer	brown	
309	975N 440E	1	Glass	Unknown	Bottle	Manganese decoloured		neck/finish sherd, mould blown
310	975N 440E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, small sherd
311	975N 440E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
312	975N 435E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
313	975N 435E	1	Ceramic	Food & Bev.	Flatware	Ironstone, transfer	brown	
314	975N 435E	1	Ceramic	Food & Bev.	Hollowware	Ironstone, transfer	blue	small rim sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
315	970N 465E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, flown	blue	small sherd
316	970N 465E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		
317	970N 465E	1	Ceramic	Furniture	Figurine	Porcelain		unglazed
318	970N 465E	1	Glass	Food & Bev.	Beverage bottle	Crown cap		aqua, mould blown
319	1010N 430E	1	Ceramic	Food & Bev.	Plate	Ironstone, moulded		Wheat
320	1010N 430E	1	Glass	Unknown	Molten glass	Unidentifiable		aqua
321	1010N 430E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
322	1010N 430E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber, base/body sherd, embossed on base 461 C, like cat.151
323	1020N 370E	1	Ceramic	Food & Bev.	Tableware	Porcelain, gilded	blue, gold	small rim sherd, blue décor
324	1020N 370E	1	Ceramic	Food & Bev.	Serving hollowware	Porcelain, decal	green	with moulded décor
325	1020N 370E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	small sherd
326	1020N 370E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		
327	1020N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
328	1020N 370E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, recessed panel body/base sherd, partial embossed label …ECIAL / ….S, possibly utilized
329	1020N 370E	1	Glass	Food & Bev.	Canning jar	Mould blown		aqua, ground lip
330	1010N 375E	1	Glass	Modified	Utilized lamp chimney	Beaded/crimped		manganese, max L 19.64mm, W 14.24mm, T 1.71mm, utilized on neck edge, 8.58mm long, straight
331	1010N 375E	1	Glass	Architectural	Pane glass	Not applicable		
332	1000N 450E	1	Glass	Food & Bev.	Stopper	Mould blown		amber club sauce stopper
333	1000N 450E	1	Glass	Modified	Utilized container	Mould blown		aqua body sherd, max L 31.98mm, W 28.12mm, T 4.78mm, utilized on one long edge, 26.58mm long, concave
334	980N 305E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua body sherd
335	980N 305E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
336	980N 305E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
337	980N 305E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	green	with moulded décor, rim sherd
338	990N 440E	1	Glass	Architectural	Pane glass	Not applicable		
339	990N 440E	1	Ceramic	Food & Bev.	Tableware	Porcelain		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
340	990N 440E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
341	1010N 445E	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		small sherd
342	1010N 445E	1	Glass	Unknown	Unid. container glass	Unknown		amber
343	1010N 445E	1	Glass	Architectural	Pane glass	Not applicable		
344	1010N 445E	2	Glass	Unknown	Unid. container glass	Mould blown		aqua
345	1010N 445E	1	Glass	Modified	Utilized container	Manganese decoloured		body sherd, max L 32.17mm, W 18.14mm, T 4.45mm, utilized on one edge, 16.68mm long, convex
346	995N 470E	3	Ceramic	Unknown	Unknown	Coarse Red EW		
347	995N 470E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
348	990N 450E	1	Glass	Modified	Utilized window	Unknown		max L 22.27mm, W 19.86mm, T 1.95mm, utilized on one short edge, 11.14mm long (entire), straight
349	990N 450E	1	Glass	Food & Bev.	Glassware	Unknown		colourless, straight rim sherd
350	990N 450E	1	Ceramic	Food & Bev.	Saucer	Vitrified White		rim sherd, undecorated
351	990N 450E	1	Glass	Modified	Utilized container	Mould blown		aqua body sherd, irregular, max L 46.26mm, W 37.08mm, T 9.80mm, utilized one 3 edges: a) 18.93mm long, irregular; b) 16.92mm long, straight; c) 16.37mm long, straight
352	1015N 375E	1	Ceramic	Food & Bev.	Jar	C STNW, Bristol		shoulder sherd
353	1015N 375E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, small sherd
354	1015N 375E	1	Glass	Modified	Utilized container	Unknown		aqua base sherd, max L 45.10mm, W 23.83mm, T 6.48mm, utilized on one edge, 23.45mm long, irregular
355	1020N 450E	1	Ceramic	Furniture	Figurine	Porcelain		
356	1020N 450E	1	Ceramic	Food & Bev.	Flatware	Ironstone, transfer	brown	
357	1020N 450E	1	Glass	Unknown	Unknown	Unknown		amber
358	1020N 450E	1	Glass	Modified	Utilized container	Mould blown		green body sherd, max L 36.85mm, W 25.61mm, T 5.51mm, utilized on one long edge, 15.31mm long, straight
359	975N 455E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
360	975N 455E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, flown	turquoise	small body sherd, partial maker's mark of crown
361	975N 455E	1	Glass	Unknown	Bottle	Machine made		colourless, possibly utilized
362	975N 455E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		base/body sherd, embossed 5
363	970N 435E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, moulded		small rim sherd
364	970N 435E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherd
365	970N 435E	1	Glass	Food & Bev.	Finial	Manganese decoloured		decorated
366	1015N 365E	1	Glass	Lighting	Lamp	Opaque white		ground edge
367	1015N 365E	1	Ceramic	Food & Bev.	Hollowware	Ironstone		body sherd
368	1015N 365E	1	Glass	Unknown	Unid. container glass	Unknown		amber body sherd
369	1015N 365E	1	Ceramic	Unknown	Unknown	Porcelain		grey, moulded ext., figurine, vase or other
370	995N 440E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
371	995N 440E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		hint of décor
372	995N 440E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
373	995N 440E	1	Glass	Modified	Utilized glassware	Manganese decoloured		semicircular, decorated ext., max L 46.83mm, W 27.25mm, T 6.01mm, utilized on entire circular edge
374	925N 485E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		rim sherd
375	925N 485E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	black	small sherd
376	925N 485E	1	Glass	Modified	Utilized container	Manganese decoloured		body sherd, cylindrical, max L 57.96mm, W 32.96mm, T 5.34mm, utilized on one long edge, 38.01mm long, straight with hook
377	925N 415E	1	Ceramic	Food & Bev.	Flatware	Porcelain		small body sherd
378	925N 400E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, small sherd
379	925N 400E	1	Glass	Unknown	Unknown	Mould blown		aqua, container or insulator
380	920N 485E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua body sherd
381	920N 390E	1	Ceramic	Food & Bev.	Plate	Ironstone, moulded		Wheat
382	920N 290E	1	Glass	Food & Bev.	Closure	Mould blown		aqua jar liner, partial embossed label RUTHER…
383	930N 485E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.		
384	930N 480E	1	Ceramic	Food & Bev.	Handle	Porcelain, moulded		
385	930N 435E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
386	930N 385E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
387	930N 320E	1	Ceramic	Food & Bev.	Flatware	Ironstone		small rim sherd
388	930N 295E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
389	935N 430E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
390	935N 410E	1	Glass	Health & Hygiene	Jar	Machine made		Vaseline Cold Cream jar, opaque white, embossed on base MFG CO NY, incomplete
391	935N 400E	1	Ceramic	Food & Bev.	Tableware	Vitrified White		burnt base sherd, partial transfer maker's mark …ON. WILC…
392	925N 490E	1	Ceramic	Food & Bev.	Flatware	Ironstone, transfer	red	
393	925N 490E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, neck/finish/shoulder sherd, small bottle
394	935N 395E	1	Glass	Unknown	Unid. container glass	Machine made		aqua
395	935N 380E	1	Glass	Unknown	Unid. container glass	Unknown		amber body sherd
396	935N 290E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
397	940N 400E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
398	940N 400E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck/finish sherd
399	940N 400E	1	Glass	Food & Bev.	Beverage bottle	Machine made		bright green, neck sherd
400	940N 340E	2	Glass	Architectural	Pane glass	Not applicable		
401	940N 340E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
402	940N 340E	1	Glass	Architectural	Pane glass	Unknown		decorated
403	940N 395E	1	Ceramic	Food & Bev.	Hollowware	Yellowware, Rockingham		
404	940N 395E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
405	930N 490E	1	Ceramic	Food & Bev.	Hollowware	Ironstone, transfer	black	body sherd
406	930N 490E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Red EW		
407	940N 335E	2	Glass	Architectural	Pane glass	Not applicable		
408	940N 335E	1	Ceramic	Furniture	Figurine	Porcelain		
409	940N 325E	1	Glass	Architectural	Pane glass	Not applicable		
410	940N 325E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green, possibly utilized
411	940N 325E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		amber, finish sherd
412	940N 385E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	black	rim sherd
413	940N 375E	1	Ceramic	Food & Bev.	Tea cup	Ironstone, undec.		rim/body sherd, possibly utilized

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
414	940N 365E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Salt-glaze		
415	940N 345E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		rim sherd
416	940N 345E	1	Glass	Architectural	Pane glass	Not applicable		
417	940N 345E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua body sherd
418	935N 490E	1	Glass	Unknown	Unid. container glass	Unknown		aqua body sherd
419	935N 445E	1	Ceramic	Food & Bev.	Flatware	Porcelain		
420	935N 485E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
421	935N 485E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.		
422	935N 485E	1	Glass	Architectural	Pane glass	Not applicable		
423	935N 485E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		colourless, neck/finish
424	935N 485E	1	Glass	Unknown	Unid. container glass	Mould blown		cobalt blue body sherd, cylindrical, possibly utilized
425	945N 325E	2	Glass	Architectural	Pane glass	Not applicable		
426	945N 325E	1	Glass	Architectural	Pane glass	Unknown		decorated
427	945N 325E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherd
428	945N 325E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		decorated
429	945N 325E	1	Glass	Food & Bev.	Beverage bottle	Mould blown		aqua body sherd, possible soda
430	945N 325E	1	Glass	Modified	Utilized window	Unknown		max L 26.85mm, W 21.20mm, T 2.86mm, utilized on two edges: a)short edge, 12.40mm long (entire), straight; b) long edge, 12.86mm long, straight
431	940N 475E	1	Glass	Food & Bev.	Closure	Unknown		aqua jar liner, partial embossed décor or logo in centre, heat altered
432	940N 460E	1	Glass	Unknown	Unid. container glass	Unknown		amber body sherd
433	945N 310E	2	Glass	Architectural	Pane glass	Not applicable		
434	945N 310E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	green	small sherd
435	945N 310E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		
436	945N 310E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
437	945N 310E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck/body shred, square, partial embossed label A TRA…
438	940N 450E	1	Ceramic	Food & Bev.	Flatware	Porcelain		rim sherd, hint of colour
439	940N 445E	1	Ceramic	Food & Bev.	Hollowware	IRO or semiporcelain		small rim sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
440	940N 440E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
441	940N 430E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
442	945N 305E	1	Glass	Food & Bev.	Wine bottle	Mould blown		green, push-up base sherd
443	940N 490E	1	Glass	Food & Bev.	Closure	Manganese decoloured		jar liner
444	940N 485E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.		
445	940N 420E	1	Glass	Modified	Utilized container	Mould blown		colourless body sherd, max L 46.23mm, W 33.27mm, T 5.24, utilized on one short edge, 17.92mm long, concave
446	945N 345E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green body sherd
447	945N 345E	1	Glass	Modified	Utilized container	Mould blown		aqua, max L 15.96mm, W 12.31mm, T 3.72mm, utilized on one edge, 13.62mm long (entire), straight
448	945N 340E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green body sherd
449	945N 340E	2	Glass	Architectural	Pane glass	Not applicable		
450	945N 340E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua body sherd
451	945N 340E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck/shoulder sherd, mould blown
452	945N 340E	3	Glass	Unknown	Unid. container glass	Manganese decoloured		misc. sherds
453	945N 340E	1	Glass	Unknown	Bottle	Mould blown		amber base sherd, cylindrical, partial embossed label C…
454	945N 340E	2	Glass	Food & Bev.	Alcohol flask	Mould blown		amber, base and body sherds
455	945N 340E	1	Glass	Modified	Utilized container	Mould blown		amber flask body sherd, max L 52.63mm, W 40.49mm, T 7.33mm, utilized on one short edge, 15.36mm long, straight
456	945N 340E	1	Glass	Modified	Utilized window	Unknown		max L 27.05mm, W 13.52mm, T 2.21mm, utilized on one long edge, 14.50mm long, straight with hook
457	945N 340E	1	Glass	Modified	Utilized container	Manganese decoloured		body sherd, max L 39.88mm, W 28.18mm, T 4.32mm, utilized on one long edge, 23.56mm long, straight
458	950N 340E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green, finish and neck sherd, possible packer lip finish
459	950N 340E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green, body sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
460	950N 340E	1	Glass	Unknown	Unid. container glass	Unknown		amber, body sherd, possibly utilized
461	950N 340E	1	Glass	Unknown	Bottle	Manganese decoloured		shoulder/neck sherd
462	950N 340E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		body sherd
463	950N 340E	1	Ceramic	Food & Bev.	Plate	Porcelain, moulded		scalloped
464	950N 335E	1	Glass	Food & Bev.	Wine bottle	Mould blown		green, base sherd
465	950N 335E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		mould blown, patent finish
466	950N 335E	1	Glass	Modified	Utilized container	Mould blown		amber, neck sherd, max. L 30.02mm, W 23.6mm, T 4.93mm, utilized along width 14.78mm, convex, and around edge 7.80mm
467	950N 335E	3	Glass	Architectural	Pane glass	Not applicable		aqua,
469	950N 330E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Perry Davis finish		aqua, mould blown
470	950N 330E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green, small sherd
471	950N 330E	2	Glass	Architectural	Pane glass	Not applicable		aqua
472	950N 330E	1	Glass	Modified	Utilized window	Not applicable		aqua, Max L30.01mm , W 11.48mm , T 3.09mm, utilized lengthwise 14.14mm, around corner across width 11.24mm
473	950N 325E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		
474	950N 325E	1	Ceramic	Food & Bev.	Plate	Semiporcelain, moulded		scalloped edge
475	950N 325E	1	Ceramic	Personal	Doll dish	Porcelain		fugitive décor
476	950N 320E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		small sherd
477	950N 320E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
478	950N 320E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
479	950N 320E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
480	950N 385E	1	Ceramic	Food & Bev.	Flatware	Porcelain, gilded		moulded design, scalloped edge, green wash
481	950N 385E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
482	950N 380E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green, possibly utilized, neck sherd
483	950N 380E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	green	
484	950N 380E	1	Ceramic	Food & Bev.	Hollowware	Ironstone		
485	950N 375E	2	Glass	Unknown	Unid. container glass	Unknown		aqua, small body sherds

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
486	950N 375E	1	Glass	Modified	Utilized window	Not applicable		aqua, max L 26.53, W 14.73,T 2.11mm, utilized on two edges, one complete rounded edge utilized 14.73mm, one straight edge 13.30mm,
487	950N 340E	1	Glass	Unknown	Unid. container glass	Unknown		amber
488	950N 340E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
489	950N 340E	1	Glass	Modified	Utilized container	Manganese decoloured		body sherd, max L 51.84mm,W 22.31mm, T 5.56mm, utilized on one long edge, 44.77mm long, straight
490	950N 340E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		
491	950N 425E	1	Ceramic	Food & Bev.	Hollowware	RWE, transfer	brown	rim sherd
492	950N 420E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		patent lip finish, mould blown
493	950N 420E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green body sherd
494	950N 420E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
495	950N 420E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
496	950N 420E	1	Glass	Architectural	Pane glass	Not applicable		aqua
497	950N 405E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, body sherd
498	950N 405E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, gilded		
499	950N 400E	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd
500	950N 400E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	brown	
501	950N 400E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small body sherd,
502	950N 400E	1	Glass	Architectural	Pane glass	Not applicable		aqua
503	950N 400E	1	Glass	Unknown	Molten glass	Unidentifiable		aqua
504	950N 395E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
505	950N 395E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		base sherd
506	950N 390E	1	Glass	Modified	Utilized container	Mould blown		aqua, max L 38.81mm, W34.23mm, T6.26mm, utilized on one long edge, 31.99mm, straight
507	950N 390E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		scalloped
508	955N 320E	1	Glass	Architectural	Decorative glass	Unknown	red	frosted, with red stenciled décor
509	955N 320E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
510	955N 310E	1	Glass	Architectural	Pane glass	Not applicable		aqua
511	955N 310E	1	Glass	Unknown	Unknown	Opaque white		small sherd
512	955N 310E	2	Glass	Unknown	Unknown	Opaque white		small sherds, possible lighting
513	950N 450E	1	Ceramic	Food & Bev.	Flatware	Porcelain, painted	blue	small body sherd,
514	950N 450E	1	Glass	Food & Bev.	Glassware	Unknown		colourless, fluted.
515	950N 430E	1	Ceramic	Food & Bev.	Flatware	Refined White EW		
516	950N 430E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
517	950N 435E	2	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
518	950N 435E	1	Glass	Modified	Utilized container	Mould blown		amber, alcohol flask body sherd, max L 31.61mm, W 21.27mm, T 6.72mm, utilized on two edges: a) 22.44mm long (entire), straight; b) 20.44mm long (entire), straight
519	955N 325E	1	Glass	Food & Bev.	Closure	Manganese decoloured		jar liner
520	955N 325E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
521	955N 325E	1	Ceramic	Food & Bev.	Flatware	Ironstone		base sherd
522	955N 325E	1	Ceramic	Food & Bev.	Flatware	IRO or Semiporcelain		base sherd
523	955N 325E	1	Glass	Food & Bev.	Glassware	Jadeite		possible spout sherd
524	955N 325E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany ext.		body sherd
525	955N 345E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		scalloped edge, with circular cut out décor
526	955N 335E	1	Ceramic	Food & Bev.	Flatware	Porcelain		base sherd
527	955N 335E	1	Glass	Unknown	Unknown	Unknown		colourless, small sherd
528	955N 335E	1	Glass	Health & Hygiene	Jar	Machine made		Vaseline Cold Cream, incomplete, opaque white
529	955N 340E	1	Glass	Food & Bev.	Closure	Unknown		aqua, partial jar liner, partial embossed crown
530	955N 340E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
531	955N 340E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small sherd
532	955N 300E	1	Glass	Architectural	Pane glass	Not applicable		aqua
533	955N 395E	2	Glass	Architectural	Pane glass	Not applicable		aqua
534	955N 395E	2	Ceramic	Food & Bev.	Serving hollowware	Yellowware, Rockingham		moulded
535	955N 395E	1	Ceramic	Health & Hygiene	Chamber pot	Ironstone		flanged rim
536	955N 395E	1	Ceramic	Food & Bev.	Hollowware	Ironstone, transfer	brown	

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
537	955N 395E	1	Glass	Unknown	Unid. container glass	Unknown		colourless, small sherd
538	955N 395E	1	Glass	Unknown	Unknown	Unknown		cobalt blue, small sherd
539	955N 395E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, small sherd
540	955N 395E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
541	960N 315E	1	Glass	Architectural	Pane glass	Not applicable		aqua
542	960N 315E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
543	960N 315E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		
544	955N 370E	1	Ceramic	Food & Bev.	Flatware	Porcelain		
545	955N 370E	1	Glass	Unknown	Unid. container glass	Machine made		amber
546	955N 365E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, decal	green	moulded
547	955N 365E	1	Glass	Unknown	Unid. container glass	Mould blown		colourless
548	955N 355E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Salt-glaze		body sherd
549	955N 390E	1	Glass	Architectural	Pane glass	Not applicable		aqua
550	955N 390E	1	Glass	Unknown	Unid. container glass	Unknown		colourless, small sherd
551	960N 300E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
552	960N 290E	1	Ceramic	Food & Bev.	Tableware	Ironstone		missing most of int. and ext. surfaces
553	955N 350E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green body sherd
554	955N 350E	1	Glass	Unknown	Unid. container glass	Machine made		aqua body sherd
555	960N 355E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber, neck and finish sherd, stopper bore
556	960N 355E	1	Ceramic	Personal	Doll dish	Porcelain, painted	green	
557	960N 355E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		
558	960N 350E	1	Glass	Food & Bev.	Alcohol bottle	Machine made		green, base sherd
559	960N 350E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		
560	955N 415E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain		body sherd
561	955N 415E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small sherd
562	960N 345E	1	Glass	Lighting	Lamp chimney	Beaded/crimped		colourless
563	960N 345E	1	Ceramic	Food & Bev.	Flatware	Porcelain		faint décor, impressed?
564	960N 345E	1	Ceramic	Unknown	Unknown	Ironstone		small sherd
565	960N 345E	1	Ceramic	Unknown	Unknown	IRO or semiporcelain		small sherd
566	955N 385E	1	Ceramic	Food & Bev.	Lid	Ironstone, moulded		
567	955N 385E	1	Ceramic	Food & Bev.	Tableware	Ironstone, moulded		Wheat

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
568	955N 385E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		possible decal décor, fugitive
569	955N 385E	1	Ceramic	Food & Bev.	Tableware	Porcelain		rim sherd
570	955N 385E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		
571	955N 385E	1	Ceramic	Food & Bev.	Flatware	Refined White EW	blue	blue décor on rim edge
572	955N 385E	6	Glass	Architectural	Pane glass	Not applicable		aqua
573	955N 385E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
574	955N 410E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		burnt
575	955N 410E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		base sherd
576	955N 410E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		body sherd
577	960N 340E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		scalloped, rim sherd
578	960N 340E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
579	960N 340E	2	Glass	Architectural	Pane glass	Not applicable		aqua
580	960N 335E	1	Glass	Food & Bev.	Glassware	Jadeite		possible spout sherd
581	960N 335E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		body sherd
582	960N 335E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
583	960N 375E	1	Glass	Food & Bev.	Stopper	Mould blown		amber, Club Sauce stopper
584	960N 375E	1	Glass	Unknown	Unid. container glass	Machine made		colourless, base sherd
585	960N 375E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
586	960N 375E	1	Glass	Lighting	Lamp chimney	Manganese decoloured		
587	955N 405E	1	Ceramic	Food & Bev.	Handle	Semiporcelain, moulded	blue	with blue décor
588	955N 405E	1	Ceramic	Food & Bev.	Tableware	Porcelain		base sherd
589	955N 405E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
590	960N 380E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		possible pressed glass
591	960N 380E	1	Glass	Architectural	Pane glass	Not applicable		possibly utilized
592	960N 380E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
593	960N 380E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small sherd
594	960N 360E	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd
595	960N 385E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		
596	960N 385E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, gilt		
597	960N 385E	2	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
598	960N 385E	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		small sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
599	960N 385E	3	Glass	Architectural	Pane glass	Not applicable		aqua
600	960N 385E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
601	960N 415E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, neck sherd
602	960N 415E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, small sherd
603	960N 415E	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd
604	955N 380E	1	Ceramic	Food & Bev.	Tableware	Ironstone, moulded		possible lid
605	955N 380E	2	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		
606	955N 380E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
607	955N 380E	1	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherd
608	955N 380E	1	Glass	Architectural	Pane glass	Not applicable		aqua
609	955N 380E	2	Glass	Unknown	Unid. container glass	Manganese decoloured		
610	965N 410E	1	Glass	Unknown	Unknown	Unknown		colourless, small sherd
611	965N 410E	1	Ceramic	Food & Bev.	Flatware	Ironstone		base sherd
612	965N 410E	2	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		
613	965N 410E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		ext. surface missing
614	965N 410E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
615	960N 390E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		fugitive décor
616	960N 390E	1	Ceramic	Food & Bev.	Flatware	Porcelain, decal	red	
617	960N 390E	1	Ceramic	Food & Bev.	Flatware	Ironstone	brown	
618	960N 390E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
619	960N 390E	1	Ceramic	Food & Bev.	Tableware	Unid. white EW		
620	960N 390E	1	Glass	Food & Bev.	Alcohol bottle	Turn paste mould		green
621	960N 390E	3	Glass	Architectural	Pane glass	Not applicable		aqua
622	960N 390E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Unknown		aqua, possible paneled bottle
623	960N 390E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, recessed panel body sherd, partially embossed label ...R
624	960N 390E	1	Glass	Unknown	Bottle	Mould blown		aqua, neck sherd
625	960N 390E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
626	960N 390E	1	Ferrous	Unassigned material	Misc. metal	Unknown		
627	960N 390E	1	Plastic	Unknown	Unknown	20th Century		
628	965N 340E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		scalloped
629	965N 340E	1	Ceramic	Food & Bev.	Flatware	Porcelain		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
630	965N 320E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green, body sherd
631	965N 320E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
632	965N 375E	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone, moulded		Wheat
633	965N 310E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	blue	burnt
634	965N 360E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck/shoulder sherd
635	965N 365E	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone, moulded		rim sherd
636	965N 365E	2	Glass	Architectural	Pane glass	Not applicable		aqua
637	965N 305E	1	Glass	Furniture	Figurine	Manganese decoloured		seated figure in a toga
638	965N 305E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
639	965N 305E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
640	965N 355E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		possibly utilized
641	965N 355E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small body sherd
642	960N 430E	1	Ceramic	Food & Bev.	Flatware	Ironstone		base sherd, partial black transfer maker's mark of Royal Arms with (alf)RED MEAKIN under / (engla)ND
643	960N 430E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
644	960N 430E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
645	970N 365E	1	Ceramic	Food & Bev.	Hollowware	CEW, Rockingham		moulded décor
647	965N 400E	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone, moulded		large handle
648	965N 400E	1	Ceramic	Food & Bev.	Tableware	Porcelain, moulded		
649	965N 400E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
650	965N 400E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
651	965N 350E	1	Ceramic	Unknown	Unknown	Ironstone		flanged rim?
652	965N 385E	1	Ceramic	Food & Bev.	Flatware	Ironstone		rim sherd
653	965N 390E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
654	965N 390E	2	Glass	Architectural	Pane glass	Not applicable		aqua
655	965N 390E	1	Glass	Unknown	Bottle	Machine made		colourless, neck sherd
656	965N 390E	1	Glass	Unknown	Unid. container glass	Machine made		colourless
657	970N 440E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
658	970N 430E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		
659	970N 425E	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		Seashore, rim sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
660	970N 300E	1	Ceramic	Personal	Doll dish	Porcelain	blue	cup, blue glaze ext.
661	970N 300E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	green	
662	970N 315E	1	Ceramic	Personal	Doll dish	Porcelain	blue	cup, blue glaze ext.
663	970N 340E	1	Ceramic	Personal	Doll dish	Porcelain	blue	blue glaze ext., saucer
664	970N 340E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
665	970N 340E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
666	970N 340E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	turquoise	
667	970N 335E	1	Glass	Unknown	Bottle	Mould blown		dark aqua, neck/shoulder sherd
668	970N 385E	1	Ceramic	Food & Bev.	Hollowware	Ironstone, moulded		
669	970N 385E	1	Ceramic	Food & Bev.	Flatware	Refined White EW		
670	970N 385E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
671	965N 395E	1	Ceramic	Food & Bev.	Hollowware	RWE or semiporcelain	green	transfer print + moulded décor
672	965N 395E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
673	965N 395E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
674	965N 395E	1	Glass	Architectural	Pane glass	Not applicable		aqua
675	965N 395E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
676	965N 380E	1	Ceramic	Food & Bev.	Serving hollowware	Ivory body		body sherd, handle scar
677	970N 380E	1	Glass	Architectural	Pane glass	Not applicable		aqua
678	970N 445E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
679	970N 410E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
680	970N 355E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
681	970N 355E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
682	970N 395E	1	Glass	Unknown	Bottle	Unknown		colourless
683	970N 360E	1	Ceramic	Food & Bev.	Tableware	Porcelain, moulded		
684	970N 360E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
685	970N 360E	1	Glass	Modified	Utilized window	Not applicable		aqua, max L21.25mm, W 20.87mm, T 3.09, utilized on one edge 13.11mm long, straight
686	970N 360E	1	Glass	Architectural	Pane glass	Not applicable		aqua
687	965N 430E	1	Glass	Food & Bev.	Jar	Unknown		aqua
688	965N 430E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
689	970N 350E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		
690	970N 350E	1	Glass	Architectural	Pane glass	Not applicable		aqua
691	965N 380E	2	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
692	965N 380E	1	Glass	Modified	Utilized window	Not applicable		aqua, max L 25.20mm,W 19.63mm ,T 2.71mm, utilized on one long edge, 19.64mm long, concave
693	965N 425E	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone, moulded		
694	970N 345E	1	Ceramic	Food & Bev.	Tableware	Ivory body		small sherd
695	970N 345E	1	Ceramic	Food & Bev.	Tableware	Porcelain, moulded		
696	970N 345E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
697	990N 390E	1	Ceramic	Personal	Doll dish	Porcelain		possible tea cup
698	990N 390E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		
699	990N 390E	1	Ceramic	Unknown	Bottle	Unknown		aqua, neck sherd
700	970N 400E	1	Lead	Unknown	Unknown	Unknown		disc with two sets of holes on opposing edges, possibly for stringing through
701	970N 400E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small sherd
702	970N 400E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		rim sherd, scalloped
703	970N 400E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		moulded,
704	975N 310E	1	Ceramic	Food & Bev.	Flatware	Porcelain		
705	975N 310E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
706	975N 295E	1	Glass	Modified	Utilized window	Not applicable		aqua, max L 35.40mm, W 30.26mm,T 4.18, utilized on two long edges: a)14.42mm b) 16.68mm
707	975N 385E	1	Glass	Architectural	Pane glass	Not applicable		aqua
708	975N 385E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
709	975N 375E	1	Glass	Unknown	Unknown	Unknown		colourless
710	975N 350E	1	Ceramic	Food & Bev.	Crock	C STNW, Albany int.		rim sherd
711	970N 450E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
712	970N 450E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
713	970N 475E	1	Ceramic	Food & Bev.	Flatware	Ironstone		rim sherd
714	975N 360E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
715	970N 455E	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain, transfer	turquoise	moulded, handle
716	970N 480E	1	Ceramic	Activities	Flower pot	C red EW, unglazed		
717	975N 370E	1	Glass	Unknown	Molten glass	Unidentifiable		blue glass, raised dot décor, possibly glassware
718	975N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
719	975N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
720	975N 395E	1	Glass	Unknown	Unknown	Opaque white		small sherd
721	975N 395E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
722	975N 395E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Unknown		cobalt blue
723	975N 400E	1	Glass	Unknown	Unknown	Opaque white		small sherd
724	975N 400E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
725	975N 405E	1	Glass	Unknown	Bottle	Mould blown		aqua, Oil/ring finish,
726	975N 405E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
727	975N 405E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	brown	
728	975N 405E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small rim sherd
729	975N 445E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, painted	blue	
730	975N 445E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	turquoise	
731	975N 445E	1	Glass	Architectural	Pane glass	Not applicable		colourless
732	975N 445E	1	Glass	Unknown	Unid. container glass	Unknown		aqua,
733	975N 445E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, base sherd, embossed 9 or 6
734	975N 460E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
735	975N 460E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
736	975N 460E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
737	975N 460E	1	Ceramic	Food & Bev.	Flatware	Refined White EW		
738	975N 485E	1	Glass	Health & Hygiene	Jar	Machine made		incomplete Vaseline Cold Cream Jar, opaque white, embossed on base (chesebro)UGH MFG CO. NY
739	975N 485E	1	Glass	Architectural	Pane glass	Not applicable		
740	975N 485E	1	Glass	Modified	Utilized window	Unknown		aqua, Max L 22.66mm, W 18.05mm, T 3.78mm, utilized on one edge, 10.49mm long, straight
741	980N 285E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
742	980N 285E	1	Ceramic	Food & Bev.	Tableware	Ironstone		possible handle
743	980N 310E	1	Glass	Food & Bev.	Beverage bottle	Mould blown		light green, base sherd, patinated, partially embossed label on bottom "M"
744	980N 310E	1	Glass	Architectural	Pane glass	Not applicable		colourless
745	980N 315E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
746	980N 315E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		
747	980N 340E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small sherd ext. surface missing
748	980N 340E	1	Ceramic	Activities	Flower pot	C red EW, unglazed		
749	980N 350E	1	Ceramic	Personal	Doll	Porcelain	pink	part of doll head, pink colouring
750	980N 350E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, decal	red, yellow	with moulded decor
751	980N 350E	1	Ceramic	Food & Bev.	Flatware	IRO or semiporcelain		partial green transfer makers mark "L…"
752	980N 350E	1	Glass	Architectural	Pane glass	Not applicable		aqua
753	980N 355E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
754	980N 375E	1	Ceramic	Food & Bev.	Mug	Ironstone, moulded		
755	980N 375E	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone, moulded		
756	980N 375E	1	Ceramic	Unknown	Unknown	Coarse Earthenware		int. and ext. surfaces missing
757	980N 375E	2	Glass	Architectural	Pane glass	Not applicable		aqua
758	980N 370E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded		
759	980N 370E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
760	980N 370E	1	Glass	Food & Bev.	Glassware	Unknown		deteriorated, colourless, small rim sherd
761	980N 370E	1	Glass	Architectural	Pane glass	Not applicable		aqua
762	980N 365E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
763	980N 360E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		possibly gilded
764	980N 360E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain	green	hint of green décor, burnt
765	980N 435E	1	Ceramic	Unknown	Unknown	Porcelain		small sherd
766	980N 435E	1	Glass	Modified	Utilized window	Not applicable		aqua, max L 32.82mm,W 23.74mm, T 1.88mm, utilized on one side 16.31 mm long, straight
767	980N 430E	1	Ceramic	Food & Bev.	Flatware	IRO or semiporcelain		body sherd
768	980N 430E	2	Glass	Architectural	Pane glass	Not applicable		aqua
769	980N 430E	1	Glass	Lighting	Lamp chimney	Unknown		colourless

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
770	980N 415E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
771	980N 405E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, body sherd
772	980N 400E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	brown	moulded, rim and body sherd, floral décor
773	980N 400E	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		
774	980N 385E	1	Glass	Architectural	Pane glass	Not applicable		aqua
775	980N 385E	1	Glass	Unknown	Bottle	Manganese decoloured		
776	980N 390E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	green	
777	980N 390E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
778	975N 365E	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		
779	1000N 345E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
780	1000N 335E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Machine made		aqua, embossed ...IM…, recessed panel body sherd
781	1000N 335E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, small sherd
782	1000N 335E	1	Glass	Unknown	Bottle	Machine made		amber body sherd
783	1000N 335E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		ext. surface missing, small sherd
784	995N 445E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, body sherd
785	995N 445E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
786	995N 445E	1	Glass	Unknown	Unid. container glass	Machine made		manganese decoloured, base sherd, hint of embossed label
787	995N 445E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd,
788	995N 445E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		
789	995N 445E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
790	995N 435E	1	Glass	Food & Bev.	Glassware	20th Century		ribbed, colourless with marbled white, green, red, black
791	995N 390E	1	Glass	Food & Bev.	Beverage bottle	Mould blown		light green
792	995N 370E	2	Ceramic	Food & Bev.	Tableware	Ironstone		misc. sherds
793	995N 375E	1	Ceramic	Food & Bev.	Flatware	Porcelain		
794	995N 365E	1	Ceramic	Food & Bev.	Flatware	Ironstone		partial black transfer maker's mark, Royal Arms, IRONSTONE (china) / (j) & G. M(eakin)
795	995N 350E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		rim sherd
796	995N 360E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
797	995N 340E	1	Glass	Food & Bev.	Alcohol bottle	Turn paste mould		amber, straight brandy/wine finish, neck and finish sherd
798	995N 340E	1	Glass	Unknown	Unknown	Opaque white		
799	995N 340E	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	black, blue	black transfer, blue clobbering décor
800	995N 340E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd, ext. surface missing
801	990N 410E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		scalloped
802	990N 410E	1	Glass	Unknown	Unid. container glass	Unknown		amber
803	990N 410E	1	Glass	Architectural	Pane glass	Not applicable		aqua, possible utilization
804	990N 445E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
805	990N 445E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small sherd
806	990N 455E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
807	990N 455E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, small sherd
808	990N 460E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
809	990N 460E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
810	990N 480E	1	Glass	Health & Hygiene	Jar	Machine made		opaque white, sherd from Cold Cream Jar from Chesebrough MFG. Co.
811	990N 485E	1	Glass	Health & Hygiene	Jar	Opaque white		ointment or cosmetics
812	990N 370E	1	Glass	Food & Bev.	Glassware	Unknown		blue-green colour, small sherd
813	990N 370E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	small rim sherd, with moulded décor
814	990N 385E	1	Glass	Unknown	Bottle	Mould blown		aqua, neck sherd
815	990N 385E	1	Glass	Unknown	Unknown	Opaque white		small sherd
816	990N 385E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, flown	blue	moulded, rim sherd
817	990N 395E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
818	990N 395E	1	Ceramic	Furniture	Figurine	Porcelain		
819	990N 420E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Earthenware		
820	990N 375E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Earthenware		
821	990N 375E	1	Glass	Architectural	Pane glass	Not applicable		aqua
822	990N 405E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Earthenware		int. surface missing
823	990N 400E	1	Glass	Unknown	Unid. container glass	Machine made		amber body sherd
824	990N 380E	1	Ceramic	Food & Bev.	Hollowware	Ironstone		pink exterior, burnt
825	990N 380E	1	Glass	Architectural	Pane glass	Not applicable		
826	990N 365E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, flown	blue	

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
827	990N 365E	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	black	
828	990N 365E	1	Glass	Architectural	Pane glass	Not applicable		aqua
829	990N 365E	1	Glass	Unknown	Unid. container glass	Machine made		aqua, base sherd, hint of embossed label
830	990N 360E	1	Ceramic	Food & Bev.	Tableware	Porcelain		
831	990N 355E	1	Glass	Modified	Utilized window	Not applicable		aqua, max L 51.02mm,W 21.13mm, T 2.99mm, utilized on one long edge, 32.79mm, irregular
832	990N 350E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
833	990N 345E	1	Ceramic	Food & Bev.	Hollowware	Porcelain		possible faded decal décor
834	990N 345E	1	Ceramic	Food & Bev.	Tableware	Ivory body, transfer	blue	
835	990N 345E	2	Glass	Unknown	Unknown	Opaque white		misc. sherds
836	990N 340E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherd
837	990N 340E	1	Glass	Unknown	Unknown	Opaque white		
838	985N 465E	1	Glass	Architectural	Pane glass	Not applicable		aqua, possibly utilized
839	985N 455E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
840	985N 455E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, base sherd, embossed "D" in centre and "M" above
841	985N 425E	1	Ceramic	Food & Bev.	Hollowware	Ironstone		
842	985N 410E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
843	985N 405E	1	Glass	Unknown	Bottle	Unknown		light green, neck sherd
844	985N 405E	1	Glass	Food & Bev.	Glassware	Unknown		cobalt blue
845	985N 395E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
847	985N 390E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
848	985N 390E	1	Glass	Lighting	Lamp chimney	Manganese decoloured		
849	985N 385E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, moulded		
850	985N 385E	1	Glass	Architectural	Pane glass	Not applicable		aqua
851	985N 380E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		rim sherd
852	985N 380E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
853	985N 375E	1	Glass	Unknown	Unid. container glass	Machine made		amber
854	985N 375E	1	Glass	Food & Bev.	Glassware	Opaque white		beaded rim
855	985N 375E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
856	985N 375E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
857	985N 370E	1	Ceramic	Personal	Doll dish	Porcelain		saucer or plate, burnt
858	985N 360E	1	Glass	Architectural	Pane glass	Not applicable		aqua
859	985N 360E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
860	985N 360E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
861	985N 355E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
862	985N 340E	1	Glass	Unknown	Unknown	Opaque white		small sherd
863	985N 340E	1	Glass	Architectural	Pane glass	Not applicable		aqua
864	1005N 420E	1	Glass	Food & Bev.	Stopper	Mould blown		amber club sauce stopper
865	1000N 405E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		rim sherd
866	1000N 400E	1	Ceramic	Food & Bev.	Flatware	Ironstone		rim sherd
867	1000N 375E	1	Ceramic	Food & Bev.	Tableware	RWE, transfer	green	water worn
868	1000N 375E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
869	1000N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
870	1000N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
871	1000N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
872	1000N 370E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
873	1000N 365E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
874	1000N 365E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
875	1000N 350E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
876	1000N 350E	1	Ceramic	Food & Bev.	Flatware	Porcelain	blue	blue and fugitive décor
877	1000N 350E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		
878	1000N 415E	1	Glass	Food & Bev.	Tumbler, fluted	Pressed		colourless, base sherd
879	1000N 415E	1	Glass	Unknown	Bottle	Mould blown		colourless, base sherd, embossed "WF & S…/ UI"
880	1000N 420E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
881	1000N 430E	1	Glass	Food & Bev.	Alcohol bottle	Turn paste mould		green, body sherd
882	1000N 455E	1	Glass	Unknown	Bottle	Manganese decoloured		mould blown, shoulder/neck sherd
883	1000N 455E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
884	1000N 445E	1	Glass	Unknown	Molten glass	Unidentifiable		green
885	1000N 445E	1	Glass	Unknown	Bottle	Manganese decoloured		mould blown, neck sherd, patent finish
886	1000N 445E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
887	1000N 460E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
888	1000N 465E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, body sherd
889	1000N 465E	1	Brick	Architectural	Construction block	Unknown		red
890	1005N 330E	1	Glass	Architectural	Pane glass	Not applicable		aqua
891	1005N 350E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber,
892	1005N 380E	1	Glass	Unknown	Unid. container glass	Unknown		colourless, small sherd
893	1005N 385E	1	Glass	Unknown	Unid. container glass	Machine made		amber,
894	1005N 385E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
895	1010N 335E	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	brown	
896	1010N 335E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
897	1005N 460E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber, small sherd
898	1010N 305E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
899	1005N 450E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		
900	1005N 450E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
901	1005N 450E	1	Glass	Unknown	Bottle	Machine made		amber, partial neck and finish sherd, possible Davis type finish
902	1005N 450E	1	Glass	Modified	Utilized container	Manganese decoloured		max. L 25.50mm, W 15.66mm,T 3.24mm, rectangular sherd utilized on one long edge, 13.33mm long at corner, concave
903	1005N 450E	1	Glass	Architectural	Pane glass	Not applicable		aqua
904	1005N 435E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain		
905	1005N 430E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small sherd, turquoise print or maker's mark
906	1005N 410E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, partially embossed semi-circle
907	1010N 400E	1	Glass	Unknown	Unid. container glass	Machine made		amber
908	1010N 400E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
909	1010N 395E	1	Glass	Food & Bev.	Jar	Unknown		aqua
910	1010N 395E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		stem
911	1010N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
912	1010N 370E	1	Glass	Unknown	Unid. container glass	Machine made		manganese decoloured, base sherd, valve mark, possibly utilized
913	1010N 365E	1	Glass	Unknown	Unid. container glass	Machine made		amber, base sherd
914	1010N 365E	1	Glass	Unknown	Unid. container glass	Unknown		colourless

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
915	1010N 365E	1	Glass	Architectural	Pane glass	Not applicable		aqua
916	1010N 430E	1	Brick	Architectural	Construction block	Unknown		yellow
917	1010N 355E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
918	1010N 355E	1	Glass	Architectural	Pane glass	Not applicable		aqua
919	1010N 455E	1	Glass	Unknown	Bottle	Manganese decoloured		
920	1010N 455E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
921	1010N 450E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
922	1010N 450E	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, moulded		
923	1010N 435E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	brown	
924	1015N 415E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
925	1015N 410E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
926	1015N 405E	1	Glass	Unknown	Unid. container glass	Unknown		amber,
927	1015N 405E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		one surface missing
928	1015N 355E	1	Glass	Unknown	Unid. container glass	Mould blown		amber
929	1015N 355E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
930	1015N 315E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, embossed "..N.."
931	1015N 330E	1	Ceramic	Food & Bev.	Flatware	Porcelain		base sherd , fugitive décor
932	1010N 425E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
933	945N 355E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		
934	945N 355E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
935	945N 330E	1	Glass	Architectural	Pane glass	Not applicable		aqua
936	945N 330E	1	Glass	Food & Bev.	Gin bottle	Mould blown		green, possibly utilized
937	945N 330E	1	Glass	Unknown	Bottle	Mould blown		amber, square or rectangular bottle
938	945N 370E	1	Glass	Architectural	Pane glass	Not applicable		aqua
939	945N 390E	1	Glass	Unknown	Bottle	Machine made		colourless
940	945N 390E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
941	945N 385E	1	Glass	Unknown	Bottle	Mould blown		aqua, shoulder sherd, possibly utilized
942	945N 385E	2	Glass	Unknown	Unid. container glass	Manganese decoloured		
943	945N 385E	1	Glass	Unknown	Unid. container glass	Unknown		amber, small sherd
944	945N 385E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
945	945N 385E	3	Glass	Architectural	Pane glass	Not applicable		aqua

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
946	945N 420E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
947	945N 420E	1	Ceramic	Food & Bev.	Tableware	Ironstone		rim sherd
948	945N 375E	2	Ceramic	Food & Bev.	Tableware	Semiporcelain		
949	945N 375E	1	Ceramic	Food & Bev.	Hollowware	Ironstone		
950	945N 375E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
951	945N 375E	1	Glass	Unknown	Unknown	Unknown		colourless, container or glassware
952	945N 375E	1	Glass	Architectural	Pane glass	Not applicable		aqua
953	945N 365E	1	Ceramic	Food & Bev.	Flatware	Porcelain		
954	945N 415E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
955	945N 415E	1	Ceramic	Food & Bev.	Tableware	Refined White EW	blue	blue décor, small sherd
956	945N 425E	1	Glass	Modified	Utilized container	Manganese decoloured		max. L 32.66mm, W26.45mm,T 6.56mm, utilized for 10.95mm on width, straight
957	945N 425E	1	Glass	Unknown	Unid. container glass	Mould blown		amber
958	945N 425E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small base sherd, partial green transfer makers mark "…& TW…"
959	945N 440E	1	Glass	Food & Bev.	Gin bottle	Mould blown		green
960	945N 440E	2	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherds, one possibly utilized
961	1005N 450E	1	Glass	Unknown	Unid. container glass	Unknown		amber, small sherd
962	945N 410E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
963	945N 410E	1	Ceramic	Food & Bev.	Tableware	Yellowware, Rockingham		
964	945N 410E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small sherd
965	945N 410E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		
966	945N 430E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Red EW		
967	950N 295E	1	Glass	Architectural	Pane glass	Not applicable		aqua
968	950N 305E	1	Glass	Architectural	Pane glass	Not applicable		aqua
969	950N 315E	1	Ceramic	Food & Bev.	Flatware	IRO or semiporcelain		
970	950N 315E	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd
971	950N 315E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		scalloped,
972	950N 315E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
973	945N 405E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
974	945N 405E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
975	945N 405E	1	Glass	Lighting	Lamp chimney	Beaded/crimped		colourless
976	945N 405E	1	Glass	Unknown	Unid. container glass	Unknown		colourless, possibly utilized
977	945N 405E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
978	945N 405E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
979	945N 400E	1	Ceramic	Food & Bev.	Mug	Ironstone, moulded		base and body sherd
980	945N 400E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, body sherd
981	960N 435E	1	Ceramic	Food & Bev.	Flatware	Porcelain		small plate?
982	945N 395E	1	Copper Alloy	Unassigned material	Misc. metal	Unknown		
983	1020N 340E	1	Glass	Food & Bev.	Beverage bottle	Unknown		amber
984	1020N 435E	1	Glass	Unknown	Bottle	Manganese decoloured		
985	1020N 325E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
986	1020N 310E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
987	1015N 455E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
988	1015N 455E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
989	980N 480E	1	Glass	Unknown	Bottle	Unknown		colourless, small neck sherd
990	980N 480E	1	Glass	Architectural	Pane glass	Not applicable		aqua
991	980N 470E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
992	980N 470E	1	Ceramic	Food & Bev.	Tableware	Porcelain, moulded		
993	1020N 420E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		
994	1020N 420E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
995	1020N 410E	1	Glass	Modified	Utilized container	Unknown		colourless, max L 20.57mm, W 18.03mm, T 2.23mm, utilized on one short edge, 15.34mm long, convex
996	1020N 405E	1	Glass	Unknown	Bottle	Machine made		amber, base sherd
997	1020N 405E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green, body sherd
998	1020N 360E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green, push-up sherd, possibly utilized
999	980N 460E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, moulded		rim sherd
1000	980N 460E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, flown	turquoise	body sherd
1001	980N 445E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
1002	1020N 350E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
1003	1020N 350E	1	Glass	Health & Hygiene	Jar	Machine made		lip of Vaseline Cold Cream jar, opaque white

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1004	1020N 350E	1	Glass	Modified	Utilized container	Machine made		amber, max. L 25.40mm, W 20.42mm, T 3.18mm, utilized along one edge for 14.51mm, concave
1005	1025N 390E	1	Glass	Architectural	Pane glass	Not applicable		colourless
1006	1025N 390E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded		and gilded
1007	1025N 385E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		
1008	1025N 380E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	
1009	1020N 345E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, decal	green, brown	
1010	1020N 345E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1011	1020N 375E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1012	1025N 325E	1	Glass	Food & Bev.	Glassware	Unknown		cloudy, embossed circle
1013	1020N 455E	1	Glass	Food & Bev.	Tumbler, fluted	Manganese decoloured		base/body sherd
1014	1020N 455E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		body sherd
1015	1020N 455E	1	Glass	Food & Bev.	Alcohol bottle	Unknown		green, small sherd
1016	1020N 355E	1	Glass	Unknown	Unid. container glass	Mould blown		amber
1017	1025N 425E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
1018	1025N 425E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		rim sherd, possible pressed glass
1019	1025N 415E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1020	1025N 395E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		
1021	1025N 395E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1022	1020N 380E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck and finish sherd, Patent finish
1023	1020N 450E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1024	1020N 390E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
1025	1025N 335E	1	Glass	Unknown	Bottle	Mould blown		aqua, body sherd from rectangular bottle,
1026	1020N 475E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Red EW		
1027	1020N 475E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
1028	945N 295E	1	Chert	Native	Biface	Unknown		Onondaga, possible stem
1029	880N 420E	1	Chert	Native	Biface	Unknown		Lockport, possible blank
1030	955N 345E	1	Chert	Native	CDE	Unknown		secondary flake, possibly kettle point
1031	980N 375E	1	Chert	Native	CDE	Unknown		indeterminate chert, secondary flake
1032	1015N 395E	1	Chert	Native	CDE	Unknown		indeterminate chert, secondary flake

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1033	980N 375E	1	Chert	Native	CDE	Unknown		flake fragment, Onondaga chert
1034	1025N 360E	1	Glass	Unknown	Unid. container glass	Machine made		amber
1035	1025N 360E	1	Ceramic	Food & Bev.	Flatware	Ironstone		base sherd
1036	1025N 360E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		possible tumbler
1037	1025N 360E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1038	1025N 360E	1	Glass	Modified	Utilized window	Not applicable		aqua, max. L 26.65mm, W 19.60mm, T 2.59mm, utilized along one complete edge 24.39mm, straight
1039	1025N 345E	1	Glass	Food & Bev.	Glassware	Unknown		same as Cat. 1012, cloudy
1040	1025N 345E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		body sherd
1041	1025N 345E	1	Ceramic	Food & Bev.	Tableware	Ironstone		body sherd
1042	1030N 355E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
1043	1030N 355E	1	Glass	Unknown	Unid. container glass	Machine made		amber, small sherd
1044	1030N 345E	1	Glass	Unknown	Bottle	Manganese decoloured		body sherd, partial embossed label …MPO.../ …ELP…
1045	1030N 345E	1	Glass	Unknown	Bottle	Manganese decoloured		neck sherd, possible machine made
1046	1030N 330E	1	Ceramic	Food & Bev.	Tableware	Porcelain		rim sherd
1047	1025N 445E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
1048	1025N 445E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, partial embossed "O"
1049	1025N 440E	1	Glass	Food & Bev.	Closure	Mould blown		aqua, nearly complete, 45mm diameter
1050	1025N 440E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		body sherd
1051	1025N 440E	1	Ceramic	Food & Bev.	Tableware	RWE, transfer	blue	small sherd
1052	1025N 410E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
1053	1030N 395E	1	Glass	Food & Bev.	Closure	Unknown		aqua, jar liner, partial embossed label M…, with logo in centre
1054	1030N 395E	1	Glass	Unknown	Unknown	Opaque white		small sherd
1055	1030N 395E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
1056	1030N 395E	1	Ceramic	Food & Bev.	Tableware	Porcelain		rim sherd
1057	1030N 395E	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded		
1058	1030N 380E	1	Ceramic	Food & Bev.	Tableware	Unid. white EW		small sherd, ext. surface missing
1059	1030N 380E	1	Glass	Unknown	Unid. container glass	Mould blown		amber
1060	1030N 380E	1	Glass	Food & Bev.	Jar	Unknown		body/neck sherd, aqua

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1061	1030N 380E	1	Glass	Unknown	Unid. container glass	Machine made		colourless, body sherd
1062	1030N 380E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1063	1030N 380E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
1064	1030N 430E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		
1065	1030N 425E	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone		rim sherd
1066	1030N 420E	1	Glass	Food & Bev.	Wine bottle	Mould blown		green, push-up sherd
1067	1030N 375E	2	Glass	Unknown	Unid. container glass	Manganese decoloured		
1068	1030N 375E	1	Glass	Modified	Utilized container	Mould blown		aqua, max. L 27.48mm,W 23.42mm, T 2.87mm, utilized straight across diagonal edge 13.15mm
1069	1030N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1070	1030N 370E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
1071	1030N 365E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1072	1030N 365E	1	Glass	Unknown	Unid. container glass	Machine made		aqua
1073	1030N 365E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small sherd
1074	1030N 415E	1	Glass	Unknown	Unid. container glass	Unknown		amber
1075	1030N 410E	1	Ceramic	Food & Bev.	Tableware	Ivory body		
1076	1030N 400E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
1077	1035N 305E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1078	1035N 295E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		Stippling décor
1079	1035N 295E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, base sherd, embossed M or W
1080	1035N 295E	1	Glass	Unknown	Unid. container glass	Unknown		aqua body sherd
1081	1030N 460E	1	Glass	Modified	Utilized container	Mould blown		manganese decoloured, max L 33.77mm, W 23.80mm, T 5.16mm, utilized on one edge, 24.90mm long, convex
1082	1030N 455E	1	Glass	Food & Bev.	Jar	Unknown		aqua
1083	1030N 440E	1	Ceramic	Food & Bev.	Tableware	Porcelain, moulded		
1084	1030N 435E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small sherd
1085	1030N 435E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		
1086	1030N 435E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1087	1035N 375E	1	Glass	Unknown	Unid. container glass	Unknown		cobalt blue, small sherd

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1088	1035N 375E	1	Ceramic	Food & Bev.	Flatware	IRO or semiporcelain		partial turquoise transfer Makers Mark
1089	1035N 375E	1	Ceramic	Food & Bev.	Flatware	Refined White EW		small rim sherd, one surface missing
1090	1035N 370E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1091	1035N 370E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
1092	1035N 410E	1	Glass	Unknown	Unid. container glass	Unknown		amber, small sherd
1093	1035N 400E	1	Ceramic	Unknown	Hollowware	Ironstone		base sherd, tableware or toiletry
1094	1035N 365E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	
1095	1035N 365E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		most of int. surface and exterior surface missing
1096	1035N 350E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
1097	1035N 345E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
1098	1035N 345E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
1099	1035N 345E	1	Glass	Unknown	Bottle	Mould blown		aqua, neck sherd
1100	1035N 345E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1101	1035N 345E	1	Glass	Unknown	Bottle	Manganese decoloured		
1102	1035N 345E	1	Glass	Unknown	Bottle	Manganese decoloured		
1103	1035N 395E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1104	1035N 395E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
1105	1035N 395E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
1106	1035N 390E	1	Ceramic	Food & Bev.	Tableware	RWE, moulded		possible rim or handle sherd
1107	1035N 390E	1	Glass	Modified	Utilized window	Not applicable		aqua, max L.30.97mm, W 25.84mm, T 2.05mm, triangular sherd, partially utilized along both lengths creating concave edges a) 14.42mm b) 12.21mm
1108	1035N 385E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1109	1035N 385E	1	Ceramic	Food & Bev.	Tableware	Ironstone		small sherd
1110	1035N 385E	1	Glass	Food & Bev.	Beverage bottle	Mould blown		green, neck sherd
1111	1035N 475E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Earthenware		buff fabric
1112	1035N 450E	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded		rim sherd
1113	1035N 445E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		Ribbed décor
1114	1035N 440E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		Ribbed décor

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1115	1035N 440E	1	Ferrous	Unassigned material	Nut	Unknown		
1116	1035N 435E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, flown	turquoise	
1117	1035N 435E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
1118	1035N 420E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	
1119	1040N 385E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1120	1040N 380E	1	Glass	Unknown	Unknown	Unknown		colourless, base/body sherd, decorated, container or glassware
1121	1040N 380E	1	Ceramic	Food & Bev.	Flatware	Ironstone		small base sherd, partial black transfer makers mark, Royal Arms and (mea)KIN
1122	1040N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
1123	1040N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		cloudy aqua
1124	1040N 360E	1	Ceramic	Food & Bev.	Flatware	Porcelain, gilded		moulded, Ribbed décor
1125	1040N 340E	1	Ceramic	Food & Bev.	Flatware	Ironstone		body sherd
1126	1040N 335E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		manganese decoloured, partial embossed label ...LE & CO / …IA"
1127	1040N 445E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain	brown	transfer
1128	1040N 435E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown		aqua, recessed panel body sherd, partial embossed label …E/ …ONT…
1129	1040N 425E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	with moulded décor, rim sherd
1130	1040N 405E	1	Glass	Food & Bev.	Closure	Manganese decoloured		jar liner
1131	1040N 405E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherd
1132	1040N 400E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, gilded	pink, brown	with clobbered transfer print
1133	1040N 400E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.		body sherd, small side handle
1134	1040N 395E	1	Ceramic	Unknown	Unknown	Coarse Stoneware		dark brown glaze one surface, unglazed interior with impressed mark ...RABL…
1135	1040N 395E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd
1136	1045N 410E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1137	1045N 430E	1	Glass	Unknown	Molten glass	Unidentifiable		
1138	1045N 440E	1	Ceramic	Food & Bev.	Tableware	Porcelain, decal	green	faded décor

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1139	1045N 440E	1	Glass	Modified	Utilized window	Not applicable		max. L 30.54mm, W 23.78mm, T 2.17mm, utilized along length to edge creating concave surface for 14.6mm
1140	1045N 385E	1	Glass	Unknown	Unid. container glass	Unknown		frosted colourless
1141	1045N 385E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1142	1045N 375E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1143	1040N 465E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1144	1045N 300E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1145	1045N 365E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1146	1050N 435E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
1147	1050N 370E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
1148	1050N 430E	1	Glass	Unknown	Unknown	Opaque white		small sherd
1149	1045N 415E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1150	1050N 460E	1	Glass	Architectural	Pane glass	Not applicable		aqua, possible utilization
1151	1050N 445E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua
1152	1050N 445E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
1153	1050N 410E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
1154	1050N 310E	1	Glass	Unknown	Bottle	Manganese decoloured		body sherd, possibly utilized
1155	1050N 415E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1156	1050N 405E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1157	1050N 405E	1	Glass	Unknown	Molten glass	Unidentifiable		
1158	1050N 405E	1	Glass	Unknown	Bottle	Unidentifiable		aqua, heat altered
1159	1050N 405E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, small sherd
1160	1050N 405E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
1161	1050N 400E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
1162	1050N 385E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber
1163	1045N 395E	1	Ceramic	Food & Bev.	Tableware	Porcelain		base sherd
1164	1050N 390E	1	Ceramic	Food & Bev.	Flatware	Ironstone		
1165	1050N 390E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	green	
1166	1045N 405E	1	Ceramic	Food & Bev.	Hollowware	Refined White EW		
1167	1045N 405E	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain	blue	Moulded, blue décor

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1168	1045N 405E	1	Glass	Unknown	Unid. container glass	Unknown		colourless
1169	1045N 445E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
1170	1050N 365E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
1171	1050N 465E	1	Ceramic	Architectural	Drain pipe/tile	Coarse Earthenware		yellow
1172	1050N 420E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	black	ext. surface missing
1173	1050N 440E	2	Ceramic	Food & Bev.	Tableware	Ironstone		
1174	1050N 440E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
1175	1050N 440E	1	Glass	Unknown	Unid. container glass	Unknown		amber, small sherd
1176	1055N 455E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1177	1055N 400E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1178	1055N 400E	1	Glass	Unknown	Unid. container glass	Unknown		aqua
1179	1055N 390E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua, partial embossed label "ORK", possibly YORK
1180	1055N 385E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1181	1055N 380E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1182	1055N 415E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1183	1055N 415E	1	Glass	Unknown	Unid. container glass	Mould blown		colourless, base sherd, illegible embossed letter or number
1184	1055N 420E	2	Glass	Architectural	Pane glass	Not applicable		aqua
1185	1055N 370E	1	Glass	Unknown	Bottle	Mould blown		aqua
1186	1055N 370E	1	Glass	Lighting	Lamp chimney	Beaded/crimped		colourless
1187	1060N 400E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1188	1060N 420E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1189	1060N 420E	1	Glass	Architectural	Ext. insulator	Mould blown		aqua
1190	1055N 395E	1	Glass	Unknown	Molten glass	Unidentifiable		aqua
1191	1055N 395E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	rim sherd
1192	1055N 365E	1	Glass	Modified	Utilized container	Unknown		colourless, max L 33.80mm, W 24.95mm, T 2.80mm, utilized on one short edge, 19.18mm long (entire), straight
1193	1055N 365E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
1194	1055N 405E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		rim sherd, int. surface missing

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1195	1055N 405E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1196	1055N 405E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
1197	1055N 410E	1	Glass	Modified	Utilized window	Not applicable		aqua, max. L 34.79mm, W 19.05mm, T 3.10mm, utilized straight on partial length for 14.46mm
1198	1055N 410E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd ext. surface missing
1199	1060N 400E	1	Ceramic	Food & Bev.	Serving hollowware	Yellowware, Rockingham		naturalistic Grape and vine moulded décor
1200	1060N 375E	1	Glass	Health & Hygiene	Pharmaceutical bottle	Manganese decoloured		neck/shoulder
1201	1060N 375E	1	Glass	Food & Bev.	Glassware	Manganese decoloured		small sherd
1202	1060N 375E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1203	1060N 375E	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded		
1204	1060N 375E	1	Ceramic	Food & Bev.	Flatware	Ironstone, transfer	green	
1205	1060N 375E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		base sherd, partial green transfer makers mark …RENCE / … POTTERIES / (tra)DE MARK over crest with crown and PREMIUM/ …OTE
1206	1060N 385E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
1207	1060N 365E	1	Ceramic	Food & Bev.	Flatware	RWE, transfer	turquoise	
1208	1060N 390E	1	Ceramic	Food & Bev.	Tableware	Ironstone		base sherd
1209	1060N 390E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		
1210	1060N 395E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	brown	
1211	1060N 370E	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	green	
1212	960N 370E	1	Ceramic	Food & Bev.	Tableware	Porcelain		small sherd
1213	960N 370E	3	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small sherds, one surface missing
1214	1020N 365E	1	Glass	Unknown	Bottle	Mould blown		colourless,
1215	1020N 365E	1	Glass	Unknown	Unid. container glass	Machine made		colourless
1216	1025N 365E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		small rim sherd
1217	1025N 365E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		one surface missing
1218	1025N 365E	1	Glass	Unknown	Unid. container glass	Unidentifiable		colourless, heat altered
1219	1025N 365E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1220	1025N 370E	1	Ceramic	Furniture	Figurine	Porcelain		
1221	1025N 370E	1	Glass	Unknown	Bottle	Manganese decoloured		square or rectangular bottle

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1222	1025N 370E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1223	1025N 370E	1	Glass	Unknown	Unid. container glass	Unknown		aqua, embossed "M" or "W"
1224	1025N 400E	1	Ceramic	Food & Bev.	Tableware	Ironstone, moulded		
1225	1025N 400E	1	Ceramic	Food & Bev.	Tableware	Ironstone		
1226	1025N 400E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green
1227	1025N 375E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		amber, brandy finish, internal lip for closure
1228	1025N 375E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1229	1025N 375E	1	Glass	Modified	Utilized glassware	Unknown		frosted rim sherd, max L 25.12mm, W 19.51mm, T 1.84mm, utilized on one short edge, 10.53mm long, straight
1230	1025N 375E	1	Glass	Lighting	Lamp chimney	Unknown		colourless
1231	1025N 375E	1	Ceramic	Food & Bev.	Tableware	Porcelain, gilded	blue	Moulded, painted?
1232	955N 350E	1	Glass	Food & Bev.	Tumbler, fluted	Manganese decoloured		base/body sherd
1233	955N 350E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1234	1025N 450E	1	Glass	Food & Bev.	Handle	Machine made		manganese decoloured
1235	1025N 450E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1236	1025N 450E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain		one surface missing, small sherd
1237	1025N 450E	1	Glass	Unknown	Unid. container glass	Mould blown		aqua,
1238	1025N 450E	1	Glass	Unknown	Unid. container glass	Machine made		aqua
1239	955N 310E	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany ext.		base sherd
1240	1020N 360E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
1241	1020N 360E	1	Ceramic	Food & Bev.	Tableware	Refined White EW		one surface missing, small sherd
1242	1025N 380E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		small sherd
1243	1025N 390E	2	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain		small sherds
1244	965N 340E	2	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise	with moulded star and dot décor, floral transfer décor, rim and body sherd, partial makers mark ...AIN on rim sherd
1245	965N 340E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	turquoise	
1246	965N 340E	1	Ceramic	Food & Bev.	Tableware	Porcelain		base sherd
1247	965N 340E	2	Ceramic	Food & Bev.	Tableware	Refined White EW		small sherd, one surface missing
1248	965N 340E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		

Cat.	Context	n	Material	Class	Object	Datable Attribute	Décor Colour	Comment
1249	950N 345E	1	Glass	Food & Bev.	Stopper	Mould blown		amber, partial Club Sauce stopper
1250	950N 345E	1	Glass	Unknown	Unid. container glass	Manganese decoloured		
1251	950N 345E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		green,
1252	950N 345E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber body sherd
1253	950N 345E	1	Glass	Lighting	Light bulb part	20th Century		purple, light bulb base
1254	950N 345E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1255	950N 345E	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	blue	Floral
1256	950N 345E	1	Ceramic	Food & Bev.	Flatware	Ironstone		partial black transfer makers mark Royal Arms, "...EY"
1257	955N 345E	1	Glass	Food & Bev.	Alcohol flask	Mould blown		amber, body sherd
1258	955N 345E	1	Ceramic	Personal	Doll dish	Porcelain	blue	blue glaze
1259	955N 345E	1	Glass	Architectural	Pane glass	Not applicable		aqua
1260	995N 490E	1	Glass	Food & Bev.	Alcohol bottle	Mould blown		amber, Brandy finish, internal lip for closure, neck/shoulder sherd
Total		**1,248**						

APPENDIX B: Location 4 (AeHk-45) Stage 3 CSC Artifact Catalogue

Cat.	Context	n	Material	Class	Object	Datable Attribute	Comment
46	CSP 1	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown	aqua
47	CSP 2	1	Glass	Architectural	Pane glass	Not applicable	
48	CSP 3	1	Glass	Unknown	Unid. container glass	Manganese decoloured	partial embossed label DOM…
49	CSP 3	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany ext.	base sherd
50	CSP 4	1	Glass	Unknown	Unid. container glass	Threaded finish	aqua
51	CSP 4	1	Glass	Food & Bev.	Jar	Unknown	colourless
52	CSP 5	2	Ceramic	Food & Bev.	Flatware	Vitrified White	small sherds
53	CSP 5	2	Glass	Unknown	Unid. container glass	Machine made	colourless
54	CSP 6	1	Ceramic	Food & Bev.	Flatware	Ironstone	
55	CSP 7	1	Ceramic	Food & Bev.	Mug	Porcelain	rim/body sherd
56	CSP 8	1	Glass	Architectural	Pane glass	Not applicable	
57	CSP 8	1	Ceramic	Furniture	Figurine	Porcelain	
58	CSP 8	1	Ceramic	Food & Bev.	Tableware	Porcelain	
59	CSP 8	1	Ceramic	Food & Bev.	Flatware	Ivory body, transfer	brown, rim sherd
60	CSP 9	1	Ceramic	Unknown	Hollowware	Coarse Red EW	ext. unglazed, int. surface missing
61	CSP 9	1	Glass	Unknown	Unid. container glass	Machine made	colourless
62	CSP 9	1	Ceramic	Food & Bev.	Hollowware	Unid. white EW	burnt body sherd
63	CSP 9	1	Ceramic	Modified	Utilized ceramic	Semiporcelain	tea cup body sherd, triangular, max L 28.11mm, W 19.36mm, T 2.96mm, utilized on short edge, 15.26mm long, convex
64	CSP 10	1	Ceramic	Food & Bev.	Tableware	Ironstone	base sherd
65	CSP 10	1	Glass	Unknown	Glassware	Unknown	colourless
66	CSP 11	1	Ceramic	Food & Bev.	Tableware	Refined White EW	
67	CSP 11	1	Ceramic	Food & Bev.	Tableware	Ironstone	
68	CSP 12	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	small base sherd, red & black décor, partial black transfer maker's mark …TEL…
69	CSP 13	1	Ceramic	Food & Bev.	Flatware	Porcelain	
70	CSP 14	1	Ceramic	Food & Bev.	Tableware	Porcelain	base sherd, blue maker's mark of circle with MADE IN JAPAN
71	CSP 14	1	Ceramic	Food & Bev.	Mug	Porcelain, gilded	
72	CSP 15	1	Glass	Food & Bev.	Closure	Manganese decoloured	jar liner
73	CSP 16	1	Ceramic	Food & Bev.	Tableware	Ironstone	
74	CSP 17	1	Glass	Architectural	Pane glass	Not applicable	
75	CSP 17	1	Ceramic	Furniture	Figurine	Porcelain	
76	CSP 18	1	Ceramic	Food & Bev.	Tableware	Porcelain	
77	CSP 19	1	Ceramic	Food & Bev.	Saucer	Porcelain	rim sherd
78	CSP 19	1	Ceramic	Food & Bev.	Tableware	Ironstone	
79	CSP 19	1	Ceramic	Food & Bev.	Crock	C STNW, Albany ext.	rim sherd
80	CSP 20	1	Glass	Food & Bev.	Glassware	Pressed	colourless
81	CSP 21	1	Ceramic	Food & Bev.	Tableware	Refined White EW	small base sherd
82	CSP 21	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany ext.	body sherd
83	CSP 22	1	Glass	Unknown	Unknown	Unknown	colourless, flat

Cat.	Context	n	Material	Class	Object	Datable Attribute	Comment
84	CSP 23	1	Glass	Unknown	Molten glass	Manganese decoloured	
85	CSP 24	1	Glass	Unknown	Unid. container glass	Mould blown	aqua
86	CSP 25	1	Ceramic	Food & Bev.	Tableware	Porcelain	
87	CSP 25	1	Ceramic	Food & Bev.	Flatware	RWE, decal	pink, green, black, small sherd
88	CSP 26	1	Ceramic	Food & Bev.	Plate	Ironstone, undec.	
89	CSP 27	1	Ceramic	Food & Bev.	Tableware	Ironstone	
90	CSP 28	1	Glass	Architectural	Pane glass	Not applicable	
91	CSP 28	1	Other	Unknown	Unknown	Unknown	colourless, flat
92	CSP 29	1	Ferrous	Architectural	Unknown	Unknown	decorative
93	CSP 30	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	
94	CSP 31	1	Glass	Unknown	Unid. container glass	Machine made	colourless base, embossed diamond logo
95	CSP 31	1	Glass	Unknown	Unknown	Manganese decoloured	
96	CSP 32	1	Ceramic	Food & Bev.	Flatware	Semiporcelain	small sherd, green, blue décor
97	CSP 33	1	Ceramic	Food & Bev.	Tableware	Porcelain	
98	CSP 34	1	Ceramic	Food & Bev.	Tableware	Porcelain	
99	CSP 35	1	Ceramic	Food & Bev.	Tableware	Ironstone	
100	CSP 36	1	Ceramic	Food & Bev.	Flatware	Ironstone, moulded	rim sherd
101	CSP 37	1	Ceramic	Food & Bev.	Tableware	IRO or semiporcelain	
102	CSP 38	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain	
103	CSP 39	1	Ceramic	Food & Bev.	Flatware	Porcelain	
104	CSP 40	1	Ceramic	Food & Bev.	Flatware	Semiporcelain	fugitive décor
105	CSP 41	1	Glass	Food & Bev.	Glassware	Manganese decoloured	sunburst
106	CSP 42	1	Ceramic	Food & Bev.	Tableware	Ironstone	
107	CSP 42	1	Ceramic	Food & Bev.	Hollowware	Ironstone, moulded	small body sherd
108	CSP 43	1	Glass	Unknown	Unid. container glass	Mould blown	aqua, partial embossed label
109	CSP 44	1	Glass	Food & Bev.	Glassware	Manganese decoloured	decorated
110	CSP 45	1	Ceramic	Food & Bev.	Hollowware	Ironstone, moulded	body sherd
111	CSP 46	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain, transfer	
112	CSP 47	1	Glass	Unknown	Unid. container glass	Machine made	colourless
113	CSP 48	1	Ceramic	Food & Bev.	Flatware	Vitrified White	cream coloured
114	CSP 49	1	Glass	Unknown	Unid. container glass	Manganese decoloured	
115	CSP 49	1	Brick	Architectural	Construction block	Unknown	yellow
116	CSP 50	1	Glass	Architectural	Pane glass	Not applicable	
117	CSP 51	1	Glass	Food & Bev.	Glassware	Pressed	colourless, starburst base
118	CSP 52	1	Ceramic	Food & Bev.	Tableware	Unid. white EW	burnt
119	CSP 53	1	Ceramic	Food & Bev.	Flatware	Semiporcelain	
120	CSP 54	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain	
121	CSP 55	1	Glass	Architectural	Pane glass	Not applicable	
122	CSP 55	1	Ceramic	Food & Bev.	Tableware	Ironstone	
123	CSP 56	1	Ceramic	Food & Bev.	Flatware	Semiporcelain	green, burnt, small rim sherd
124	CSP 56	1	Ceramic	Unknown	Unknown	Porcelain	possible electrical item
125	CSP 57	1	Ceramic	Food & Bev.	Tableware	Porcelain	small sherd, hint of décor
126	CSP 57	1	Glass	Unknown	Unid. container glass	Machine made	colourless
127	CSP 58	1	Ceramic	Food & Bev.	Tableware	Porcelain	
128	CSP 58	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	
129	CSP 58	1	Ceramic	Food & Bev.	Tableware	Vitrified White	cream coloured

Cat.	Context	n	Material	Class	Object	Datable Attribute	Comment
130	CSP 59	1	Ceramic	Modified	Utilized ceramic	Porcelain	base/body sherd, max L 45.69mm, W 26.78mm, T 2.46mm, utilized on one long edge, 25.22mm long
131	CSP 60	2	Ceramic	Food & Bev.	Tableware	Porcelain	
132	CSP 61	1	Ceramic	Food & Bev.	Tableware	Ironstone	small sherd
133	CSP 61	1	Ceramic	Food & Bev.	Tableware	Porcelain	
134	CSP 62	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain	
135	CSP 63	2	Ceramic	Food & Bev.	Tableware	Semiporcelain	
136	CSP 63	1	Glass	Unknown	Unid. container glass	Mould blown	colourless
137	CSP 64	1	Ceramic	Food & Bev.	Tableware	RWE, decal	pink, green, black, same pattern as cat.87
138	CSP 65	1	Glass	Architectural	Pane glass	Not applicable	
139	CSP 66	1	Glass	Unknown	Unid. container glass	Machine made	colourless
140	CSP 66	1	Glass	Unknown	Unknown	Opaque white	
141	CSP 67	1	Ceramic	Clothing	Button	Prosser	white, 4 holes, complete
142	CSP 67	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain	small rim sherd
143	CSP 68	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown	aqua
144	CSP 68	1	Glass	Food & Bev.	Glassware	Unknown	colourless
145	CSP 69	1	Ceramic	Food & Bev.	Tableware	Porcelain	blue décor, small sherd
146	CSP 70	1	Glass	Architectural	Pane glass	Not applicable	
147	CSP 71	1	Glass	Unknown	Unid. container glass	Opaque white	ribbed body sherd
148	CSP 72	1	Glass	Unknown	Unknown	Unknown	colourless with a pink surface
149	CSP 73	1	Glass	Food & Bev.	Glassware	Manganese decoloured	
150	CSP 74	1	Glass	Unknown	Unid. container glass	Machine made	opaque white, D in a diamond logo
151	CSP 75	1	Ceramic	Food & Bev.	Hollowware	Semiporcelain	hint of décor
152	CSP 76	1	Ceramic	Food & Bev.	Crock	C red EW, glazed	beige glaze both surfaces, rim sherd
153	CSP 77	1	Ceramic	Health & Hygiene	Chamber pot	Ironstone, moulded	flanged rim sherd
154	CSP 78	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown	aqua, partial embossed label on recessed panel …O… / …ER…
155	CSP 80	1	Ceramic	Food & Bev.	Plate	Semiporcelain, transfer	scalloped rim sherd, turquoise with moulded décor
156	CSP 81	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.	
157	CSP 82	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	small sherd
158	CSP 83	1	Ceramic	Food & Bev.	Hollowware	Ironstone, slipped	
159	CSP 84	1	Glass	Unknown	Jar	Manganese decoloured	
160	CSP 85	1	Ceramic	Food & Bev.	Plate	Semiporcelain	base sherd
161	CSP 86	1	Ceramic	Health & Hygiene	Chamber pot	Ironstone, moulded	shoulder sherd, same pattern as cat.153
162	CSP 87	1	Glass	Unknown	Unid. container glass	Unidentifiable	colourless, heat altered
163	CSP 88	1	Ceramic	Food & Bev.	Tableware	RWE or semiporcelain	
164	CSP 89	1	Ceramic	Food & Bev.	Hollowware	Ironstone, moulded	rim sherd
165	CSP 92	1	Glass	Unknown	Molten glass	Manganese decoloured	
166	CSP 93	1	Ceramic	Food & Bev.	Tableware	Ironstone	
167	CSP 93	1	Glass	Food & Bev.	Wine bottle	Machine made	green body sherd
168	CSP 94	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	

Cat.	Context	n	Material	Class	Object	Datable Attribute	Comment
169	CSP 95	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	turquoise
170	CSP 96	1	Glass	Unknown	Unid. container glass	Mould blown	aqua
171	CSP 97	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown	aqua
172	CSP 97	1	Glass	Food & Bev.	Alcohol bottle	Turn paste mould	green, neck/finish sherd, possibly utilized
173	CSP 98	1	Ceramic	Food & Bev.	Flatware	Porcelain, moulded	rim sherd
174	CSP 98	1	Glass	Modified	Utilized window	Unknown	max L 50.73mm, W 27.68mm, T 3.01mm, utilized on one short edge, 14.37mm long, straight
175	CSP 99	1	Glass	Modified	Utilized container	Manganese decoloured	body sherd, max L 23.07mm, W 17.79mm, T 3.98mm, utilized on one edge, 12.72mm long, straight
176	CSP 99	1	Glass	Architectural	Pane glass	Not applicable	
177	CSP 99	1	Ceramic	Food & Bev.	Tableware	Semiporcelain, transfer	turquoise, burnt
178	CSP 100	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, transfer	turquoise, burnt
179	CSP 101	1	Glass	Architectural	Pane glass	Not applicable	
180	CSP 101	1	Glass	Unknown	Unknown	Machine made	colourless, container or glassware
181	CSP 102	1	Glass	Unknown	Jar	Machine made	colourless
182	CSP 103	1	Ceramic	Food & Bev.	Tableware	Ironstone	burnt
183	CSP 104	1	Ceramic	Food & Bev.	Tableware	RWE or semiporcelain	small base sherd
184	CSP 105	1	Glass	Health & Hygiene	Jar	Opaque white	Vaseline Cold Cream, incomplete
185	CSP 105	1	Glass	Food & Bev.	Glassware	Unknown	colourless
186	CSP 105	1	Bone	Faunal & Floral	Mammal bone	Unknown	cut
187	CSP 106	1	Glass	Architectural	Pane glass	Not applicable	
188	CSP 107	1	Glass	Architectural	Pane glass	Not applicable	
189	CSP 107	1	Glass	Modified	Utilized window	Unknown	max L 29.81mm, W 24.29mm, T 1.79mm, utilized on two edges: a) 11.67mm long, concave; b) 11.83mm long, concave
190	CSP 108	1	Glass	Architectural	Pane glass	Not applicable	
191	CSP 108	1	Glass	Unknown	Unknown	Machine made	colourless, container or glassware, possibly utilized
192	CSP 109	1	Glass	Architectural	Pane glass	Not applicable	
193	CSP 109	1	Glass	Modified	Utilized container	Manganese decoloured	container body sherd, max L 34.19mm, W 23.71mm, T 4.35mm, utilized on two edges: a) 16.81mm long, straight with hook; b) 22.33mm long, convex
194	CSP 110	1	Glass	Unknown	Unknown	Mould blown	aqua, possible exterior insulator
195	CSP 111	1	Glass	Food & Bev.	Alcohol bottle	Mould blown	green

Cat.	Context	n	Material	Class	Object	Datable Attribute	Comment
196	CSP 112	1	Ceramic	Food & Bev.	Flatware	Porcelain	
197	CSP 113	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain, decal	blue, black, green
198	CSP 113	1	Glass	Unknown	Unid. container glass	Machine made	cobalt blue, squat cylindrical, embossed numbers on base _443
199	CSP 114	1	Glass	Unknown	Unid. container glass	Mould blown	aqua, body sherd
200	CSP 115	1	Ceramic	Food & Bev.	Flatware	Porcelain	
201	CSP 116	1	Ceramic	Food & Bev.	Flatware	Semiporcelain, decal	small rim sherd, pink, green, black, blue, yellow
202	CSP 116	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	
203	CSP 116	1	Glass	Unknown	Unid. container glass	Unknown	aqua, small sherd
204	CSP 117	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.	
205	CSP 118	1	Ceramic	Food & Bev.	Tea cup	Porcelain	yellow-green décor
206	CSP 119	1	Glass	Food & Bev.	Beverage bottle	Machine made	green
207	CSP 120	1	Ceramic	Food & Bev.	Hollowware	C STNW, Albany int.	base/body sherd, white salt-glazed ext.
208	CSP 120	1	Ceramic	Food & Bev.	Flatware	Ironstone, undec.	rim sherd
209	CSP 120	1	Ceramic	Food & Bev.	Tableware	Ironstone	small sherd
210	CSP 121	1	Glass	Food & Bev.	Glassware	Unknown	colourless, decorated, small vessel with handle
211	CSP 121	1	Glass	Unknown	Unid. container glass	Mould blown	aqua, body sherd
212	CSP 122	1	Glass	Health & Hygiene	Pharmaceutical bottle	Mould blown	aqua
213	CSP 122	1	Ceramic	Food & Bev.	Hollowware	Porcelain, moulded	rim sherd, green décor
214	CSP 123	1	Ceramic	Food & Bev.	Tableware	Ironstone	
215	CSP 124	1	Glass	Food & Bev.	Glassware	Pressed	colourless
216	CSP 125	1	Glass	Food & Bev.	Glassware	Pressed	colourless, starburst base, same as cat.117
217	CSP 126	1	Ceramic	Food & Bev.	Flatware	Ironstone	burnt body sherd
218	CSP 127	1	Glass	Unknown	Unid. container glass	Machine made	cobalt blue, mends with cat.198
219	CSP 127	1	Glass	Architectural	Pane glass	Not applicable	small sherd
220	CSP 127	1	Ceramic	Food & Bev.	Tea cup	Semiporcelain	
221	CSP 128	1	Ceramic	Food & Bev.	Tableware	Semiporcelain	small sherd
222	CSP 129	1	Ceramic	Food & Bev.	Serving hollowware	Ironstone	base/footring sherd
223	CSP 90	1	Chert	Native	CDE	Unknown	secondary, burnt
224	CSP 91	1	Chert	Native	PPO	Unknown	fragment, indeterminate chert type (Onondaga or till?)
Total		**183**					

APPENDIX 'F'

Consultation Program

Prepared by Spriet Associates

Contents:

- Notice of Commencement
- Initial Agency Letter
- Circulation List
- Comments Received Following Notice of Commencement
- Responses to Comments Received Following Notice of Commencement

Municipality of Southwest Middlesex

Glencoe Industrial Park

Community of Glencoe
Municipal Class Environmental Assessment

NOTICE OF PROJECT COMMENCEMENT

The Municipality of Southwest Middlesex is developing the Glencoe Industrial Park located on the south side of Industrial Drive in the community of Glencoe, Range 2 NLR Part Lot 24. The objective is to design and construct a new municipal road, watermains, sanitary sewers, storm sewers and a stormwater management facility needed to service industrial development within the project area. The proposed new road will extend from Industrial Road approximately 340 metres to a turn-around circle. This road is intended to serve industrial lots within the project area. The land within the Class EA project area is owned by the Municipality.

The planning for this project is following the environmental screening process set out for Schedule B activities under the Municipal Class Environmental Assessment (Class EA) document. The purpose of the screening process is to identify any potential environmental impacts associated with the project and to plan for appropriate mitigation of any impacts. The process includes consultation with the public, stakeholders, and government review agencies. The proposed project is being planned under Schedule B of the Municipal Class Environmental Assessment (Class EA).

PUBLIC INVOLVEMENT:

The consultation program for this Class EA includes several opportunities for public involvement. For the initial phase of the program, public input will be received until July 18, 2025.

As the project proceeds, notices and information will be posted on the Southwest Middlesex web site. Refer to *'News'* (*https://www.southwestmiddlesex.ca/town-hall/news).*

For more information on this project and the Class EA planning process, contact Chris Lierman at Spriet Associates, consultants for the project.

Chris Lierman, P.Eng., Project Engineer
Spriet Associates London Limited
155 York Street, London, Ontario N6A 1A8

Phone: 519-672-4100
Fax: 519-433-9351
E-mail: mail@spriet.on.ca

Subject to comments received and the receipt of project approvals, the Municipality of Southwest Middlesex intends to proceed with the planning, design and construction of this project.

This NOTICE issued June 16, 2025, by the Municipality of Southwest Middlesex, project proponent.

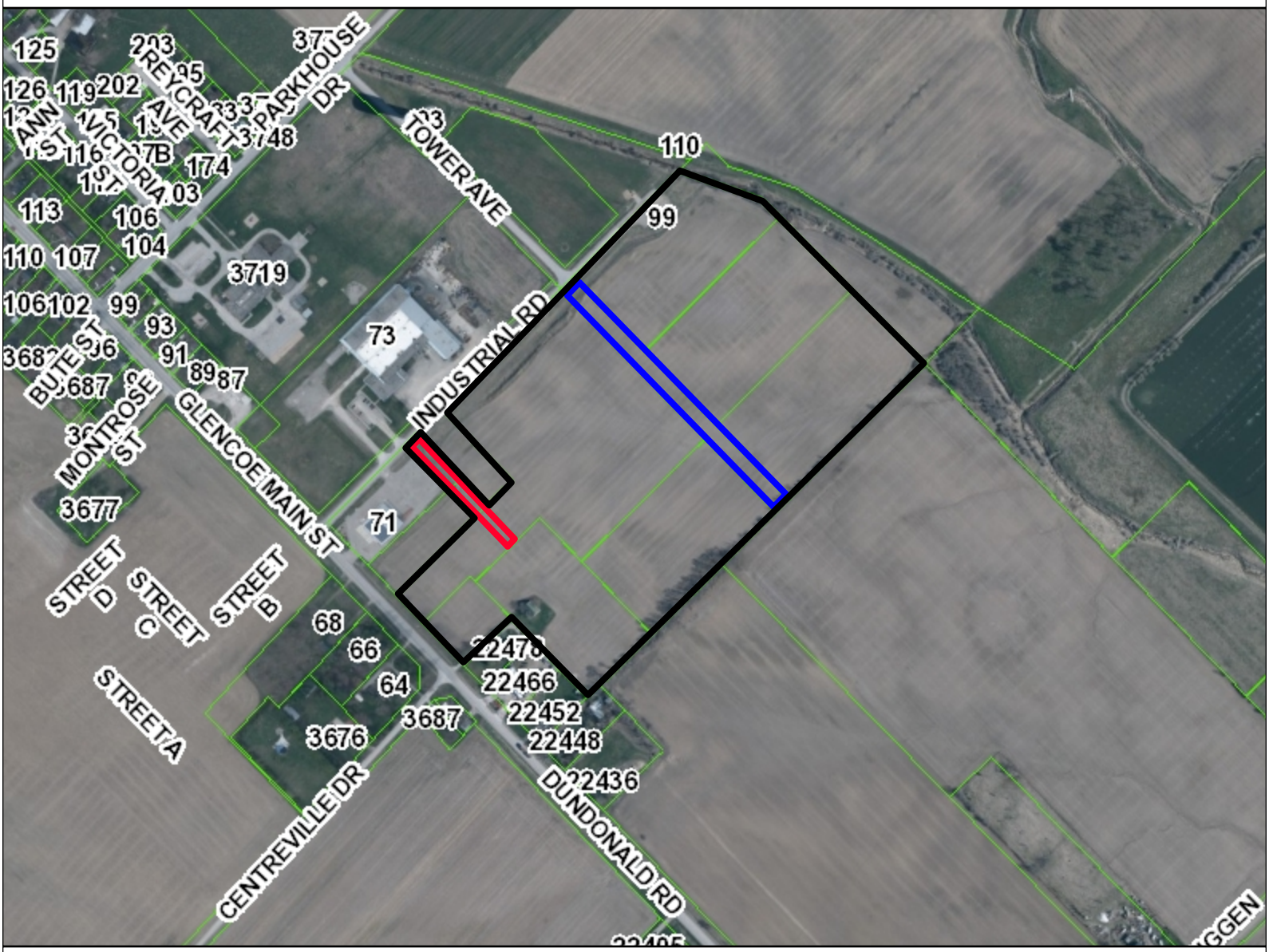
Amanda Gubbels
Chief Administrative Officer
Municipality of Southwest Middlesex
153 McKellar Street, Glencoe ON N0L 1M0

Phone: 519-287-2015
E-mail: agubbels@southwestmiddlesex.ca

Project information is being collected in accordance with the Environmental Assessment Act and Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will form part of the public record.

GLENCOE INDUSTRIAL PARK CLASS ENVIRONMENTAL ASSESSMENT

NOTICE OF COMMENCEMENT



458.6 0 229.31 458.6 Meters

Legend

- Class EA Boundary
- Potential Rear Yard Servicing Easement
- Proposed Roadway
- Assessment Parcels

Note: Rear yard servicing easement is not to scale.

SOUTHWEST MIDDLESEX

PROJECT LOCATION MAP
GLENCOE INDUSTRIAL PARK

MUNICIPALITY OF SOUTHWEST MIDDLESEX
CLASS ENVIRONMENTAL ASSESSMENT

SPRIET JOB NO. 225147-1

JUNE 16, 2025

SPRIET ASSOCIATES
engineers & architects

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ASSOCIATES
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RE: NOTICE OF PROJECT COMMENCEMENT
Glencoe Industrial Park 2025
Municipal Class Environmental Assessment
Municipality of Southwest Middlesex
Our Job No. 225147-1

Dear Resident,

The attached Notice and Location Map are provided to advise you that a Schedule B Municipal Class Environmental Assessment (Class EA) is being undertaken for the Glencoe Industrial Park project. The Municipality of Southwest Middlesex is the Proponent and Spriet Associates is the project consultant.

Your comments on the proposed project are invited as part of the Class EA consultation program. For this phase of the project, a response from your office is requested by:

Friday, July 18, 2025

More information will be provided as the project proceeds. If you cannot meet this response deadline, or if this Notice should be directed to another office, please contact Spriet Associates as soon as possible.

As indicated on the attached Notice, please direct your comments to Chris Lierman, P. Eng., Project Manager, at the following email address:

mail@spriet.on.ca

Thank you for your assistance.

If you should have any questions, please contact the undersigned.

Yours truly,

SPRIET ASSOCIATES LONDON LIMITED

C.S. Lierman, P. Eng.

Our Job No. 225147-1

Contact Name	Business Name/Second Name	Email
Government/Business emailing		
John Peters/Richard Penney	BELL CANADA	circulations@wsp.com john.peters@bell.ca rowcentre@bell.ca
Kaela Middleton	FISHERIES AND OCEANS CANADA	FisheriesProtection@dfo-mpo.gc.ca; DFO.OPHabitat.MPO@dfo-mpo.gc.ca
Mike Van Gerwen/Jake Van Ryn	ENBRIDGE GAS INC.	ONTLands@enbridge.com mike.vangerwen@enbridge.com, Jake.VanRyn@enbridge.com
Scott Hemy/Jerry Dayman/Zeeshan Syed	ENTEGRUS POWERLINES INC.	scott.hemy@entegrus.com jerry.dayman@entegrus.com Colin.Hicks@entegrus.com
Andrew J. Henry	LAKE HURON AND ELGIN AREA WATER SUPPLY SYSTEMS	ahenry@huronelginwater.ca general@huronelginwater.ca
Monika Macki	MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS	Macki, Monika (MECP) <Monika.MacKi@ontario.ca> eanotification.swregion@ontario.ca
Erika Leclerc	MINISTRY OF CITIZENSHIP AND MULTICULTURALISM	erika.leclerc@ontario.ca
Chris Traini/Durk Vanderwerff/Tim Williams	COUNTY OF MIDDLESEX	ctraini@middlesex.ca, dvanderwerff@middlesex.ca, twilliams@middlesex.ca
David Stubbs	MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING	David.stubbs@ontario.ca and dellarue.howard@ontario.ca .
Geoffrey Gladdy	MINISTRY OF TRANSPORTATION	geoffrey.gladdy@ontario.ca
	NORTHERN DEVELOPMENT, MINES, NATURAL RESOURCES AND FORESTRY (NRF)	sr.planning@ontario.ca
Michele Doncaster	AGRICULTURE, FOOD AND RURAL AFFAIRS	michele.doncaster@ontario.ca
Tali Laurenson	ONTARIO POWER GENERATION	talitha.laurenson@opg.com
	ROGERS COMMUNICATIONS	newdevelopment@rci.rogers.com
Valerie Towsley/Jason Homewood	LOWER THAMES VALLEY CONSERVATION AUTHORITY (LTVCA)	Valerie.Towsley@ltvca.ca, Jason.Homewood@ltvca.ca
Jason Wintermute/Julie Welker	THAMES-SYDENHAM REGION SOURCE PROTECTION	jason.wintermute@ltvca.ca, welkerj@thamesriver.on.ca

Contact Name	Business Name/Second Name	Email

Property Owners - Mailing

All properties within 200m radius. Mailing labels provided by Southwest Middlesex.

First Nations

Chief Chris Plain	Aamjiwnaang First Nation	N/A
Chief Dan Miskokomon	Bkejwanong (Walpole Island)	N/A
Chief Mary Duckworth	Caldwell First Nation	N/A
Chief Jason Henry	Chippewas of Kettle and Stony Point	N/A
Chief Todd Cornelius	Oneida Nation of the Thames	N/A
Chief Denise Stonefish	Eelūnaapèewii Lahkèewiit (Delaware Nation or Moravian of the Thames)	N/A
Chief Roger Thomas	Munsee-Delaware Nation	N/A
Chief Joe Miskokomon	Chippewas of the Thames First Nation	N/A
	Six Nations of the Grand River	N/A

Barbaralee Vail

From: Katherine Dagenais
Sent: June 18, 2025 8:08 AM
To: Valerie Towsley; Mail
Cc: Daniel Okubay Tewolde; Jason Homewood; Robert Guo; Kendra Kettler; Mauro Castrilli (mcastrilli@southwestmiddlesex.ca)
Subject: RE: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

Good Morning Valerie,

Thank you for your comments. We will certainly keep you informed of the status of this project, including providing you with all future notices as well as all required design information as outlined within your e-mail below, once complete.

Sincerely,

Katherine Dagenais, P.Eng
Spriet Associates Architects and Consulting Engineers
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351
katherine@spriet.on.ca
www.spriet.on.ca

[illegible]

From: Valerie Towsley <Valerie.Towsley@ltvca.ca>
Sent: June 16, 2025 10:48 AM
To: Mail <mail@spriet.on.ca>
Cc: Daniel Okubay Tewolde <DanielOkubay.Tewolde@ltvca.ca>; Jason Homewood <Jason.Homewood@ltvca.ca>; Robert Guo <Robert.Guo@ltvca.ca>; Kendra Kettler <KKettler@southwestmiddlesex.ca>
Subject: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

Good morning Chris

Please keep the LTVCA included in the progress of this project. Of note, the LTVCA requests the ability to review and provide comments on the SWM Report, FSR and grading plan for the site. The LTVCA also highly recommends 80% TSS removal to be in keeping with the Canada / US Water Quality Agreement to reduce contaminants into the Great Lakes.

Any work near/outlets to the Glencoe Outlet Drain will require a permit from this office. Setbacks will be required from the drain to any proposed structure(s).

*Please note my work hours may be different than yours, please do not feel obligated to respond until you are on work time.

Valerie Towsley
Watershed Resource Planner
Lower Thames Valley Conservation Authority
100 Thames Street

Chatham, ON N7L 2Y8
519-354-7310 ext.226
valerie.towsley@ltvca.ca
www.ltvca.ca

Lower Thames Conservation

'Common sense and sense of humor are the same thing, moving at different speeds. A sense of humor is just common sense dancing.' William James (1842-1910)

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From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: June 16, 2025 10:34 AM
To: Jason Homewood <Jason.Homewood@ltvca.ca>; Valerie Towsley <Valerie.Towsley@ltvca.ca>
Subject: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

RE: NOTICE OF PROJECT COMMENCEMENT
Glencoe Industrial Park 2025
Municipal Class Environmental Assessment
Municipality of Southwest Middlesex
Our Job No. 225147-1

The attached Notice and Location Map are provided to advise you that a Schedule B Municipal Class Environmental Assessment (Class EA) is being undertaken for the Glencoe Industrial Park project. The Municipality of Southwest Middlesex is the Proponent and Spriet Associates is the project consultant.

Your comments on the proposed project are invited as part of the Class EA consultation program. For this phase of the project, a response from your office is requested by:

Friday, July 18, 2025

More information will be provided as the project proceeds. If you cannot meet this response deadline, or if this Notice should be directed to another office, please contact Spriet Associates as soon as possible.

As indicated on the attached Notice, please direct your comments to Chris Lierman, P. Eng., Project Manager, at the following email address:

mail@spriet.on.ca

Thank you for your assistance.

Barbaralee Vail
Office Administration
SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

Barbaralee Vail

From: Valerie Towsley <Valerie.Towsley@ltvca.ca>
Sent: July 9, 2025 3:19 PM
To: Barbaralee Vail
Cc: Robert Guo; Julie Welker; Daniel Okubay Tewolde
Subject: RE: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025
Attachments: Glencoe Industrial Park - Notice of Commencement.pdf; MECP Source Protection Information Atlas.pdf; 225147-1 Thames Sydenham and Region Drinking Water Source Protection Mapping.pdf

Good afternoon Barbaralee

I have forwarded your information on to Julie Welker, Source Protection Coordinator (cc'd to this email) for review and comments around Source Protection.

The LTVCA requests the ability to be involved in the EA process for this proposed Industrial Park as it relates to reviewing the SWM pond and its outlet into the Glencoe Outlet Drain, as a permit for this work will be required from this office prior to construction commencing on this project. The Authority always recommends 80% TSS to be in keeping with the Canada / US Water Quality Agreement.

*Please note my work hours may be different than yours, please do not feel obligated to respond until you are on work time.

Valerie Towsley
Watershed Resource Planner
Lower Thames Valley Conservation Authority
100 Thames Street
Chatham, ON N7L 2Y8
519-354-7310 ext.226
valerie.towsley@ltvca.ca
www.ltvca.ca

Lower Thames Conservation

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From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: Friday, July 4, 2025 9:16 AM

To: welkerj@thamesriver.on.ca <welkerj@thamesriver.on.ca>; Jason Wintermute <Jason.Wintermute@ltvca.ca>
Subject: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

RE: NOTICE OF PROJECT COMMENCEMENT
Glencoe Industrial Park 2025
Municipal Class Environmental Assessment
Municipality of Southwest Middlesex
Our Job No. 225147-1

The Municipality of Southwest Middlesex is developing the Glencoe Industrial Park located on the south side of Industrial Drive in the community of Glencoe, Range 2 NLR Part Lot 24. The objective is to design and construct a new municipal road, watermains, sanitary sewers, storm sewers and a stormwater management facility needed to service industrial development within the project area. The proposed new road will extend from Industrial Road approximately 340 metres to a turn-around circle. This road is intended to serve industrial lots within the project area. The land within the Class EA project area is owned by the Municipality. Spriet Associates has been retained by the Municipality to complete the Schedule B Class Environmental Assessment and engineering design for the proposed project.

Please refer to the enclosed Notice of Commencement for initial project details.

Based upon our review of the Thames-Sydenham and Region Source Protection mapping as well as the MECP Source Protection Information Atlas, the project area is not located within a vulnerable area. Please refer to the enclosed maps for reference. Based upon the proposed scope of work as well as applicable mapping, with implementation of construction and operational mitigation measures the proposed road extension would conform with the Source Protection Plan. Please confirm if you have any comments regarding the proposed works.

Sincerely,

Barbaralee Vail
Office Administration
SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

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Glencoe Industrial Park Source Protection Information Mapping

Legend

- Issue Contributing Areas
- WHPA-E
- Wellhead Protection Area
  - A
  - B
  - C
  - C1
  - D
  - F
- Intake Protection Zone 1
- Event Based Areas
- Intake Protection Zone 2
- Source Protection Areas

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Ontario

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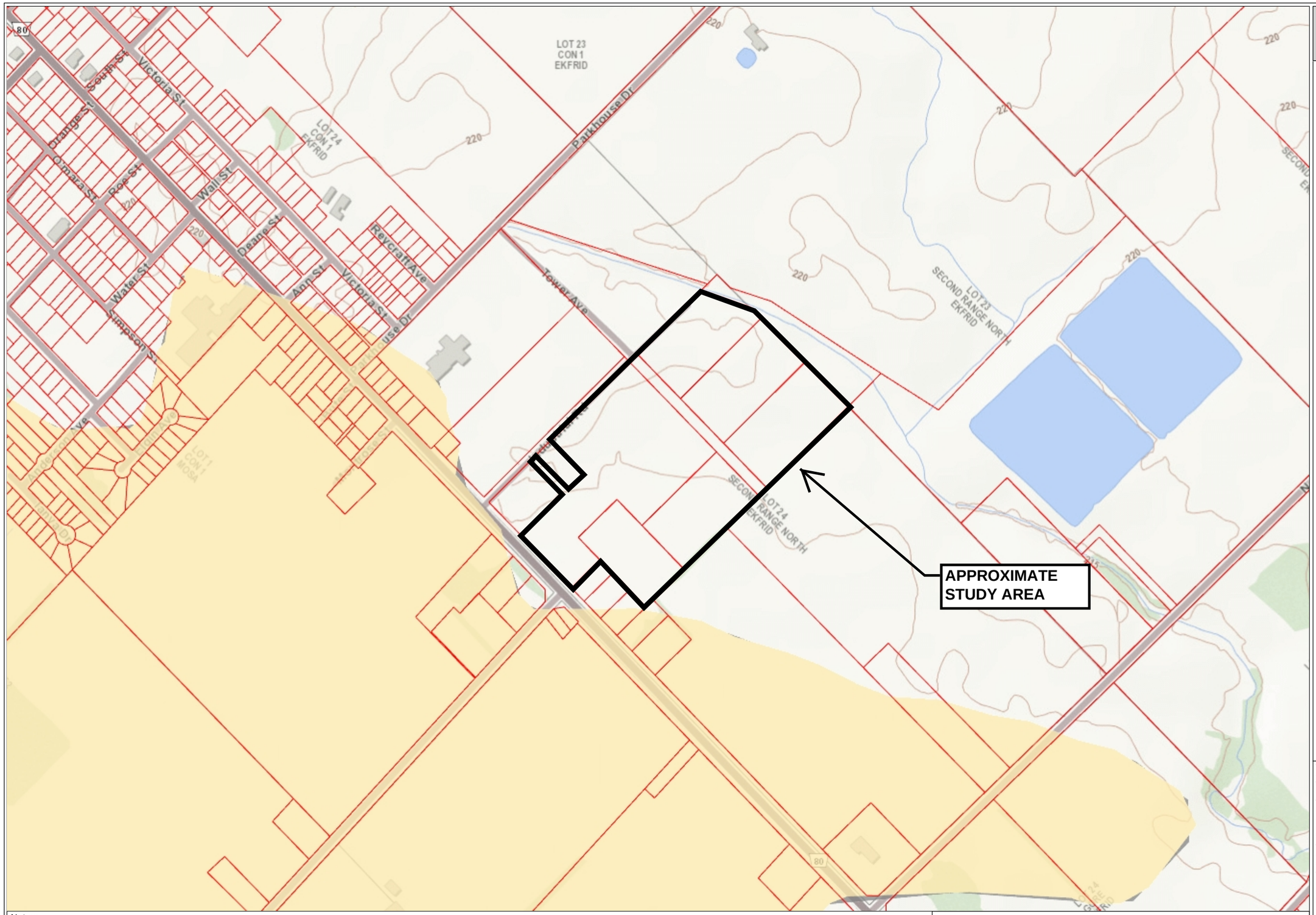
Map Created: 7/4/2025

Map Center: 42.74192 N, -81.68747 W



Notes:

Created By: July 4, 2025

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Thames-Sydenham & Region Source Protection Region Online Mapping

Legend

- Source Protection Region
- Assessment Parcel (MPAC)
- Designated Vulnerable Areas
  - Activities may be Significant Threat
  - Activities may be Moderate and Low Threats
  - Other Vulnerable Areas
  - See Lake Erie SPA for Details
  - See Essex Region SPA for Details

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DRINKING WATER SOURCE PROTECTION ACT FOR CLEAN WATER Thames-Sydenham & Region

UPPER THAMES RIVER CONSERVATION AUTHORITY

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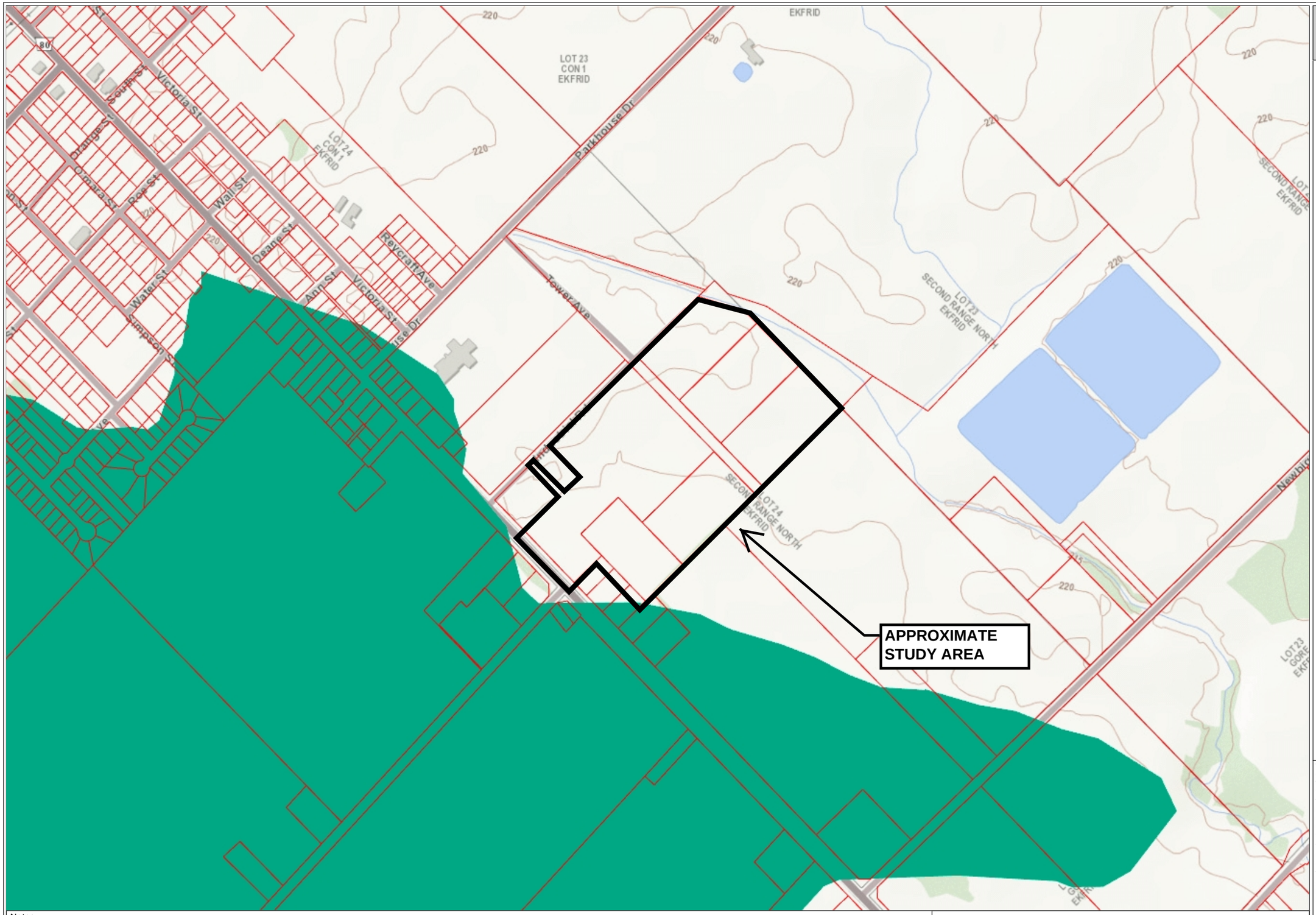

Notes:

Created By: July 4, 2025

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metres

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Thames-Sydenham & Region Source Protection Region Online Mapping

Legend

- Source Protection Region
- Assessment Parcel (MPAC)
- Significant Threat Policy Area - Approved
- Significant Threat Policy Area Details - Approved
  - WHPA-A
  - WHPA-B
  - WHPA-C
  - Vulnerability Score of 10
  - Vulnerability Score of 9
  - Vulnerability Score of 8
  - Issue Contributing Area
  - DNAPL Policy Area WHPA-A,B,C
  - Event Based Area
  - See Essex SPA for Details
- Moderate and Low Threat Policy Area - Approved

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DRINKING WATER SOURCE PROTECTION ACT FOR CLEAN WATER Thames-Sydenham & Region

UPPER THAMES RIVER CONSERVATION AUTHORITY

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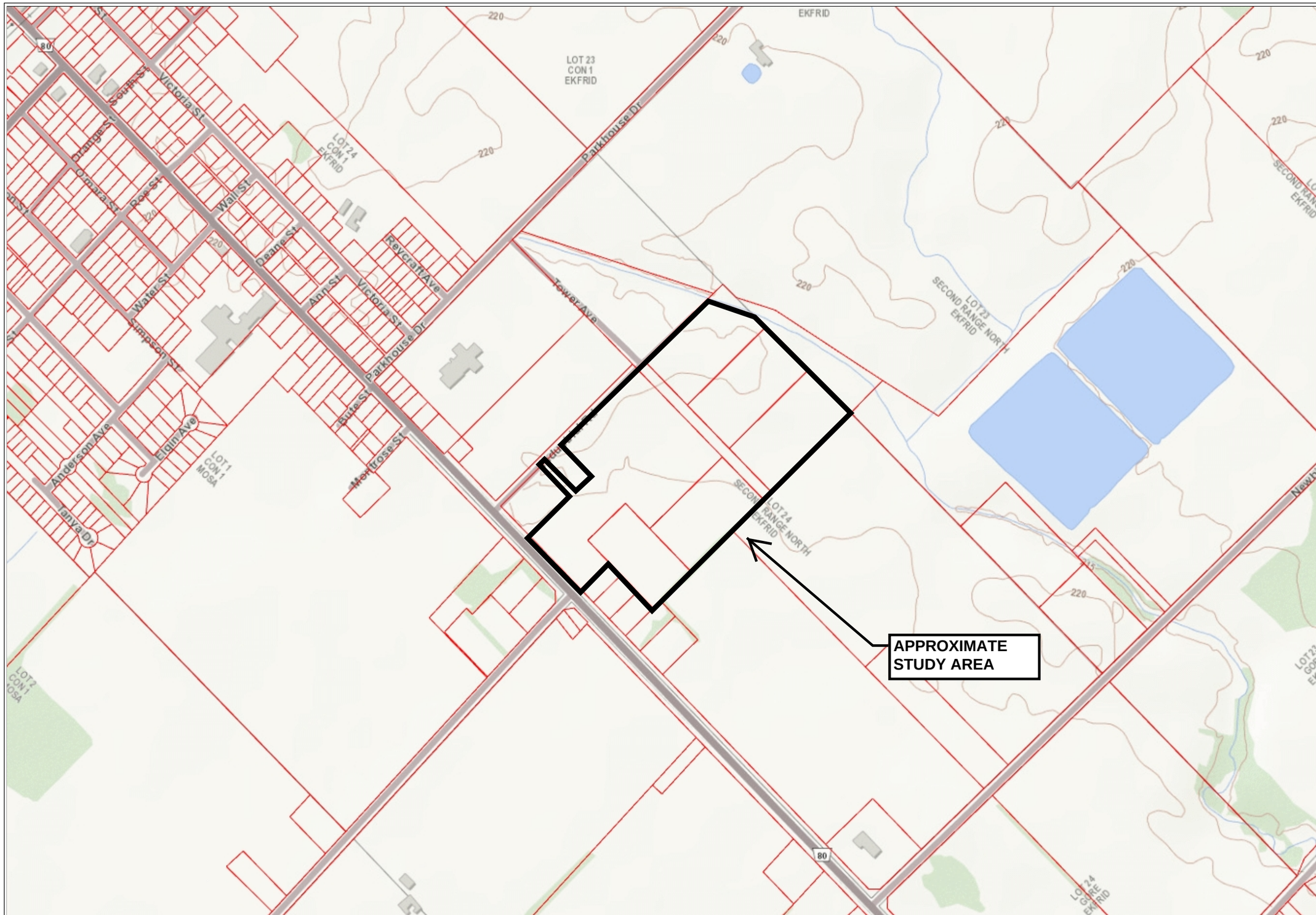
Thames-Sydenham & Region Source Protection Region Online Mapping



Legend

- Source Protection Region
- Assessment Parcel (MPAC)
- Municipal Wells

Wellhead Protection Area Vulnerability - Approved

- Vulnerability = 2
- Vulnerability = 4
- Vulnerability = 6
- Vulnerability = 8
- Vulnerability = 10
- Vulnerability = 6.3 (WHPA-E)
- Vulnerability = 7.0 (WHPA-E)
- Vulnerability = 7.2 (WHPA-E)
- Issue Contributing Area

Wellhead Protection Areas - Approved

- WHPA-A
- WHPA-B
- WHPA-C
- WHPA-D
- WHPA-E

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Notes:

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Drinking Water Source Protection — Act for Clean Water — Thames-Sydenham & Region

Upper Thames River Conservation Authority

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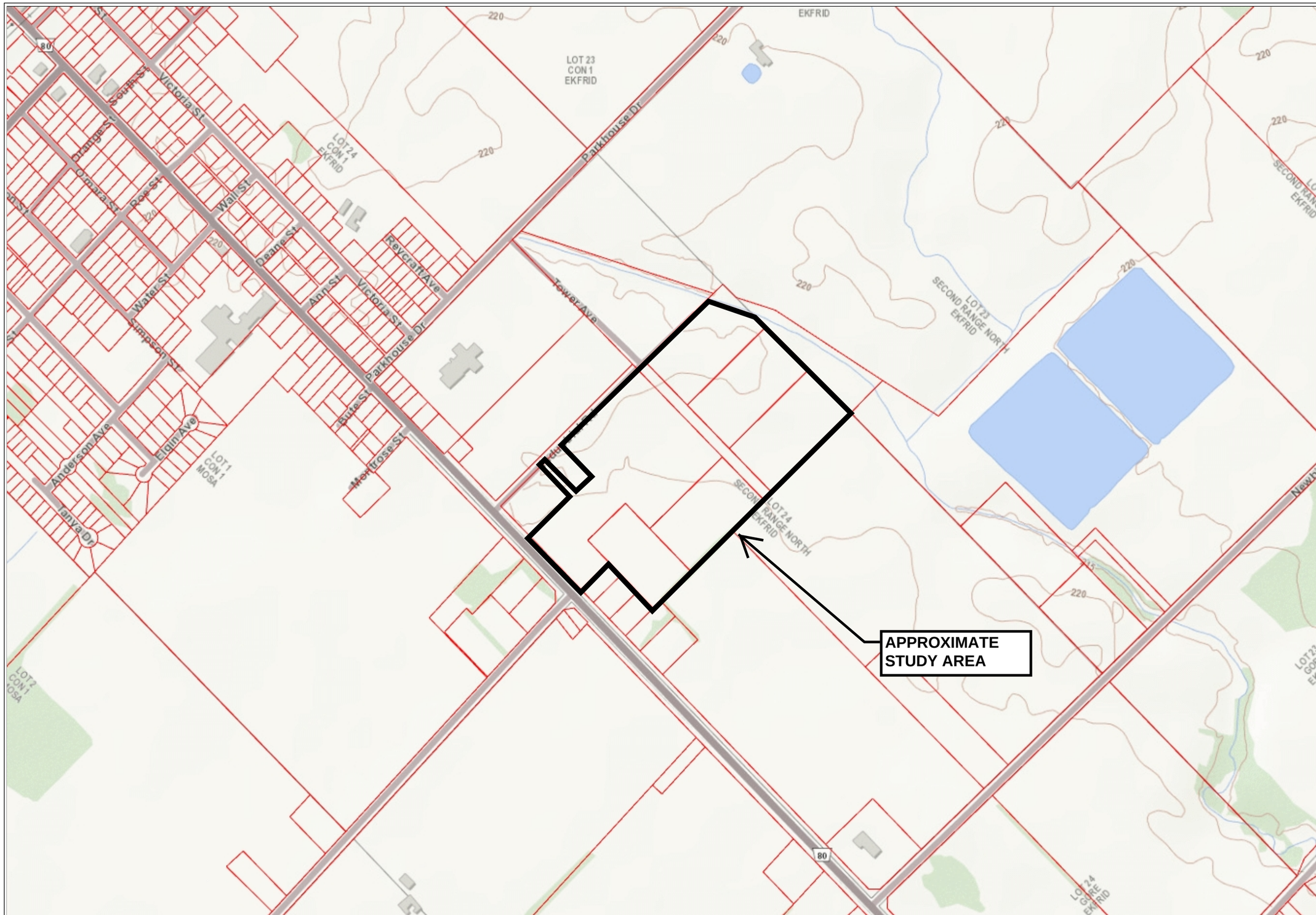

Thames-Sydenham & Region Source Protection Region Online Mapping

Legend

- Source Protection Region
- Assessment Parcel (MPAC)
- EBA Spill Type - Approved
  - EBA - Fertilizer Threat
  - EBA - Fuel Threat
- Surface Water Intake 1km Buffer
- Intake Protection Zone/Vulnerability - Approved
  - IPZ-1
  - IPZ-2
  - IPZ-3
  - EBA
  - See Essex SPA

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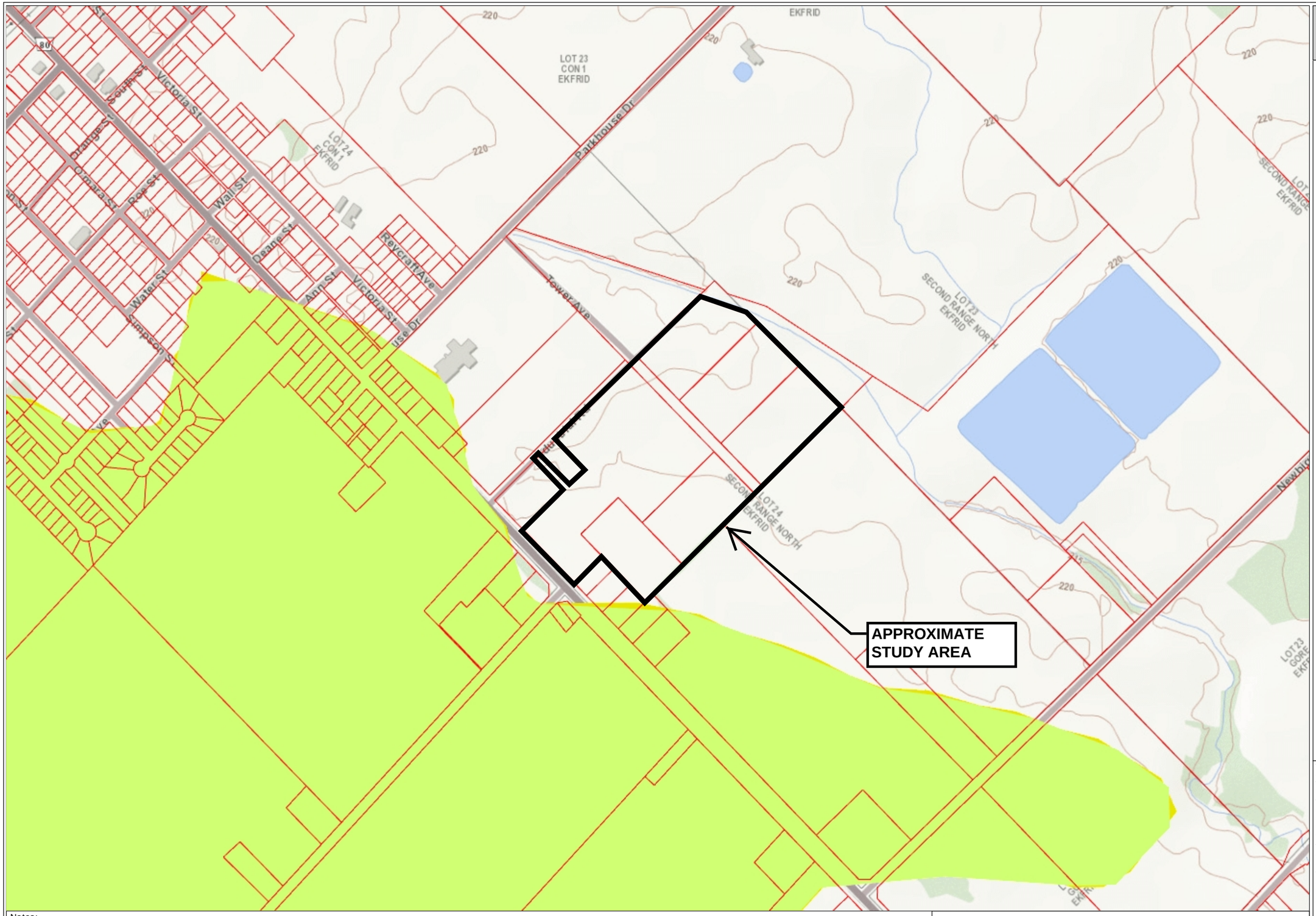

Thames-Sydenham & Region Source Protection Region Online Mapping

Legend

- Source Protection Region
- Assessment Parcel (MPAC)
- Significant Groundwater Recharge Area - Approved
- Highly Vulnerable Aquifer - Approved

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Barbaralee Vail

From: Antwi-Nsiah, Amanda (MCM) <Amanda.Antwi-Nsiah@ontario.ca>
Sent: July 15, 2025 12:10 PM
To: Mail
Cc: Barboza, Karla (She/Her) (MCM); agubbels@southwestmiddlesex.ca; Barbaralee Vail
Subject: MCM Response - NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025 [MCM File: 0023870]
Attachments: 2025-07-15 GlencoeIndustrialPark_MCM_InitialLetter.pdf; 2025-06-17 GlencoeIndustrialPark_NofCommencement.pdf

Dear Chris Lierman,

Thank you for sending the Notice of Commencement for the above-referenced project to the Ministry of Citizenship and Multiculturalism (MCM). Please find attached our initial letter on this project.

If you have any questions, please do not hesitate to contact me.

Best regards,

Amanda Antwi-Nsiah
Heritage Planner | Heritage Operations Branch | Citizenship, Inclusion and Heritage Division
Ministry of Citizenship and Multiculturalism | Ontario Public Service
437-212-5945 | Amanda.Antwi-Nsiah@ontario.ca

Ontario

Taking pride in strengthening Ontario, its places and its people

---

From: Leclerc, Erika (MCM) <erika.leclerc@ontario.ca>
Sent: Tuesday, June 17, 2025 4:51 PM
To: Barboza, Karla (She/Her) (MCM) <Karla.Barboza@ontario.ca>
Subject: FW: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

Hi Karla,

Apologies for any duplication. Please see attached Notice of Commencement.

Erika

Erika Leclerc
Heritage Planner | Heritage Operations Branch | Citizenship, Inclusion and Heritage Division
Ministry of Citizenship and Multiculturalism | Ontario Public Service
416-305-0757 | erika.leclerc@ontario.ca

Ontario

Taking pride in strengthening Ontario, its places and its people

---

From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: Monday, June 16, 2025 10:25 AM

To: Leclerc, Erika (MCM) <erika.leclerc@ontario.ca>
Subject: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

RE: NOTICE OF PROJECT COMMENCEMENT
Glencoe Industrial Park 2025
Municipal Class Environmental Assessment
Municipality of Southwest Middlesex
Our Job No. 225147-1

The attached Notice and Location Map are provided to advise you that a Schedule B Municipal Class Environmental Assessment (Class EA) is being undertaken for the Glencoe Industrial Park project. The Municipality of Southwest Middlesex is the Proponent and Spriet Associates is the project consultant.

Your comments on the proposed project are invited as part of the Class EA consultation program.
For this phase of the project, a response from your office is requested by:

Friday, July 18, 2025

More information will be provided as the project proceeds. If you cannot meet this response deadline, or if this Notice should be directed to another office, please contact Spriet Associates as soon as possible.

As indicated on the attached Notice, please direct your comments to Chris Lierman, P. Eng., Project Manager, at the following email address:

mail@spriet.on.ca

Thank you for your assistance.

Barbaralee Vail
Office Administration
SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

Ministry of Citizenship and Multiculturalism

Heritage Planning Unit
Heritage Operations Branch
Citizenship, Inclusion and Heritage Division
5th Flr, 400 University Ave
Toronto, ON M5G 1S7
Tel.: 437-212-5945

Ministère des Affaires civiques et du Multiculturalisme

Planification relative au patrimoine
Opérations relatives au patrimoine
Division des affaires civiques, de l'inclusion et du patrimoine
5e étage, 400, av. University
Toronto, ON M5G 1S7
Tél.: 437-212-5945

Ontario

July 15, 2025 EMAIL ONLY

Chris Lierman, P.Eng.
Project Engineer
Spriet Associates London Limited
155 York Street
London, Ontario N6A 1A8
mail@spriet.on.ca

MCM File	**:**	**0023870**
Proponent	**:**	**Municipality of Southwest Middlesex**
Subject	**:**	**Municipal Class Environmental Assessment – Schedule B – Notice of Commencement**
Project	**:**	**Glencoe Industrial Park**
Location	**:**	**Municipality of Southwest Middlesex, Middlesex County**

Dear Chris Lierman:

Thank you for providing the Ministry of Citizenship and Multiculturalism (MCM) with the Notice of Commencement for the above-referenced project.

MCM's interest in this project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources, including land and marine;
- built heritage resources, including bridges and monuments; and
- cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on known (previously recognized) and potential cultural heritage resources.

Project Summary
The Municipality of Southwest Middlesex is developing the Glencoe Industrial Park located on the south side of Industrial Drive in the community of Glencoe, Range 2 NLR Part Lot 24. The objective is to design and construct a new municipal road, watermains, sanitary sewers, storm sewers and a stormwater management facility needed to service industrial development within the project area. The proposed new road will extend from Industrial Road approximately 340

metres to a turn-around circle. This road is intended to serve industrial lots within the project area. The land within the Class EA project area is owned by the Municipality. The planning for this project is following the environmental screening process set out for Schedule B activities under the Municipal Class Environmental Assessment (Class EA) document.

Identifying Cultural Heritage Resources
While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

Archaeological Resources
This EA project may impact archaeological resources and should be screened using the Ministry's *Criteria for Evaluating Archaeological Potential* and *Criteria for Evaluating Marine Archaeological Potential* (if shoreline or in-water works are proposed) to determine if an archaeological assessment is needed.

If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) shall be undertaken by an archaeologist licenced under the *Ontario Heritage Act (OHA)*, who is responsible for submitting the report directly to MCM for review.

Built Heritage Resources and Cultural Heritage Landscapes
The Ministry's *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* should be completed to help determine whether this EA project may impact known or potential built heritage resources and/or cultural heritage landscapes.

If there is potential for built heritage resources and/or cultural heritage landscapes on the property or within the project area, a Cultural Heritage Evaluation Report (CHER) should be undertaken by a qualified person to determine the cultural heritage value or interest of the property (or project area). If the property (or project area) is determined to be of cultural heritage value or interest and alterations or development is proposed, MCM recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, be completed to assess potential project impacts. Please send the HIA to MCM for review and comment and make it available to local organizations or individuals who have expressed interest in review.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Environmental Assessment Reporting
All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MCM whether any technical cultural heritage studies will be completed for this EA project, and provide them to MCM before issuing a Notice of Completion. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Please note that the responsibility for administration of the *Ontario Heritage Act* and matters related to cultural heritage have been transferred from the Ministry of Tourism, Culture and Sport (MTCS) to the Ministry of Citizenship and Multiculturalism (MCM). Individual staff roles and

contact information remain unchanged. Please continue to send any notices, report and/or documentation **via email only** to both Karla Barboza and myself.

- Karla Barboza, Team Lead - Heritage | Heritage Planning Unit (Citizenship and Multiculturalism) | 416-660-1027 | karla.barboza@ontario.ca
- Amanda Antwi-Nsiah, Heritage Planner | Heritage Planning Unit (Citizenship and Multiculturalism) | 437-212-5945 | Amanda.Antwi-Nsiah@ontario.ca

Thank you for consulting MCM on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact me.

Sincerely,

Amanda Antwi-Nsiah
Heritage Planner
Amanda.Antwi-Nsiah@ontario.ca

Copied to: Karla Barboza, Team Lead, Heritage Planning Unit, MCM
Amanda Gubbels, Chief Administrative Officer, Municipality of Southwest Middlesex
Barbaralee Vail, Office Administration, Spriet Associates London Limited

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. The Ministry of Citizenship and Multiculturalism (MCM) makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MCM be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with *Ontario Regulation 30/11* the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery and Procurement, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

Ontario

Ministry of Tourism, Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
  - the main project area
  - temporary storage
  - staging and working areas
  - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

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Project or Property Name
Glencoe Industrial Park

Project or Property Location (upper and lower or single tier municipality)
Municipality of Southwest Middlesex

Proponent Name
Spriet Associates London Ltd. acting on behalf of Municipality of Southwest Middlesex

Proponent Contact Information
Chris Lierman, P.Eng. 519-672-4100, mail@spriet.on.ca

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☑

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found **not** to be of cultural heritage value?	☐	☑

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value?	☐	☑
b. a National Historic Site (or part of)?	☐	☑
c. designated under the *Heritage Railway Stations Protection Act*?	☐	☑
d. designated under the *Heritage Lighthouse Protection Act*?	☐	☑
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☑
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☑

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	☐	☑
b. has or is adjacent to a known burial site and/or cemetery?	☐	☑
c. is in a Canadian Heritage River watershed?	☐	☑
d. contains buildings or structures that are 40 or more years old?	☑	☐

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	☐	☑
b. has a special association with a community, person or historical event?	☐	☑
c. contains or is part of a cultural heritage landscape?	☐	☑

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act, Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
  - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's Ontario Heritage Toolkit or Standards and Guidelines for Conservation of Provincial Heritage Properties.

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

i. designated under the *Ontario Heritage Act*

- individual designation (Part IV)
- part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note**: To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- Ontario Heritage Trust
- local land registry office (for a title search)

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ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- Ontario Heritage Trust - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

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iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

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iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act.* **Note**: To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- Ontario Heritage Trust

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v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the National Historic Sites website.

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the Directory of Designated Heritage Railway Stations.

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the Heritage Lighthouses of Canada website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the Federal Heritage Buildings Review Office.

See a directory of all federal heritage designations.

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – World Heritage Site website.

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- municipal heritage committees or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's Heritage directory – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a list of plaques commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a list of plaques commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the Canadian Heritage River System.

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide Heritage Property Evaluation.

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- municipal heritage committees or local heritage organizations
- Ontario Historical Society's "Heritage Directory" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through Ontario Trails.

Barbaralee Vail

From: Macki, Monika (MECP) <Monika.MacKi@ontario.ca>
Sent: July 14, 2025 11:50 AM
To: Barbaralee Vail
Cc: Katherine Dagenais
Subject: RE: MCEA Notice of Project Commencement - Glencoe Industrial Park

Hi Barbaralee,

Thanks for your email.

A **qualitative air assessment** is sufficient for the Glencoe Industrial Park MCEA. This should include:

o A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
o A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
o A discussion of local air quality impacts that could arise from this project during both construction and operation; and
o A discussion of potential mitigation measures

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered. Details can also be found on the acknowledgement letter sent for this project.

The mitigation measures for the construction phase look good. There should also be a brief mention of climate change during the operational phase. If no impacts are expected and mitigation measures are not necessary during the operational phase, this should be noted in the EA.

Thanks

Monika Macki
Environmental Resource Planner/Environmental Assessment Coordinator
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
monika.macki@ontario.ca

From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: Thursday, July 10, 2025 1:53 PM
To: Macki, Monika (MECP) <Monika.MacKi@ontario.ca>
Cc: Katherine Dagenais <katherine@spriet.on.ca>
Subject: RE: MCEA Notice of Project Commencement - Glencoe Industrial Park

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Please see attached letter regarding Air Quality and Climate Change, regarding the Glencoe Industrial Park Municipal Class EA.

Barbaralee Vail
Office Administration
SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

From: Macki, Monika (MECP) <Monika.MacKi@ontario.ca>
Sent: July 3, 2025 11:26 AM
To: Barbaralee Vail <barbaralee@spriet.on.ca>
Subject: RE: MCEA Notice of Project Commencement - Glencoe Industrial Park

Please find the attached letter of acknowledgement and supporting attachment in response to the Notice of Commencement of the Glencoe Industrial Park being undertaken by the Municipality of Southwest Middlesex in accordance with the Municipal Class Environmental Assessment (Schedule B).

Thank you,

Monika Macki
Environmental Resource Planner/Environmental Assessment Coordinator
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
monika.macki@ontario.ca

From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: Thursday, June 19, 2025 2:41 PM
To: EA Notices to SWRegion (MECP) <eanotification.swregion@ontario.ca>
Subject: FW: MCEA Notice of Project Commencement - Glencoe Industrial Park

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Please see completed PIF for the above noted EA.

Thanks,

Barbaralee Vail
Office Administration

SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

From: Macki, Monika (MECP) <Monika.MacKi@ontario.ca>
Sent: June 18, 2025 10:30 AM
To: Barbaralee Vail <barbaralee@spriet.on.ca>
Subject: RE: MCEA Notice of Project Commencement - Glencoe Industrial Park

HI Barbaralee,

Thank you for providing the NOC for this project. Can you please complete and send the Project Information Form (PIF) for this EA? Please send to eanotification.swregion@ontario.ca

Please note that I have taken over for Mark in the position of Planner/EA Coordinator for Southwest Region.

Thanks

Monika Macki
Environmental Resource Planner/Environmental Assessment Coordinator
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
monika.macki@ontario.ca

From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: Monday, June 16, 2025 10:21 AM
To: EA Notices to SWRegion (MECP) <eanotification.swregion@ontario.ca>; Badali, Mark (He/Him) (MECP) <Mark.Badali1@ontario.ca>
Subject: MCEA Notice of Project Commencement - Glencoe Industrial Park

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

RE: NOTICE OF PROJECT COMMENCEMENT
Glencoe Industrial Park 2025
Municipal Class Environmental Assessment
Municipality of Southwest Middlesex
Our Job No. 225147-1

The attached Notice and Location Map are provided to advise you that a Schedule B Municipal Class Environmental Assessment (Class EA) is being undertaken for the Glencoe Industrial Park project. The Municipality of Southwest Middlesex is the Proponent and Spriet Associates is the project consultant.

Your comments on the proposed project are invited as part of the Class EA consultation program. For this phase of the project, a response from your office is requested by:

Friday, July 18, 2025

More information will be provided as the project proceeds. If you cannot meet this response deadline, or if this Notice should be directed to another office, please contact Spriet Associates as soon as possible.

As indicated on the attached Notice, please direct your comments to Chris Lierman, P. Eng., Project Manager, at the following email address:

mail@spriet.on.ca

Thank you for your assistance.

Barbaralee Vail
Office Administration
SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

July 3, 2025

Amanda Gubbels
Chief Administrative Officer
Municipality of Southwest Middlesex
agubbels@southwestmiddlesex.ca

BY EMAIL ONLY

Re: **Glencoe Industrial Park**
Acknowledgement of Notice of Commencement

Dear Amanda Gubbels,

The Ministry of the Environment, Conservation and Parks (MECP) has received your Notice of Commencement for the above project. The proponent is following the Schedule B process with respect to project, to which the Municipal Class Environmental Assessment (Class EA) applies.

The **updated** attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study.

Based on the ministry's review of the Notice of Commencement, the Municipality of Southwest Middlesex is required to consult with the following Indigenous communities, who have been identified as being potentially interested or affected by stormwater management undertakings in the area of study:

- Aamjiwnaang First Nation
- Bkejwanong (Walpole Island)
- Caldwell First Nation
- Chippewas of Kettle and Stony Point
- Chippewas of the Thames First Nation
- Oneida Nation of the Thames
- Munsee Delaware
- Delaware Nation
- Six Nations of the Grand River (Both Elected Council and HCCC/HDI
    - both the elected council and HCCC claim to represent the Six Nations Community. The HCCC is the traditional council and the SNGR elected was established by Canada pursuant to the *Indian Act*, 1924.

The identified Indigenous communities should be contacted directly throughout the planning process. These communities may be interested in the proposed undertakings generally or may have Constitutionally protected Aboriginal or Treaty rights that may be impacted by stormwater management undertakings.

Steps that the proponent may need to take in relation to Indigenous consultation for the proposed undertakings are outlined in the Class EA in section A.3 (Consultation) generally and more specifically in A.3.7.

Proponents are required to contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) if information is shared by an Indigenous community about potential adverse impacts to Aboriginal or Treaty rights or sites of cultural significance, if consultation with any Indigenous communities or other stakeholder has reached an impasse or if a Section 16 Order request is expected. The MECP will then assess whether and what additional steps should be taken, including what role you will be asked to play. While there is currently no across-the-board obligation to provide capacity funding to Indigenous communities being consulted; it is important that communities can effectively engage in the process, and this may require capacity funding. The MECP strongly encourages proponents to consider reasonable requests for such funding.

Please ensure a copy of the Notice of Completion is sent to the ministry's Southwest Region email account (eanotification.southwestregion@ontario.ca) after the draft report is reviewed and finalized.

Should you or any members of your project team have any questions regarding the material above, please contact me at monika.macki@ontario.ca.

Sincerely,

Monika Macki

Monika Macki
Regional Environmental Planner – Southwest Region
Project Review Unit, Environmental Assessment Branch

Enclosed: Areas of Interest

Attached: Client's Guide to Preliminary Screening for Species at Risk

AREAS OF INTEREST

It is suggested that you check off each section after you have considered / addressed it.

Planning and Policy

- Applicable plans and policies should be identified in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
    - The **Provincial Planning Statement (PPS) (2024)** contains policies that protect Ontario's natural heritage and water resources. Applicable policies in the PPS 2024 should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies. **The PPS 2024 replaces the Provincial Policy Statement (PPS) (2020) and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (APTG) (2019)**.
    - Projects located in MECP Central or Eastern Region may be subject to the **Oak Ridges Moraine Conservation Plan (2017)** or the **Lake Simcoe Protection Plan (2014)**.
    - Projects located in MECP Central, Southwest or West Central Region may be subject to the **Niagara Escarpment Plan (2017)**.
    - Projects located in MECP Central, Eastern, Southwest or West Central Region may be subject to the **Greenbelt Plan (2017)**. Due to Amendment 4 to the Greenbelt Plan, areas within the Greenbelt are still subject to applicable policies in the PPS **(2020)** and APTG **(2019)**.
    - Projects located in MECP Northern Region may be subject to the **Growth Plan for Northern Ontario (2011)**.

- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

Source Water Protection

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in

designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**

    - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.

    - If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.

- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.

- In order to determine if this project is occurring within a vulnerable area, proponents can use Source Protection Information Atlas, which is an online mapping tool available to the public. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the "Map Legend" bar on the left. The

mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.

- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to Conservation Ontario's website where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in section 1.1 of Ontario Regulation 287/07 made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

Climate Change

The document "Considering Climate Change in the Environmental Assessment Process" (Guide) is part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. Proponents should review this Guide in detail.

- **The MECP expects proponents of Class EA projects to:**

    1. Consider during the assessment of alternative solutions and alternative designs, the following:
        a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
        b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
    2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "Community Emissions Reduction Planning: A Guide for Municipalities" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

Air Quality, Dust and Noise

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**

- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:

    - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
    - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
    - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
    - A discussion of potential mitigation measures.

- As a common practice, "air quality" should be used an evaluation criterion for all road projects.

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.

- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to *Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from*

Construction and Demolition Activities report prepared for Environment Canada. March 2005.

- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.

- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
  - Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
  - Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
  - Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, for projects located in Central Region you may consider the provisions of the Rouge Park Management Plan if applicable.

Species at Risk

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at https://www.ontario.ca/page/species-risk.

- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.

- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

Surface Water

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.

- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's Stormwater Management Planning and Design Manual (2003) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:

    - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
    - Watershed information, drainage conditions, and other relevant background information
    - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
    - Information on maintenance and monitoring commitments.

- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If a proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.

- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information. Additionally, an

Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

Groundwater

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.

- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.

- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.

- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information.

- Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

Excess Materials Management

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled "On-Site and Excess Soil Management" (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don't go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by

this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit https://www.ontario.ca/page/handling-excess-soil.

- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "Management of Excess Soil – A Guide for Best Management Practices" (2014).

- All waste generated during construction must be disposed of in accordance with ministry requirements.

Contaminated Sites

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the MECP's D-4 guideline for land use considerations near landfills and dumps.
  - Resources available may include regional/local municipal official plans and data; provincial data on large landfill sites and small landfill sites; Environmental Compliance Approval information for waste disposal sites on Access Environment.

- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's website).

- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

Servicing, Utilities and Facilities

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.

- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.

- We recommend referring to the ministry's environmental land use planning guides to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

Mitigation and Monitoring

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.

- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.

- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout

the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Class EA to include full documentation).

- Please include the full stakeholder distribution/consultation list in the documentation.

Class EA Process

- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. **The Master Plan should clearly indicate the selected approach for conducting the plan**, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Section 16 Order Requests under the Environmental Assessment Act, although the plan itself would not be. **Please include a description of the approach being undertaken (use Appendix 4 as a reference).**

- If this project is a Master Plan: Any identified projects should also include information on the MCEA schedule associated with the project.

- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.

- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.

- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.

- Ministry guidelines and other information related to the issues above are available at http://www.ontario.ca/environment-and-energy/environment-and-energy. We encourage you to review all the available guides and to reference any relevant information in the report.

Notice of Completion

Once the EA Report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address.

The public can request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director (of the Environmental Assessment Branch) will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent. Once the requested information has been received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

Therefore, the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if:

- a Section 16 Order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, or
- the Director has issued a Notice of Proposed order regarding the project.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, Section 16 Order requests on those matters should be addressed in writing to:

Minister of the Environment, Conservation and Parks

777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Client's Guide to Preliminary Screening for Species at Risk

Ministry of the Environment, Conservation and Parks

Species at Risk Branch, Permissions and Compliance

DRAFT - May 2019

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1.0 Purpose, Scope, Background and Context

1.1 Purpose of this Guide

This guide has been created to:

- help clients better understand their obligation to gather information and complete a preliminary screening for species at risk before contacting the ministry,
- outline guidance and advice clients can expect to receive from the ministry at the preliminary screening stage,
- help clients understand how they can gather information about species at risk by accessing publicly available information housed by the Government of Ontario, and
- provide a list of other potential sources of species at risk information that exist outside the Government of Ontario.

It remains the client's responsibility to:

- carry out a preliminary screening for their projects,
- obtain best available information from all applicable information sources,
- conduct any necessary field studies or inventories to identify and confirm the presence or absence of species at risk or their habitat,
- consider any potential impacts to species at risk that a proposed activity might cause, and
- comply with the *Endangered Species Act* (ESA).

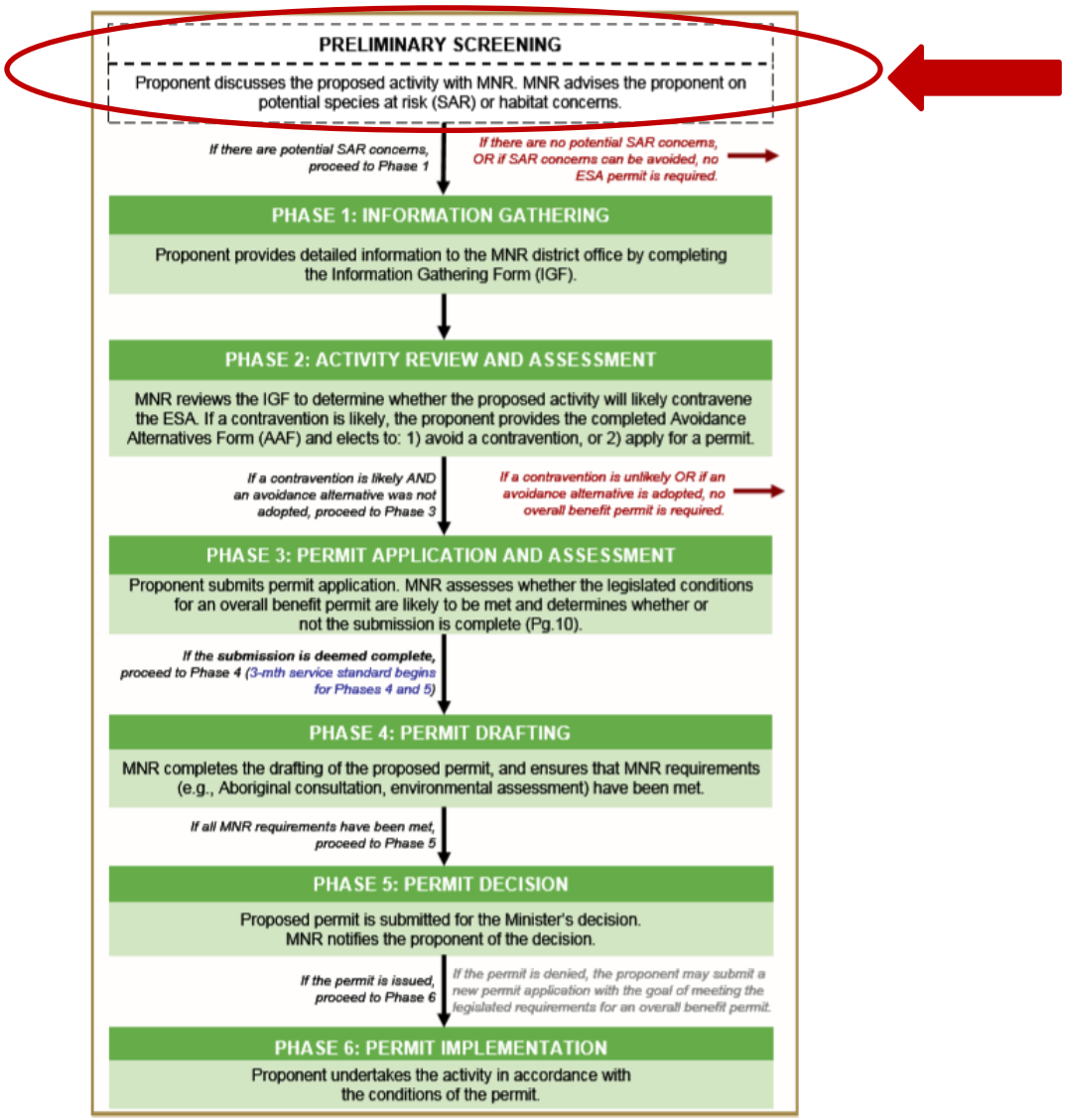
To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide, at a minimum, <u>prior to</u> contacting Government of Ontario ministry offices for further information or advice.

1.2 Scope

This guide is a resource for clients seeking to understand if their activity is likely to impact species at risk or if they are likely to trigger the need for an authorization under the ESA. It is not intended to circumvent any detailed site surveys that may be necessary to document species at risk or their habitat nor to circumvent the need to assess the impacts of a proposed activity on species at risk or their habitat. This guide is not an exhaustive list of available information sources for any given area as the availability of information on species at risk and their habitat varies across the province. This guide is intended to support projects and activities carried out on Crown and private land, by private landowners, businesses, other provincial ministries and agencies, or municipal government.

1.3 Background and Context

To receive advice on their proposed activity, clients must first determine whether any species at risk or their habitat exist or are likely to exist at or near their proposed activity, and whether their proposed activity is likely to contravene the ESA. Once this step is complete, clients may contact the ministry at SAROntario@ontario.ca to discuss the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. At this stage, the ministry can provide advice and guidance to the client about potential species at risk or habitat concerns, measures that the client is considering to avoid adverse effects on species at risk or their habitat and whether additional field surveys are advisable. This is referred to as the "Preliminary Screening" stage. For more information on additional phases in the diagram below, please refer to the *Endangered Species Act Submission Standards for Activity Review and 17(2)(c) Overall Benefit Permits* policy available online at https://www.ontario.ca/page/species-risk-overall-benefit-permits



2.0 Roles and Responsibilities

To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide prior to contacting Government of Ontario ministry offices for further information or advice.

Step 1: Client seeks information regarding species at risk or their habitat that exist, or are likely to exist, at or near their proposed activity by referring to all applicable information sources identified in this guide.

Step 2: Client reviews and consider guidance on whether their proposed activity is likely to contravene the ESA (see section 3.4 of this guide for guidance on what to consider).

Step 3: Client gathers information identified in the checklist in section 4 of this guide.

Step 4: Client contacts the ministry at SAROntario@ontario.ca to discuss their preliminary screening. Ministry staff will ask the client questions about the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. Ministry staff will also ask the client for their interpretation of the impacts of their activity on species at risk or their habitat as well as measures the client has considered to avoid any adverse impacts.

Step 5: Ministry staff will provide advice on next steps.

Option A: Ministry staff may advise the client they can proceed with their activity without an authorization under the ESA where the ministry is confident that:

- no protected species at risk or habitats are likely to be present at or near the proposed location of the activity; or
- protected species at risk or habitats are known to be present but the activity is not likely to contravene the ESA; or
- through the adoption of avoidance measures, the modified activity is not likely to contravene the ESA.

Option B: Ministry staff may advise the client to proceed to Phase 1 of the overall benefit permitting process (i.e. Information Gathering in the previous diagram), where:

- there is uncertainty as to whether any protected species at risk or habitats are present at or near the proposed location of the activity; or
- the potential impacts of the proposed activity are uncertain; or
- ministry staff anticipate the proposed activity is likely to contravene the ESA.

3.0 Information Sources

Land Information Ontario (LIO) and the Natural Heritage Information Centre (NHIC) maintain and provide information about species at risk, as well as related information about fisheries, wildlife, crown lands, protected lands and more. This information is made available to organizations, private individuals, consultants, and developers through online sources and is often considered under various pieces of legislation or as part of regulatory approvals and planning processes.

The information available from LIO or NHIC and the sources listed in this guide should not be considered as a substitute for site visits and appropriate field surveys. Generally, this information can be regarded as a starting point from which to conduct further field surveys, if needed. While this data represents best available current information, it is important to note that a lack of information for a site does not mean that species at risk or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in more remote parts of the province. The absence of species at risk location data at or near your site does not necessarily mean no species at risk are present at that location. On-site assessments can better verify site conditions, identify and confirm presence of species at risk and/or their habitats.

Information on the location (i.e. observations and occurrences) of species at risk is considered sensitive and therefore publicly available only on a 1km square grid as opposed to as a detailed point on a map. This generalized information can help you understand which species at risk are in the general vicinity of your proposed activity and can help inform field level studies you may want to undertake to confirm the presence, or absence of species at risk at or near your site.

Should you require specific and detailed information pertaining to species at risk observations and occurrences at or near your site on a finer geographic scale; you will be required to demonstrate your need to access this information, to complete data sensitivity training and to obtain a Sensitive Data Use License from the NHIC. Information on how to obtain a license can be found online at https://www.ontario.ca/page/get-natural-heritage-information.

Many organizations (e.g. other Ontario ministries, municipalities, conservation authorities) have ongoing licensing to access this data so be sure to check if your organization has this access and consult this data as part of your preliminary screening if your organization already has a license.

3.1 Make a Map: Natural Heritage Areas

The Make a Natural Heritage Area Map (available online at http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US provides public access to natural heritage information, including species at risk, without the user needing to have Geographic Information System (GIS) capability. It allows users to view and identify generalized species at risk information, mark areas of interest, and create and print a custom map directly from the web application. The tool also shows topographic information such as roads, rivers, contours and municipal boundaries.

Users are advised that sensitive information has been removed from the natural areas dataset and the occurrences of species at risk has been generalized to a 1-kilometre grid to mitigate the risks to the species (e.g. illegal harvest, habitat disturbance, poaching).

The web-based mapping tool displays natural heritage data, including:

- Generalized Species at risk occurrence data (based on a 1-km square grid),
- Natural Heritage Information Centre data.

Data cannot be downloaded directly from this web map; however, information included in this application is available digitally through Land Information Ontario (LIO) at https://www.ontario.ca/page/land-information-ontario.

3.2 Land Information Ontario (LIO)

Most natural heritage data is publicly available. This data is managed in a large provincial corporate database called the LIO Warehouse and can be accessed online through the LIO Metadata Management Tool at https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home. This tool provides descriptive information about the characteristics, quality and context of the data. Publicly available geospatial data can be downloaded directly from this site.

While most data are publicly available, some data may be considered highly sensitive (i.e. nursery areas for fish, species at risk observations) and as such, access to some data maybe restricted.

3.3 Additional Species at Risk Information Sources

- The Breeding Bird Atlas can be accessed online at http://www.birdsontario.org/atlas/index.jsp?lang=en
- eBird can be accessed online at https://ebird.org/home
- iNaturalist can be accessed online at https://www.inaturalist.org/
- The Ontario Reptile and Amphibian Atlas can be accessed online at https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas
- Your local Conservation Authority. Information to help you find your local Conservation Authority can be accessed online at https://conservationontario.ca/conservation-authorities/find-a-conservation-authority/

  Local naturalist groups or other similar community-based organizations
- Local Indigenous communities
- Local land trusts or other similar Environmental Non-Government Organizations
- Field level studies to identify if species at risk, or their habitat, are likely present or absent at or near the site.
- When an activity is proposed within one of the continuous caribou ranges, please be sure to consider the caribou Range Management Policy. This policy includes figures and maps of the continuous caribou range, can be found online at https://www.ontario.ca/page/range-management-policy-support-woodland-caribou-conservation-and-recovery

3.4 Information Sources to Support Impact Assessments

- Guidance to help you understand if your activity is likely to adversely impact species at risk or their habitat can be found online at https://www.ontario.ca/page/policy-guidance-harm-and-harass-under-endangered-species-act and https://www.ontario.ca/page/categorizing-and-protecting-habitat-under-endangered-species-act
- A list of species at risk in Ontario is available online at https://www.ontario.ca/page/species-risk-ontario. On this webpage, you can find out more about each species, including where is lives, what threatens it and any specific habitat protections that apply to it by clicking on the photo of the species.

4.0 Check-List

Please feel free to use the check list below to help you confirm you have explored all applicable information sources and to support your discussion with Ministry staff at the preliminary screening stage.

- ✓ Land Information Ontario (LIO)
- ✓ Natural Heritage Information Centre (NHIC)
- ✓ The Breeding Bird Atlas
- ✓ eBird
- ✓ iNaturalist
- ✓ Ontario Reptile and Amphibian Atlas
- ✓ List Conservation Authorities you contacted:_____

  _____
- ✓ List local naturalist groups you contacted:_____

  _____
- ✓ List local Indigenous communities you contacted:_____

  _____
- ✓ List any other local land trusts or Environmental Non-Government Organizations you contacted:_____

  _____
- ✓ List and field studies that were conducted to identify species at risk, or their habitat, likely to be present or absent at or near the site: _____

  _____
- ✓ List what you think the likely impacts of your activity are on species at risk and their habitat (e.g. damage or destruction of habitat, killing, harming or harassing species at risk):_____

  _____

July 10, 2025

SPRIET
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Ministry of the Environment, Conservation and Parks
Environmental Assessment Branch
Monika Macki
Environmental Resource Planner/Assessment Coordinator
Via monika.macki@ontario.ca

Dear Monika Macki:

RE: Glencoe Industrial Park, Municipality of Southwest Middlesex
Municipal Class Environmental Assessment (Schedule 'B')

On behalf of the Municipality of Southwest Middlesex, we have been retained to complete the Municipal Class Environmental Assessment (Class EA) for the Glencoe Industrial Park. Our project team has had an opportunity to review your letter relating to this Class EA, dated July 3, 2025, and we have prepared the following comments and responses for your consideration.

Our comments are specifically related to the Areas of Interest document attached to your letter. The letter notes that proponents should "address all areas of interest in the EA documentation at an appropriate level for the EA study" and that proponents who "address all the applicable areas of interest can minimize potential delays to the project schedule." To effectively respond to this direction, we are looking to confirm our approach with regards to the Air Quality, Dust, and Noise and Climate Change components of the Areas of Interest document is acceptable to the Ministry.

Air Quality, Dust, and Noise

Please confirm the level of Air Quality Impact Assessment required for this project, noting that the proposal is to extend a local municipal road approximately 340 m to serve future developments as part of the Glencoe Industrial Park within the boundaries of Glencoe. Specifically, given the scope of work, is a Qualitative Assessment sufficient to meet MECP requirements and expectations?

To address this component of project planning, we propose to recommend mitigation measures to be implemented within this project construction to address and reduce potential impacts to air quality impacts based on similar municipal projects we have previously carried out. These mitigation measures will be itemized in the Class EA Project File Report as part of the Qualitative Assessment and included within project contract documents to ensure implementation and adherence throughout construction.

We note the following with regards to the distance between the subject site and the nearest sensitive receptor:

Sensitive Receptor	Distance Between Nearest Sensitive Receptor and Project Site
Health Care Facility	1.8 km
Senior Citizen's Residence or Long Term Care Facility	1.8 km
Childcare Facility	2.2 km
Educational Facility	0.6 km
Dwelling	0.5 km
A place specified by the Director…as a place where discharges of a contaminant may cause a risk to human	None to our knowledge. We note that adjacent land uses are agricultural, commercial, industrial and residential.

Climate Change

The scope of this project includes the construction of a new roadway approximately 340 m in length to serve future industrial development as part of the Glencoe Industrial Park. In comparison to typical municipal or land development projects, the scope of this project is relatively small. Accordingly, climate change impacts during the construction and post-construction phases are anticipated to be extremely minor relative to the numerous large-scale development and road reconstruction projects within Southwestern Ontario and the Municipality of Southwest Middlesex. Notwithstanding, to address potential climate change concerns in conjunction with this Class EA, we propose to recommend mitigation measures for the construction phase of the project considering best practices, best available technologies and efficient construction staging, including ensuring construction vehicles/equipment do not idle while on-site.

These mitigation measures will be itemized in the Class EA Project File Report and included within project contract documents to ensure implementation and adherence throughout construction.

Additionally, this road extension is intended to serve future developments that are expected to be constructed using energy efficient building materials. Based on our experience, there are no alternative methods of constructing the proposed local road project that could further reduce the impacts on climate change and the local environment beyond specifying best management practices within the project contract documents.

Future Action

We would appreciate your feedback regarding our proposed approach to these Areas of Interest at your earliest convenience. This would allow us to liaise with Sub-Consultants, if required, and continue with the Class EA process.

Thank you,

Chris Lierman, P.Eng.
Head of Municipal Engineering Department, Associate
Spriet Associates Architects and Consulting Engineers

What to do:
Step 1: Look for the type of EA project in column B that applies to you.
Step 2: Complete columns C to J for that project.
Step 3: Send this form in Excel format to the MECP regional office email address where the project is located.
MECP regional office email addresses are listed at
www.ontario.ca/page/preparing-environmental-assessments

	Class EA/Streamlined EA	Proponent Name	Proponent Contact	Project Name	Project Schedule	Project Type	Project Location	MOECC Region	Project Initiation Date
1	CO - Remedial flood and erosion control projects								
2	GO Transit - Class EA								
3	Hydro One - Minor transmission facilities								
4	MEA - Class EA for municipal infrastructure projects	Municipality of Southwest Middlesex and Spriet Associates	Amanda Gubbels and Chris Lierman, P.Eng.	Glencoe Industrial Park	Schedule B	Municipal road projects	Southwest Middlesex, Municipality of	Southwestern	2025-06-16
5	Ministry of Infrastructure - Public work								
6	MNDM - Activities of the Ministry of Northern Development and Mines under the Mining Act								
7	MNRF - Provincial parks and conservation reserves								
8	MNRF - Resource stewardship and facility development projects								
9	MTO - Provincial transportation facilities								
10	O. Reg. 101/07 - Waste management projects								
11	O. Reg. 116/01 - Electricity projects								
12	OWA - Waterpower projects								
		Enter the proponent's name.	Enter the name and email address of the person who the MECP should contact about your project. This should be the same contact person who is listed on the notice.	Enter the project name as it appears on the notice.	Select the project schedule from the drop-down menu.	Select the project type from the drop-down menu.	Select the name of the municipality or unorganized/unsurveyed area where your project is located from the drop-down menu.	Select the MECP region from the drop-down menu. Read the "MECP regions" worksheet to find the MECP region where your project is located.	Enter the date that the streamlined EA process was initiated (e.g. notice of commencement). This date may be when the project notice was first published.

Katherine Dagenais

From: Alana Kertesz <akertesz@middlesex.ca>
Sent: November 19, 2025 1:02 PM
To: Katherine Dagenais; Markus van Dam
Cc: Amanda Gubbels; Erin Besch
Subject: Barn in industrial area - Glencoe

Hi Katherine and Markus,

Planning staff have reviewed the request about the barn at the Industrial Park and confirms the Municipality does not have a heritage register/ list/ designation. Therefore, it is our understanding that the barn in the industrial park property has no heritage features or significance to note.

Thank you,

Alana Kertesz, M.Sc. (Pl)
Planner I

Middlesex County
399 Ridout St. North | London, ON N6A 2P1
Tel. 519-434-7321 Ext. 2348 | akertesz@middlesex.ca
www.middlesex.ca

Barbaralee Vail

From: Capelle, Pauline (MNR) <Pauline.Capelle@ontario.ca>
Sent: June 16, 2025 4:38 PM
To: Barbaralee Vail; Mail
Cc: Capelle, Pauline (MNR)
Subject: RE: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025
Attachments: MNR Southern Region Information Package – For External Proponent Environmental Assessments_Ver2 (2).pdf

Dear Barbaralee and Chris,

The Ministry of Natural Resources (MNR) received the Notice of Project Commencement for the Glencoe Industrial Park Schedule B Municipal Class Environmental Assessment on Monday June 16th. Thank you for circulating this to our office.

MNR has prepared the attached **MNR Southern Region Information Package – For External Proponent Environmental Assessments** (Package) to help project proponents understand MNR's role as a commenting agency and interests related to environmental assessment within the Ministry's mandate. The Package also provides information on the Ministry's regulatory authority to issue authorizations, permits, licenses and/or approvals. The information provided is subject to change from time to time and it is the proponent's responsibility to ensure the information used to support project planning and compliance with *Environmental Assessment Act* requirements is current and accurate. It is the proponent's responsibility to be aware of, and comply with, all relevant federal or provincial legislation, municipal by-laws and/or other agency approvals.

Please note the ministry has not completed a screening of natural heritage or other resource values at this time. If no MNR interests are identified based on the information contained in this Package, there is no need to further circulate MNR as a commenting agency when undertaking consultation and review under the applicable EA process. If you have identified any MNR interests in your project planning and require additional technical information, or if you have questions about the content of this Package, please feel free to contact me, or SR.planning@ontario.ca.

Thank you,
Pauline

Pauline Capelle (she/her)
Regional Planner | Southern Region
Ministry of Natural Resources | Ontario Public Service
705-313-0708 | pauline.capelle@ontario.ca

Ontario

Taking pride in strengthening Ontario, its places and its people

Please note: As part of providing accessible customer service, if you have any accommodation needs, require communication supports, or alternate formats please let me know.

From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: Monday, June 16, 2025 10:31 AM
To: Southern Region Planning Inbox (MNR) <SR.Planning@ontario.ca>
Subject: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

RE: NOTICE OF PROJECT COMMENCEMENT
Glencoe Industrial Park 2025
Municipal Class Environmental Assessment
Municipality of Southwest Middlesex
Our Job No. 225147-1

The attached Notice and Location Map are provided to advise you that a Schedule B Municipal Class Environmental Assessment (Class EA) is being undertaken for the Glencoe Industrial Park project. The Municipality of Southwest Middlesex is the Proponent and Spriet Associates is the project consultant.

Your comments on the proposed project are invited as part of the Class EA consultation program. For this phase of the project, a response from your office is requested by:

Friday, July 18, 2025

More information will be provided as the project proceeds. If you cannot meet this response deadline, or if this Notice should be directed to another office, please contact Spriet Associates as soon as possible.

As indicated on the attached Notice, please direct your comments to Chris Lierman, P. Eng., Project Manager, at the following email address:

mail@spriet.on.ca

Thank you for your assistance.

Barbaralee Vail
Office Administration
SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

MNR SOUTHERN REGION INFORMATION PACKAGE – FOR EXTERNAL PROPONENT ENVIRONMENTAL ASSESSMENTS

MNR – SOUTHERN REGION – LUPSI

October 2024

How to Use This Information Package

Environmental Assessment (EA) is a planning and decision-making process used to promote environmentally responsible decision-making. In Ontario, this process is defined and is required pursuant to the *Environmental Assessment Act (EAA)*. The Ministry of Environment, Conservation and Parks (MECP) administers the *EAA*.

The Ministry of Natural Resources (MNR) may be asked by a proponent of a project subject to an EA or Class EA to participate as a commenting agency to ensure provincial interests within MNR's mandate are considered by the proponent in the project planning process.

Use of this Information Package "Package" is intended to help project proponents understand MNR's:

- role as a commenting agency and interests related to environmental assessment within the Ministry's mandate (refer Sections 1 through 8 of this document)
- regulatory authority to issue authorizations, permits, licenses and/or approvals (refer Appendix A – MNR Regulatory Role)

The information provided by MNR and the sources listed in this Package should not be considered exhaustive nor a substitute for consultation with other agencies, site visits and appropriate field studies. The information provided is subject to change from time to time and it is the proponent's responsibility to ensure the information used to support project planning and compliance with *EAA* requirements is current and accurate.

If no MNR interests are identified based on the information contained in this Package there is no need to further circulate MNR as a commenting agency when undertaking consultation and review under the applicable EA process. MNR Southern Region (via sr.planning@ontario.ca) may be contacted if there are any questions about the content of this Package or if specific technical information is required.

This Package is intended for use within MNR's Southern Region (SR) regional boundary only. To view the MNR SR regional boundary please see Ministry of Natural Resources and Forestry work centres | ontario.ca.

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1. MNR Mandate

MNR has a mandate to protect Ontario's biodiversity while promoting economic opportunities in the resource sector and supporting outdoor recreation opportunities by:

- Sustainably managing Ontario's fish and wildlife resources.
- Leading the management of Ontario's public (also referred to as Crown) lands, including the beds of navigable waters, oil, gas, salt and aggregate resources, and access to Crown land for renewable energy projects.
- Ensuring the sustainable management of Ontario's Crown forests.
- Protecting people, property and communities from forest fires, floods, and droughts.
- Developing and applying geographic information to help manage the province's natural resources.

MNR's regulatory role is triggered when a project proponent seeks an approval under legislation administered by the Ministry. Information on the Ministry's regulatory role under applicable legislation can be found in Appendix A.

2. MNR Role as Commenting Agency

MNR's role as a commenting agency on projects subject to *EAA* requirements is to:

- Assist and enable project proponents to access relevant technical and scientific information within the scope of MNR's mandate.
- Provide legislative / regulatory / policy information and direction regarding interests within MNR's mandate.
- Support the identification and consideration of the potential effects of a project on matters within MNR's mandate.
- Identify where the project proponent may need to seek MNR approvals regarding the project.

3. Provincial Planning Policies

Provincial plans together with the *Provincial Policy Statement, 2024* (PPS) issued under section 3(1) of the *Planning Act,* provide policy direction on matters of provincial interest related to land use planning and development in Ontario. The PPS and provincial plans contain policies specific to infrastructure projects.

A summary of matters related to MNR's mandate within specific infrastructure-related provincial planning policies can be found below. Please note, this is not an exhaustive list of provincial policies that may apply to a project and other MNR mandated interests may be applicable. It is the project proponent's responsibility to review the provincial plans and PPS,

which may be amended from time to time, to determine policies applicable to the proposed project.

Provincial Plan Mapping

Mapping of provincial plan boundaries and natural heritage areas as defined in individual provincial plans is available to view or download through Make A Map: Natural Heritage Areas or Ontario GeoHub (GeoHub) - Natural Heritage System Area.

Greenbelt Plan, 2017

Section 4.2.1.2 of the Greenbelt Plan contains policies which are designed to direct infrastructure away from, or where not possible, to minimize the impacts on the Natural Heritage and Water Resource Systems. It requires that new or expanding infrastructure "shall avoid *key natural heritage features, key hydrologic features or key hydrologic areas* unless need has been demonstrated and it has been established that there is no other reasonable alternative."

Niagara Escarpment Plan (NEP), 2017

The NEP is administered by the Niagara Escarpment Commission, the government agency mandated to develop, interpret, and apply NEP policies that maintain and enhance the Niagara Escarpment's unique environmental and landscape features. In addition to Make A Map: Natural Heritage Areas, mapping of NEP Escarpment Natural Areas and Escarpment Protection Areas may be obtained from your local municipality or the Niagara Escarpment Commission.

Oak Ridges Moraine Conservation Plan (ORMCP), 2017

Section 41 of the ORMCP contains policies specific to the development of new or the upgrading/extension of existing infrastructure. This policy direction includes where development shall not be permitted unless specified criteria have been satisfied (including where applicable that there is no other reasonable alternative) and establishes required documentation to support infrastructure projects. Specific conditions apply to proposed infrastructure development within a natural core area and infrastructure crossings of key natural heritage features.

Lake Simcoe Protection Plan (LSPP), 2009

Policy 6.23-DP of the LSPP directs that development or site alteration in relation to infrastructure shall not be permitted within a key natural heritage feature, a key hydrologic feature or within a related vegetation protection zone unless the need for the project has been demonstrated through an Environmental Assessment or other similar environmental approval and it has been demonstrated there is no reasonable alternative. Some exceptions may apply.

4. Fish, Wildlife and Natural Heritage

MNR's natural heritage and natural resources geospatial data layers can be accessed through the ministry's GeoHub and Natural Resources Data Access Requests | Ontario GeoHub. Please note, these Geospatial Ontario (formerly known as Land Information Ontario) GIS data layers available from MNR and the sources listed and linked on this webpage should not be considered as a substitute for site visits and appropriate field surveys. Generally, information available from MNR can be regarded as a starting point from which to conduct further field studies, if needed. While this data represents MNR's best available current information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. There are many areas where MNR does not currently have information. On-site assessments can better verify site conditions, identify natural features and values and confirm presence of species at risk and/or their habitats.

The information below provides an overview of MNR's mandated interests in natural heritage to consider within the project study area. A detailed list of provincial technical guidance material used to identify significant natural heritage features in different landscapes can be found in Appendix B.

Fisheries

All permanent and intermittent watercourses and waterbodies have potential to contain fish habitat or contribute to fisheries resources. MNR is responsible for administering and enforcing the Ontario Fishery Regulations under the *Fisheries Act*.

When agency approvals are required for a proposed project, it is the responsibility of the authorizing regulatory agency to set any in-water work timing windows in their authorizations. These timing windows may be based on the MNR's In-water Work Timing Window Guidelines.

Areas of Natural and Scientific Interest

The study area should be screened for the presence of Areas of Natural and Scientific Interest (ANSI). ANSIs are lands and waters containing features that are important for natural heritage protection, scientific study, and education. ANSIs are identified and confirmed by MNR based on their representation of Ontario's significant geological and natural heritage features and are categorized as either Earth Science or Life Science.

Wetlands

Study areas that contain unevaluated or unmapped wet features should be investigated for the presence of wetlands. Wetlands are lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to the surface. Wetlands may

vary in their significance, and the four major types of wetlands are swamps, marshes, bogs, and fens.

As of January 1, 2023, MNR no longer reviews and confirms wetland evaluations. MNR's role with respect to wetland evaluation includes providing the provincial framework under which wetlands in Ontario are evaluated for significance (OWES), and uploading digital wetland boundary mapping and wetland status into the Geospatial Ontario database.

Significant Wildlife Habitat

Study areas which may contain significant wildlife habitat should be investigated for its presence or absence. Significant wildlife habitat may include features such as: seasonal concentration areas for wildlife species (e.g., snake hibernaculum), rare vegetation communities (e.g., tallgrass prairie), specialized habitats of wildlife (e.g., turtle nesting and over-wintering areas), habitats of species of conservation concern (e.g., Special Concern species as identified on the Species at Risk in Ontario list) and animal movement corridors (e.g., amphibian movement corridors). Provincially tracked species data (generalized to Natural Heritage Information Centre 1 km screening grid) can be viewed in Natural Heritage Make a Map. Detailed geospatial data may be obtained through GeoHub via a data sharing agreement.

Please note, relying on online mapping tools only may not accurately reflect the presence or absence of significant wildlife habitat within the project study area. Surveys or additional site level assessment are often required to confirm presence or absence of natural heritage features and values.

Significant Woodlands

Project study areas that contain wooded areas should be investigated for the presence of significant woodlands. Significant woodlands are areas that are ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to their contribution to the broader landscape; or economically important. Local planning authorities are responsible for identifying significant woodlands in accordance with criteria established by MNR.

Significant Valleylands

Project study areas that occur in a valley or other landform depression that has water for some period of the year should be investigated for the presence of significant valleylands. The identification of valleyland significance is the responsibility of the local planning authority. MNR recommends criteria for determination of valleyland significance.

5. Natural Hazards

In Ontario, development is generally directed away from areas impacted by natural hazards to prevent risks from inappropriate development on and around these lands and to ensure that the risks to public health and safety are minimized. Keeping people and property out of harm's way is a cost-effective, socially responsible, and proactive approach to addressing natural hazards. Various policies and programs direct people and development outside of natural hazard areas.

Responsibility for natural hazard management and implementation of programs and policies for most natural hazards has been delegated to municipalities and Conservation Authorities (CA) where they exist. MNR supports implementation of natural hazard policies by local municipalities and CAs by providing a series of natural hazard technical guidelines (see Appendix B).

Hazardous Lands (flooding, erosion and dynamic beach hazards)

The project location should be reviewed for the presence of hazardous lands. These may include lands subject to flooding and/or erosion and dynamic beaches. These lands become hazardous when people and property locate in these areas. The local municipality and CA should be contacted for further guidance where required.

Special Policy Areas

Some localized areas of the province may be subject to an approved Special Policy Area (SPA), as defined by the PPS. If the study area is located within or adjacent to a SPA, special consideration for any impacts to the flood plain and site-specific SPA policies may be necessary. Any proposed change or modification to the official plan policies, land use designations or boundaries applying to SPA lands, requires joint approval by the Ministers of the Ministry of Municipal Affairs and Housing (MMAH) and MNR.

Local official plans may be reviewed to identify the presence of SPAs within the study area. MNR may have additional information regarding SPAs which can be made available upon request.

Where applicable, information should be identified at the EA stage regarding any expected changes to the floodplain or potential modifications to the SPA subject to provincial approval.

Hazardous Sites (unstable soils and bedrock)

The project location should be reviewed for the presence of hazardous sites. These may include unstable soils (sensitive marine clays [leda], organic soils) or unstable bedrock (karst topography). General information and mapping tools available to assist in identifying the

potential presence of hazardous sites (e.g., karst and organic soils) include, but are not limited to:

- GeologyOntario (gov.on.ca) is maintained by the Ministry of Mines and provides access to all Ontario Geological Survey maps, reports and digital datasets.
- Wetland mapping
- Soil information and mapping maintained by the Ministry of Agriculture, Food and Rural Affairs is available at Soil Survey Complex (GeoON) or AgMaps

Hazardous Forest Types for Wildland Fire

Project study areas containing wooded areas should be screened for the presence of hazardous forest types for wildland fire. Data to identify potential areas that meet this definition can be found in GeoHub - Potential Hazardous Forest Types for Wildland Fire. Note that this data layer is based on forest type data at a coarse scale. Complete assessment of risk and determination of appropriate mitigation measures can only be done with confidence on a site-specific basis.

6. Oil, Gas and Salt Resources

Oil, gas or salt wells are regulated under the *Oil, Gas and Salt Resources Act*, and the supporting regulations and operating standards.

To help determine the presence of petroleum wells within the proposed project area, basic mapping information can be found through the GeoHub portal or the Ontario Oil, Gas and Salt Resources Library (www.ogsrlibrary.com). The 'Definitions and Terminology Guide' listed in the publications section on the library website may provide a better understanding of the well and resource information available.

The Ontario Petroleum Institute (OPI) is an industry association that can assist with retaining the services of a consultant who can provide information about the potential resources located below the property.

If any unanticipated petroleum wells or associated works are encountered during a project, the proponent should cease work immediately and contact MNR's Petroleum Operations Section (POS) to further understand the proponent's obligations under the *Oil, Gas and Salt Resources Act*. The POS may be contacted at POSRecords@ontario.ca or 519-873-4634. In the event of a spill, the project proponent should report it to the Spills Action Centre at 416-325-3000, 1-800-268-6060 (toll free), or 1-855-889-5775 (TTY).

7. Mineral Aggregate Resources

Mineral aggregate resources are usually sand, gravel, clay, earth and bedrock. They are used to make roads, subway tunnels, homes and other structures. Mineral aggregate resources are a non-renewable resource that exist in fixed locations.

MNR has an interest in protecting mineral aggregate resources from incompatible development so they may continue to be available for future extraction. Data to map known deposits of mineral aggregate resources is available from Geology Ontario at GeologyOntario (gov.on.ca).

Project proponents should consider mineral aggregate resources by screening for existing aggregate operations at Find Pits and Quarries | ontario.ca, and consider any potential to preclude or hinder operations and the use of aggregate resource deposits through incompatible development.

8. Crown Lands, Lakes, Rivers and Forests

MNR manages public lands including the beds of most lakes and rivers. Some activities on shore lands (both public and private) are also managed by the MNR.

Public land boundaries (mapping is representative only) and applicable Crown land use policies can be viewed at Crown Land Use Policy Atlas | ontario.ca. Provincial parks and conservation reserves are managed by MECP under the *Provincial Parks and Conservation Reserves Act*.

MNR manages the health of Crown forests so they may continue to provide ecological, economic, and social benefits. Most of Ontario's Crown forests are managed by forest companies under 20-year Sustainable Forest Licences. These companies are responsible for working with government and others to prepare and implement a forest management plan for their licence area, monitoring compliance with the plan and renewing the forest after harvesting trees.

9. Conclusion

The list of interests within MNR's mandate described in this document is not exhaustive. For additional information on legislation and programs the ministry administers see Ministry of Natural Resources | ontario.ca.

If you have identified any MNR interests in your project planning and require additional information, please direct your specific questions to the designated Regional Planner for the project, or to SR.planning@ontario.ca.

Appendix A – MNR Regulatory Role

MNR's regulatory role is triggered when a project proponent seeks an approval under legislation administered by the Ministry. This Appendix provides information about some of the more commonly applicable approvals issued by MNR. Please note, MNR may not be able to confirm the requirement for an approval until a detailed project and site plan have been provided to the Ministry.

A proposal for an MNR approval may engage the ministry's duty to consult Indigenous peoples.

Where MNR is considering an application, the ministry must also ensure its own obligations under the *EAA* are satisfied prior to a final decision. Where an approval would dispose of rights to Crown Resources for a project that has already completed *EAA* requirements under another process, MNR will require written documentation from the applicant setting out how *EAA* requirements for the project have been met prior to MNR issuing any requested approval.

Fish and Wildlife Conservation Act

The *Fish and Wildlife Conservation Act, 1997* regulates the relocation of fish and wildlife. Accordingly, should a project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), will require a Wildlife Collector's Authorization.
- The destruction, taking or possession of any nests or eggs of species not protected by the *Migratory Birds Convention Act (*MBCA*)* or excluded under section 7(2) of the FWCA may also require a Wildlife Collector's Authorization.

To learn more about the management of Fish and Wildlife in Ontario, or to apply for permits or licenses, please visit the Natural Resources Information Portal.

Aggregate Resources Act

The *Aggregate Resources Act* (ARA) is the primary legislative framework for regulating aggregate resource extraction in Ontario. The MNR administers the *ARA* and issues licenses, permits and approves amendments to existing approvals. Information on existing pits and quarries and when an aggregate permit or license may be required can be accessed from MNR's Aggregates Section or GeoHub – Additional Resources

Lakes and Rivers Improvement Act

The *Lakes and Rivers Improvement Act* (LRIA) provides the MNR with regulatory authority over the design, construction, operation, maintenance and safety of dams in Ontario. For

information regarding when a MNR approval may be required and how the LRIA is administered by the Ministry visit Lakes and Rivers Improvement Act administrative guide | ontario.ca

Public Lands Act

The use of public land and shore lands are regulated under the *Public Lands Act*. A work permit must be obtained from MNR to undertake certain activities on public land and shore lands. To occupy public lands in Ontario, you must receive prior approval from MNR unless the use is permitted by regulation. Visit Natural Resources Information Portal for information on when a permit or approval is required and how to submit an application.

Crown Forest Sustainability Act

Any activities that involve a proposal to cut Crown forest resources (e.g., trees on Crown land) may require approval under the *Crown Forest Sustainability Act, 1994.*

Appendix B – Technical Guides

The following technical guides are the province's best available information to support identification of significant natural heritage features in different landscapes:

- Natural Heritage Reference Manual (2010)
- Greenbelt Technical Paper (2005)
- Oak Ridges Moraine Technical Paper 1 (Natural Heritage Features)
- Oak Ridges Moraine Technical Paper 2 (Significant Wildlife Habitat)
- Oak Ridges Moraine Technical Paper 7 (Significant Woodlands)
- Lake Simcoe Protection Plan Technical Paper
- Ontario Wetland Evaluation System (OWES)
- Significant Wildlife Habitat Technical Guide
    - Ecoregion Criterion Schedules for the identification of Significant Wildlife Habitat
        - Ecoregion 5E
        - Ecoregion 6E
        - Ecoregion 7E
    - Significant Wildlife Habitat Mitigation Support Tool (MiST)

Other supporting information may be found at Ontario GeoHub or Natural Resources Data Access Requests | Ontario GeoHub.

The following technical guides are the province's best available information to support implementation of MNR's interest in natural hazards (contact MNR to request pdf copies):

- Understanding Natural Hazards (2001)
- Special Policy Areas Procedures (2009)
- Technical Guide – River & Stream Systems: Flooding Hazard Limit (2002)
- Technical Guide – River & Stream Systems: Erosion Hazard Limit (2002)
- Great Lakes-St. Lawrence River Shorelines: Flooding, Erosion and Dynamic Beaches (2001)
- Technical Guide for Large Inland Lakes Shorelines: Flooding, Erosion and Dynamic Beaches (1996)
- Hazardous Sites Technical Guide (1996)
- Technical Bulletin: Flooding Hazards: Data Survey and Mapping Specifications (2023)
- Wildland Fire Risk Assessment and Mitigation Reference Manual (2017)

The following technical guide is the province's best available information supporting implementation of MNR's mandated interest in mineral aggregate resources (contact MNR to request pdf copy):

- Non-renewable Resources Training Manual (1997)

Barbaralee Vail

From: Julie Welker <welkerj@thamesriver.on.ca>
Sent: July 14, 2025 9:24 AM
To: Barbaralee Vail; jason.wintermute@ltvca.ca
Subject: Re: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

Good morning Barbaralee,

I can confirm that the Thames-Sydenham Source Protection Authority has no concerns with this proposal since it is beyond any vulnerable municipal drinking water systems. However, please have regard for any highly vulnerable aquifers and significant groundwater recharge areas and use best management practices where possible.

Regards,
Julie

DRINKING WATER SOURCE PROTECTION
RISK MANAGEMENT SERVICES
Working together to protect drinking water sources

Julie Welker
Source Protection Coordinator
1424 Clarke Road, London, Ontario N5V 5B9
519.451.2800 ext. 255
welkerj@thamesriver.ca
www.sourceprotection.on.ca

All UTRCA emails are changing from **@thamesriver.on.ca** to **@thamesriver.ca**. Please update your address book and any distribution lists, to ensure emails from our new addresses reach you. We will continue to receive emails sent to our old email addresses.

From: Barbaralee Vail <barbaralee@spriet.on.ca>
Sent: Friday, July 4, 2025 9:16 AM
To: Julie Welker <welkerj@thamesriver.on.ca>; jason.wintermute@ltvca.ca <jason.wintermute@ltvca.ca>
Subject: NOTICE OF PROJECT COMMENCEMENT - Glencoe Industrial Park 2025

You don't often get email from barbaralee@spriet.on.ca. Learn why this is important

CAUTION: This email originated from outside of the UTRCA. Do not click links or open attachments unless you recognize the sender and know the content is safe.

RE: NOTICE OF PROJECT COMMENCEMENT
Glencoe Industrial Park 2025
Municipal Class Environmental Assessment
Municipality of Southwest Middlesex
Our Job No. 225147-1

The Municipality of Southwest Middlesex is developing the Glencoe Industrial Park located on the south side of Industrial Drive in the community of Glencoe, Range 2 NLR Part Lot 24. The objective is to design and construct a new municipal road, watermains, sanitary sewers, storm sewers and a stormwater management facility needed to service industrial development within the project area. The proposed new road will extend from Industrial Road approximately 340 metres to a turn-around circle. This road is intended to serve industrial lots within the project area. The land within the Class EA project area is owned by the Municipality. Spriet Associates has been retained by the Municipality to complete the Schedule B Class Environmental Assessment and engineering design for the proposed project.

Please refer to the enclosed Notice of Commencement for initial project details.

Based upon our review of the Thames-Sydenham and Region Source Protection mapping as well as the MECP Source Protection Information Atlas, the project area is not located within a vulnerable area. Please refer to the enclosed maps for reference. Based upon the proposed scope of work as well as applicable mapping, with implementation of construction and operational mitigation measures the proposed road extension would conform with the Source Protection Plan. Please confirm if you have any comments regarding the proposed works.

Sincerely,

Barbaralee Vail
Office Administration
SPRIET ASSOCIATES LONDON LTD.
155 York St. - London, ON - N6A 1A8
phone: 672.4100
fax: 433.9351

[illegible]

Deshkan Ziibiing
Chippewas of the Thames
First Nation Treaties, Lands
and Environment

320 Chippewa Road
Muncey, ON, N0L 1Y0
Tel: 519-289-5555
Fax: 519-289-2230
info@cottfn.com

9-Sep-2025 02:47 UTC

Dear: Barbaralee Vail

We have received information concerning Glencoe Industrial Park 2025, dated 19-Jun-2025. The proposed project is located within the Longwoods Treaty, to which Chippewas of the Thames First Nation (COTTFN) is the sole First Nations signatory. It is also located within the Big Bear Creek Additions to Reserve (ATR) land selection area, as well as COTTFN Traditional Territory.

After screening this project, we have identified it to be of moderate concern. It would represent a significant new development and land use change in the area. We request to be kept informed of the steps in the Municipal Class EA process, as well as later design and construction. Updates can be added to this file through the "Conversations" feature.

COTTFN also has various relevant business ventures and would welcome a discussion about procurement opportunities.

Please advise on the status of archaeological assessments for this land. If there is an assessment conducted in the future, we require notification and the opportunity to actively participate by sending Field Liaisons on behalf of COTTFN.

We look forward to continuing this open line of communication. To implement meaningful consultation, COTTFN has developed its own Wiindmaagewin Consultation Protocol - a document that guides positive working relationships. As per ‘Appendix C’ of the Wiindmaagewin, we will be sending an invoice based on our time to review the documentation. Please do not hesitate to contact me if you need further clarification of this letter.

Sincerely,

_____

Original Signed
Jennifer Mills
Energy Sector Consultation Coordinator
Chippewa of the Thames First Nation
320 Chippewa Road, Muncey, ON, N0L 1Y0

(519) 289-5555 Ext 236
consultation@cottfn.com

wiindmaagewin-consultation-protocol-120623-approved.pdf

Response: Decision regarding consultation: Glencoe Industrial Park 2025

Glencoe Industrial Park 2025
Consultation

Subject: Response: **Decision regarding consultation: Glencoe Industrial Park 2025**

Participants: Chippewas of the Thames First Nation Spriet Associates Ltd.

C **Contact-8015** Please see attached PDF response letter. Created: 08-Sep-2025

BV **ME** Created: 2 minutes ago

Dear Jennifer Mills,

Thank you for providing comments regarding the proposed Glencoe Industrial Park 2025 project. We have reviewed your letter in detail and acknowledge your comments. We note your request to be kept informed of the steps in the Municipal Class EA process, as well as in the design and construction stages of the project and confirm our commitment to providing regular project updates throughout the Class EA, engineering design and construction stages.

With specific regard to the status request regarding archaeological assessments of this land, we confirm that archaeological assessments were previously performed for the subject property. Specifically, the Stage 3 archaeological assessment was reviewed and entered into the register by the Ministry of Tourism, Culture and Sport as confirmed by the Ministry in a letter dated November 18, 2016. Please let us know if you have any further questions or concerns regarding this matter.

We are committed to ensuring efficient liaison and providing meaningful consultation with Chippewas of the Thames First Nations throughout all stages of this project.

Thank you for your time.

JMFB

REPLY

Ministry of Tourism, Culture and Sport

Archaeology Programs Unit
Programs and Services Branch
Culture Division
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Tel.: (416) 314-7152
Email: John.Dunlop@ontario.ca

Ministère du Tourisme, de la Culture et du Sport

Unité des programmes d'archéologie
Direction des programmes et des services
Division de culture
401, rue Bay, bureau 1700
Toronto ON M7A 0A7
Tél. : (416) 314-7152
Email: John.Dunlop@ontario.ca

Nov 18, 2016

Matthew Beaudoin (P324)
Timmins Martelle Heritage Consultants Inc.
1600 Attawandaron London ON N6G 3M6

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 3 Archaeological Assessment Southwest Middlesex Certified Site Location 1&2 (AeHk-43 & AeHk-44), and Location 4 (AeHk-45) Part of Lot 24, Second Range North Geographic Township of Ekfrid Municipality of Southwest Middlesex Middlesex County, Ontario", Dated Oct 4, 2016, Filed with MTCS Toronto Office on Oct 6, 2016, MTCS Project Information Form Number P324-0117-2016, P324-0119-2016, P324-0118-2016, MTCS File Number 0004299

Dear Dr. Beaudoin:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.[1] This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Maps 9 and 10 of the above titled report and recommends the following:

A Stage 3 archaeological assessment consisting of historical background research and a CSC was conducted for Location 1&2 (AeHk-43 & AeHk-44), and Location 4 (AeHk-45), located within part of Lot 24, Second Range North in the Geographic Township of Ekfrid, now in the Municipality of Southwest Middlesex, in Middlesex County, Ontario. Our recommendations with respect to each of these locations are presented below.
1) Location 1&2 (AeHk-43 & AeHk-44) is a large multicomponent site with a late-19th/20th century component and an undiagnostic native component.
a. The 19th century component is a c. 1885 through 1930 domestic site spanning the ownership of the north part of Lot 24, Second Range North by the Thomson family. As the occupation of the site post-dates 1870, the site does not qualify for Stage 4 mitigation of construction impacts based on provincial standards. The site should be deemed sufficiently documented and no further assessment is recommended.
b. The native component of Location 1&2 is six undiagnostic lithic artifacts. The site does not meet

provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented.
2) Location 4 (AeHk-45) is a multicomponent site with a late-19th/20th century component and an undiagnostic native component.
a. The 19th century component is a c. 1885 through 1930 domestic site spanning the ownership of the north part of Lot 24, Second Range North by the Thomson family. As the occupation of the site post-dates 1870, the site does not qualify for Stage 4 mitigation of construction impacts based on provincial standards. The site should be deemed sufficiently documented and no further assessment is recommended.
b. The native component of Location 4 is two undiagnostic lithic artifacts. The site does not meet provincial criteria for Stage 3 testing and therefore no further work is recommended as the site is considered sufficiently documented.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

John Dunlop
Archaeology Review Officer

cc. Archaeology Licensing Officer
j newitt,Municipality of Southwest Middlesex
J newitt,Municipality of Southwest Middlesex

[1]In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Haudenosaunee Development Institute

Our Land, Our Law, Our People, Our Future

APPLICATION FOR CONSIDERATION
AND ENGAGEMENT FOR DEVELOPMENT

NOTE: *This application to be completed in quadruplicate.*

SECTION 1: APPLICANT INFORMATION

1.1 Name of applicant and full mailing address:

Spriet Associates London Limited
155 York Street, London ON N6A 1A8

Tel: 519-672-4100

Fax No.: 519-433-9351

1.2 Name of Registered owner(s) of subject land(s) and mailing address:

Municipality of Southwest Middlesex
153 McKellar Street, Glencoe ON N0L 1M0

1.3 Party who is to be contacted about the application (check one):

☒ Applicant ☐ Agent, Planning Consultant ☐ Owner ☐ Surveyor

Name and address:

Spriet Associates London Limited
155 York Street, London ON N6A 1A8

Tel: 519-672-4100

Fax No.: 519-433-9351

Email: mail@spriet.on.ca

SECTION 2: LOCATION OF LANDS PROPOSED TO BE DEVELOPED

2.1 Municipal address:

The subject property does not currently have a municipal address. The existing road allowance is generally described as: SOUTHWEST MIDDLESEX RANGE 2 NLR PT LOT 24 RP 33R19225 PART 3

2.2 Legal description (please attach survey):

2.3 Maps (please attach):

SECTION 3: PROPOSED AND CURRENT LAND USE

3.1 Current land use: (i.e. Agricultural, residential, commercial, industrial, other):

The current land use is vacant residential land with a portion being farmed.

3.2 Proposed use of subject land:

The Municipality of Southwest Middlesex is developing the Glencoe Industrial Park located on the south side of Industrial Drive in the community of Glencoe. The objective is to design and construct a new municipal road, watermains, sanitary sewers, storm sewers and a stormwater management facility needed to service industrial development within the project area. The proposed new road will extend from Industrial Road approximately 340 metres to a turn-around circle. This road is intended to serve industrial lots within the project area.

3.3 Are there any buildings or structures on the lands proposed to be developed?

If yes, are these buildings to be retained, demolished or otherwise removed?

The proposed limits of disturbance as part of this project do not contain any buildings or structures. However, there is one existing barn within a lot included within the study area that is anticipated to be removed in the future. Similarly, there is one existing sanitary pumping

SECTION 4: ADDITIONAL INFORMATION FOR THE SITE

4.1 Current zoning: M1-H-3

SECTION 5: ARCHAEOLOGY

5.1 Have any archaeology studies been completed? If yes please attach.

5.2 If no archaeology studies have been undertaken to date are any archaeology studies planned? Please include any relevant details.

SECTION 6: LAND TITLE

6.1 Please provide details and a history of the title including any information on the initial Crown patent and how the Crown obtained such patent.

SECTION 7: TIME FRAME

7.1 Please set out the scheduling proposed for the project and any significant dates.

For this phase of the project, a response from your office is requested by Friday August 15, 2025.

SECTION 8: OTHER PERMITS, LICENCES AND/OR APPROVALS

8.1 Please provide details with respect to any other permits, licences and/or approvals which the Applicant is seeking for the project from any municipal, provincial and/or federal authority.

See below.

SECTION 9: APPLICATION FEE

9.1 An application fee is enclosed in the amount of $ _____on the basis that the cost of the proposed project is:

- Less than $300,000 (fee of $3,000)
- Greater than $300,000 but less than $500,000 (fee of $5,000)
- Greater than or equal to $500,000 (fee of $7,000)

SECTION 10: OTHER INFORMATION

10.1 The HDI reserves the right to request such other information as it deems necessary in its sole discretion to process this application.

Section 8 Response:

With specific regard to the Class Environmental Assessment, we will ultimately be seeking acceptance from the Ministry of the Environment, Conservation and parks. However, numerous regulatory agencies, including the local Conservation Authority and DFO, will be consulted throughout the process. Following completion of the detailed design, formal permits, licences and/or approvals from the local Conservation Authority, DFO and Ministry of the Environment (via Form 1 and MECP ECA CLI processes) will be obtained.

SECTION 11: FORM OF APPLICATION

11.1 This form is provided for information purposes and requests the minimal information required to process an application. An applicant is free to amend the form as necessary and include such other information as necessary.

11.2 Application is to be provided to:

Haudenosaunee Development Institute
16 Sunrise Court, Suite 417
P.O. Box 714
Ohsweken, Ontario
N0A 1M0

SECTION 12: SIGNATURE OF APPLICANT

Name of Applicant:

Signature of Applicant:

Dated this _____ day of _____ , 20___.

Stage 3 Archaeological Assessment
Southwest Middlesex Certified Site
Location 1&2 (AeHk-43 & AeHk-44),
and Location 4 (AeHk-45)
Part of Lot 24, Second Range North
Geographic Township of Ekfrid
Municipality of Southwest Middlesex
Middlesex County, Ontario

SUPPLEMENTARY DOCUMENTATION
(to be removed for public circulation of this report)

Detailed Site Location Information

At Location 1&2, the location of significant landscape markers, edge of field, datum stakes and grid markers were recorded using a high precision Topcon RTK GRS Network Rover unit that records points with up to subcentimetre accuracy. At Location 4, GPS readings during Stage 3 CSC, including all of the artifact locations, were recorded using the Topcon GRS-1RTK GPS instrument. A table of sample fixed landscape markers also recorded during Stage 2 survey and tied into the identified site locations is also presented. All coordinates were recorded based on NAD 83.

Location	Zone	UTM Point	Accuracy
Fixed Landscape Markers Recorded Using the Garmin GPSmap76			
Manhole Cover in the Northwest Corner of Property	17T	0443184 E 4731976 N	3.6 m
Northwest Corner of Barn in the Southeast Corner of Property	17T	0443018 E 4731976 N	2.8 m

P324-0117-2016, Location 1 (AeHk-43) and P324-0118-2016, Location 2 (AeHk-44)

Stage 2 Results

Location 1 consisted of a scatter of 175 late 19th century domestic artifacts, one modern item and an undiagnostic pre-contact artifact. It was identified in the northern corner of the property, just south of the pumping station and gravel road (roughly 20 metres from the eastern field boundary and 20 metres from the northern boundary). Location 1 was found to be a c.1880-1915 site, coinciding with the Thomson occupation of the lot in the late 19th century. The site generated more than 20 artifacts pre-dating 1900 and appeared to relate to a late-19th century occupation of the property. Given this, the site was found to have further cultural heritage value and interest (CHVI) and met provincial criteria for further investigation. It was recommended, as per Section 7.2.1 of *The Archaeology of Rural Historical Farmsteads: A Technical Bulletin for Consultant Archaeologists in Ontario,* that further background research and Stage 3 CSC, in combination with the Stage 2 survey results, may be adequate in order to sufficiently document Location 1.

The native component of Location 1 was a single utilized flake of indeterminate cultural or temporal affiliation. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre area (MTC 2011:41; Section 2.2, Standard 1.a.i), the native component of Location 1 did not meet provincial standards for Stage 3 assessment.

Location 2 consisted of a scatter of 207 late 19th century domestic artifacts, four modern objects and an undiagnostic pre-contact artifact. It was identified in the center of the northern portion of the property, around 10 metres southeast of Location 1 (roughly 75 metres from the eastern field boundary and 100 metres from the northern boundary). Similar to Location 1, Location 2 was identified as a c.1880-1915 site, which coincides with the Thomson occupation of the lot in the late 19th century. The site generated more than 20 artifacts pre-dating 1900 and appeared to relate to a late-19th century occupation of the property. Given this, the site was found to have further CHVI and meet provincial criteria for further investigation. It was recommended, as per Section 7.2.1 of *The Archaeology of Rural Historical Farmsteads: A Technical Bulletin for Consultant Archaeologists in Ontario,* that further background research and Stage 3 CSC, in combination with the Stage 2 survey results, may be adequate in order to sufficiently document Location 2.

The native component of Location 2 is a single retouched flake of indeterminate cultural or temporal affiliation. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre area (MTC 2011:41; Section 2.2, Standard 1.a.i), the native component of Location 2 did not meet provincial standards for Stage 3 assessment.

Stage 3 CSC Results

Due to the close proximity of Locations 1 and 2, and the consistent timeframe of the sites established from the Stage 2, the grid was established over both sites, and the CSC was conducted for these two sites combined. The surface collection was undertaken using five by five metre grid units as is appropriate for large sites. A total of 1,248 items were collected from Location 1&2, including 54 modern items, six native lithics and 1,188 historical artifacts. The artifact assemblage dates c.1885-1930. Historical background research indicates that Location 1&2 is most likely associated with the habitation of the Thomson family who owned and lived on the property from c.1873 and into the 20th century (c.1917). Assuming that the Thomson homestead fronted Dundonald Road, the scatter at Location 1&2 could possibly represent a 'back forty' dump, based on its location at the 'rear' of the lot. Since the site post-dates 1870, the 19th century component of Location 1&2 has been sufficiently documented and does not qualify for further Stage 3 archaeological assessment or Stage 4 mitigation.

The native component of Location 1&2 consists of two bifaces and four flakes of indeterminate cultural or temporal affiliation. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre pedestrian survey area (MTC 2011:41; Section 2.2, Standard 1.a.i), the native component of Location 1&2 does not meet provincial standards for Stage 3 assessment.

GPS Coordinates

Point	Zone	UTM	Accuracy	Elevation
Centre	17T	443225.357E 4732303.46N	1 m	216 m
North Boundary	17T	443154.7E 4732234.32N	1 m	217 m
West Boundary	17T	443292.548E 4732250.915N	1 m	214 m
South Boundary	17T	443352.901E 4732331.204N	1 m	216 m
East Boundary	17T	443133.931E 4732354.736N	1 m	214 m
Datum 1	17T	443310.824E 4732381.463N	1 m	217 m
Datum 2	17T	443308.086E 4732384.241N	1 m	217 m

P324-0119-2016, Location 4 (AeHk-45)

Stage 2 Results

Location 4 consisted of a scatter of 74 late 19th century domestic artifacts and eight modern objects. Location 4 was identified in the southern corner of the property, southeast of the barn (roughly 20 metres from the barn and 50 metres from the eastern field boundary). Location 4 was also identified as a c.1880-1915 site, coinciding with the Thomson occupation of the lot in the late 19th century. The site generated more than 20 artifacts pre-dating 1900 and appeared to relate to a late-19th century occupation of the property. Given this, the site was found to have further CHVI and meet provincial criteria for further investigation. It was recommended that if post-1870 occupation is confirmed via land registry research and additional archaeological research, the site would not qualify for Stage 4 mitigation given that the years of occupation post-date 1870 (Section 3.4.2 Standard 1.a). As per Section 7.2.1 of *The Archaeology of Rural Historical Farmsteads: A Technical Bulletin for Consultant Archaeologists in Ontario,* further background research and Stage 3 CSC, in combination with the Stage 2 survey results, was recommended, as this may be adequate in order to sufficiently document Location 4.

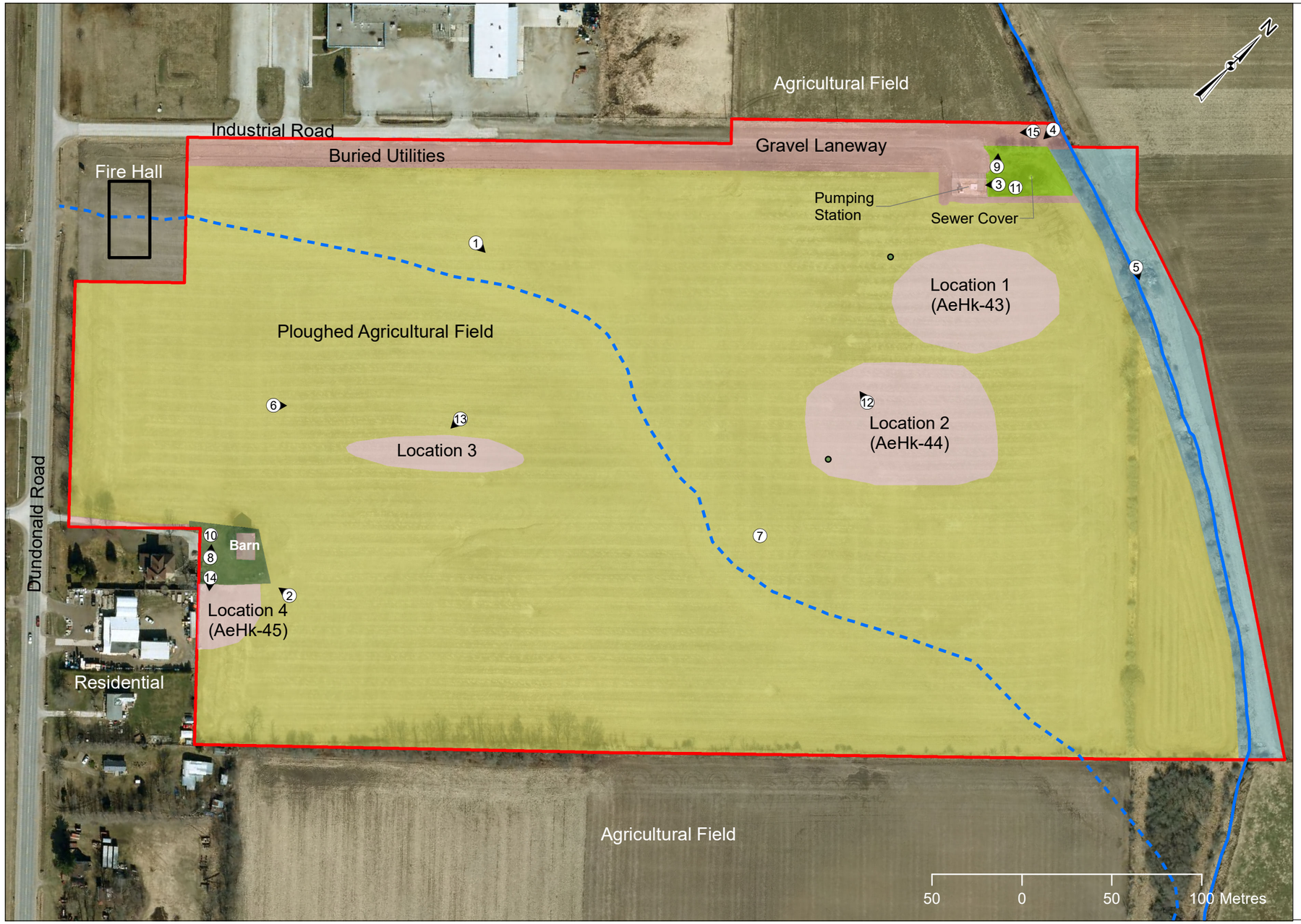
Stage 3 CSC Results

For the Stage 3 CSC at Location 4, artifacts identified on the surface were flagged and their location mapped using a Topcon GRS-1 RTK GPS/Glonass Network Rover, a high precision survey unit that advertises subcentimetre accuracy. A total of 183 items were collected from Location 4 including 19 modern items, two native lithic artifacts and 162 historical artifacts. The artifact assemblage dates c.1885-1930. Location 4 is most likely associated with the habitation of the Thomson family (c.1873-1917). The details of the residence for the Thomson family indicated in the available censuses suggest that the family lived in a two-storey brick house, although the 1878 map unfortunately does not depict the location of the house on the property. The extant house on the lot, which matches the description of the Thomson homestead, fronts Dundonald Road. Given the location of the site, behind the existing brick house, Location 4 could represent a more accessible refuse area used by the Thomson family. Since the site post-dates 1870, the 19th century component of Location 4 was found to have been sufficiently documented and does not qualify for Stage 3 assessment.

The native component of Location 4 consists of only a burnt flake and an undiagnostic projectile point fragment. Based on the recovery of fewer than ten non-diagnostic artifacts within a 10 metre by 10 metre pedestrian survey area (MTC 2011:41; Section 2.2, Standard 1.a.i), the native component of Location 4 does not meet provincial standards for Stage 3 assessment.

GPS Coordinates

Point	Zone	UTM	Accuracy	Elevation
Centre	17T	443047.928E 4731921.612N	1 m	217 m
North Boundary	17T	443035.278E 4731911.193N	1 m	217 m
West Boundary	17T	443066.113E 4731897.735N	1 m	215 m
South Boundary	17T	443061.482E 4731959.744N	1 m	218 m
East Boundary	17T	443035.36E 4731945.554N	1 m	218 m
Projectile Point	17T	443080.127E 4731924.843N	1 m	217 m
Chipping Detritus	17T	443072.237E 4731924.604N	1 m	217 m



Timmins Martelle Heritage Consultants Inc.

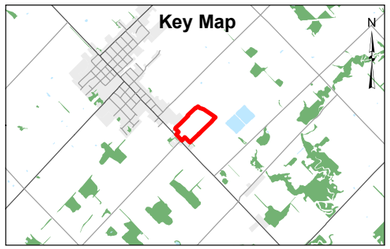
- Subject Property
- Report Photo/Image Location & Orientation

Water Course
- Former Watercourse
- Glencoe Outlet Drain

Areas of Archaeological Potential
- Ploughed Agricultural Field (Pedestrian Survey, 5m)
- Manicured Lawn (Test Pit Survey, 5m)
- Confirmed Disturbance (Test Pit Survey, 10m)

Areas of Low Archaeological Potential
- Disturbed (Photo-Documented)
- Low Lying and Wet (Photo-Documented)

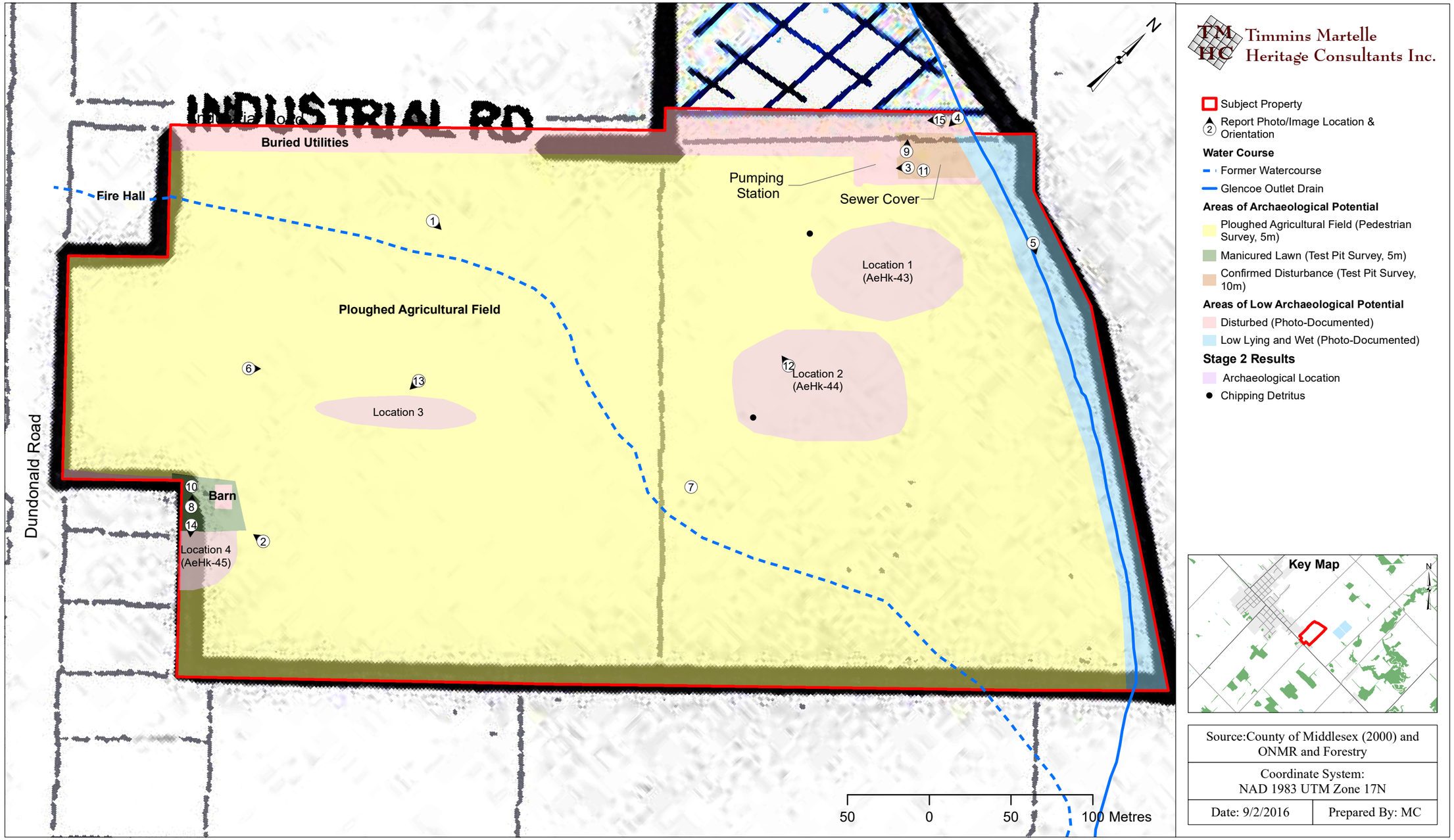
Stage 2 Results
- Archaeological Location
- Chipping Detritus



Source: SWOOP (2010) and OMNR and Forestry	
Coordinate System: NAD 1983 UTM Zone 17N	
Date: 9/2/2016	Prepared By: MC

SD Map 1: Stage 2 Field Conditions and Assessment Methods and Location of Archaeolgical Sites

Z:\Desktop Mapping\Projects\2016-027 Southwest Middlesex Certified Site (Glencoe) St. 3 CSP\Maps\Stage 2\Results.mxd

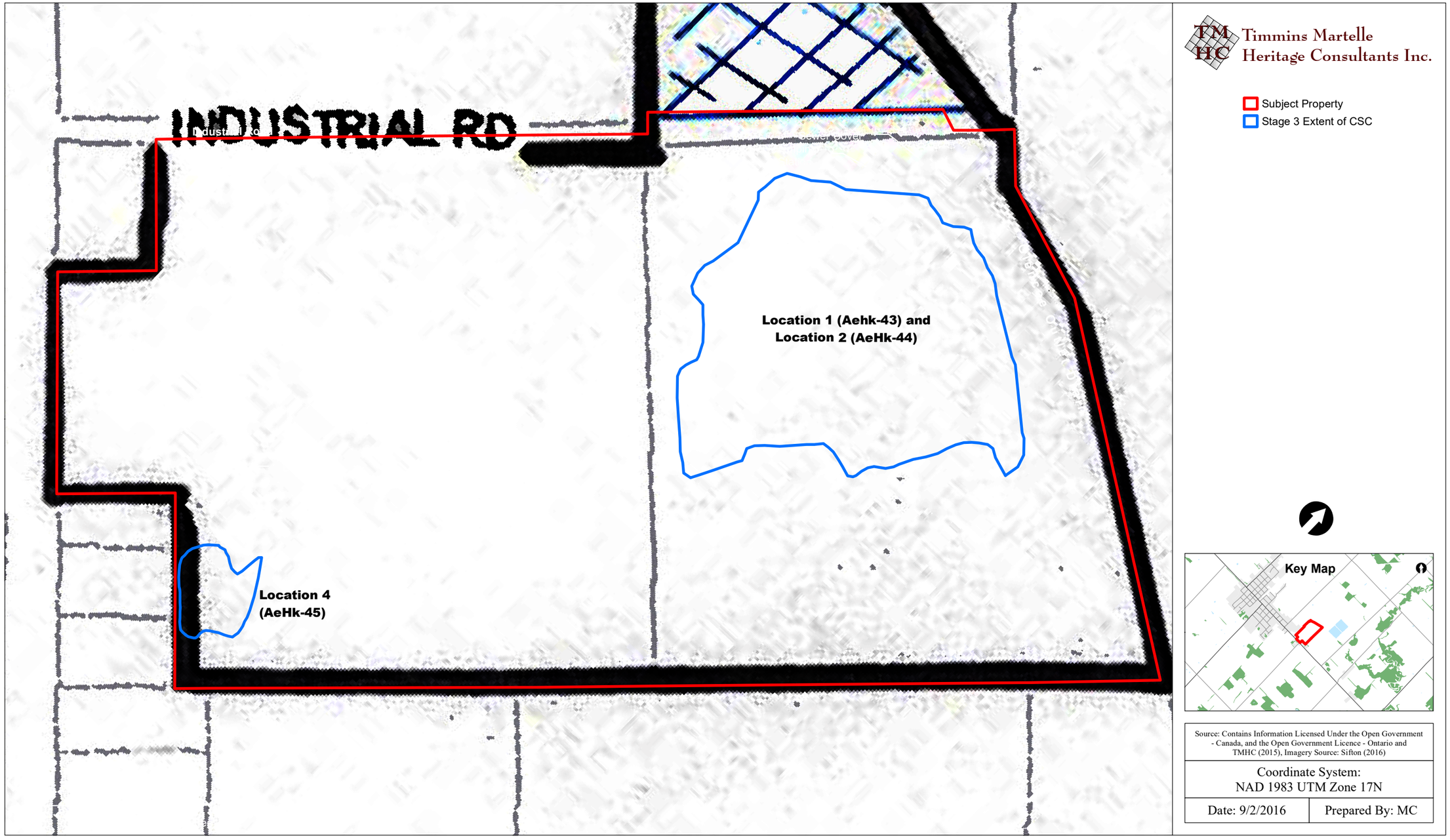


SD Map 2: Stage 2 Field Conditions, Assessment Methods and Location of Archaeological Sites Shown on Proponent Mapping

Z:\Desktop Mapping\Projects\2016-027 Southwest Middlesex Certified Site (Glencoe) St. 3 CSP\Maps\Stage 2\Results_Proponent.mxd

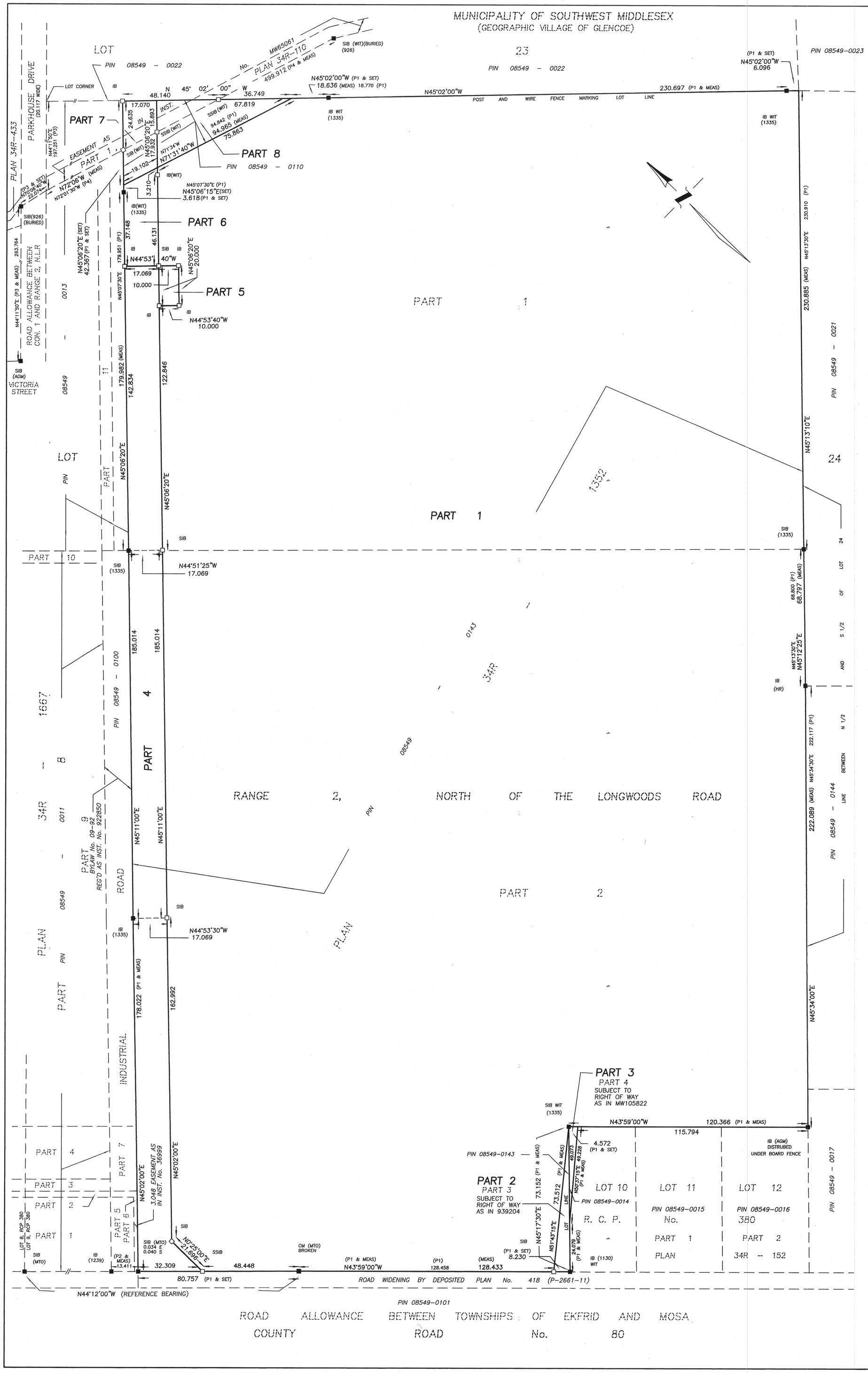
SD Map 3: Extent of Stage 3 CSC for Location 1&2 (AeHk-43 & AeHk-44) and Location 4 (AeHk-45)

Z:\Desktop Mapping\Projects\2016-027 Southwest Middlesex Certified Site (Glencoe) St. 3 CSP\Maps\Stage 3\Overview.mxd



SD Map 4: Stage 3 CSC Results with Location Data on Proponent Mapping

Z:\Desktop Mapping\Projects\2016-027 Southwest Middlesex Certified Site (Glencoe) St. 3 CSP\Maps\Stage 3\Overview_Proponent.mxd



I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE LAND TITLES ACT.

DATE MARCH 5, 2009

IAN C. McLAREN, O.L.S.

PLAN 33R-17455
RECEIVED AND DEPOSITED

DATE March 6/09

FRAN JAMES
A DEP. LAND REGISTRAR FOR THE LAND TITLES DIVISION OF MIDDLESEX (No. 33)

PART	LOT	RANGE	PLAN	PIN
1,2,4,5 & 6	Pt. 24	2 N.L.R		All of 08549-0143
3	Pt. 10		RCP. 380	Pt. 08549-0014
7 & 8	Pt. 24	2 N.L.R		ALL OF 08549-0110
2	SUBJECT TO RIGHT OF WAY AS IN INST. NO. 939204			
3	SUBJECT TO RIGHT OF WAY AS IN INST. NO. MW105822			

PLAN OF SURVEY

OF PART OF
LOT 24, RANGE 2
NORTH OF THE LONGWOODS ROAD
AND PART OF
LOT 10
REGISTRAR'S COMPILED PLAN No. 380
(GEOGRAPHIC VILLAGE OF GLENCOE)
IN THE
MUNICIPALITY OF SOUTHWEST MIDDLESEX
COUNTY OF MIDDLESEX

SCALE 1 : 1000

10 0 10 20 30 40 Metres

I.C. McLAREN LIMITED

METRIC: DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE EASTERLY LIMIT OF COUNTY ROAD No. 80 AS SHOWN ON PLAN 418, NAMELY N44°12'W.

□	DENOTES PLANTED MONUMENT
■	DENOTES FOUND MONUMENT
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
IBø	DENOTES ROUND IRON BAR
IB	DENOTES IRON BAR
WIT	DENOTES WITNESS MONUMENT
1335	DENOTES IAN C. McLAREN O.L.S.
AGM	DENOTES ARCHIBALD, GRAY & McKAY LTD. O.L.S's
SU	DENOTES SOURCE UNKNOWN
1239	DENOTES R. BARRY, O.L.S.
1130	DENOTES R. RUPERT, O.L.S.
P1	DENOTES PLAN 34R-1352
P2	DENOTES PLAN 34R-1667
HR	DENOTES HOLSTEAD & REDMOND LTD., O.L.S.
926	DENOTES J. D. NESBITT, O.L.S.
P3	DENOTES PLAN 34R-433
NLR	DENOTES NORTH OF THE LONGWOODS ROAD
P4	DENOTES PLAN 34R-110

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

(1) THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT, AND THE REGULATIONS MADE UNDER THEM

(2) THIS SURVEY WAS COMPLETED ON THE 11th DAY OF FEBRUARY, 2009.

DATE FEBRUARY 11, 2009

IAN C. McLAREN
ONTARIO LAND SURVEYOR

I.C. McLAREN LIMITED
ONTARIO LAND SURVEYOR
52 NORTH STREET, STRATHROY ONTARIO
N7G 1Z3 245-4300

FILE No. 08-06318

Barbaralee Vail

From: NationsConnect <support@nationsconnect.ca>
Sent: June 19, 2025 12:27 PM
To: Mail
Subject: NationsConnect: Submission on hold pending corrections regarding Glencoe Industrial Park 2025

A reply has been sent from Sophia Torres and you have been involved in the conversation or were indicated as a person to notify.

Subject: Submission on hold pending corrections

Body:

Hi Barbaralee,

This project has been distributed.

Sophia

View conversation in NationsConnect

Barbaralee Vail

From: [redacted]
Sent: June 20, 2025 2:05 PM
To: Mail
Subject: Job # 225147-1 Glencoe Industrial Park: Tower Road

Hi Chris Lierman:

I received a mail addressed to my company, TRADETEK Automations Inc., regarding servicing for Glencoe's Business Park. I am aware of this project and, acknowledge the notification

Kindly, let me know, what is required furthermore, in order to proceed with the response. Thanks

Sincerely,

[redacted]

www.estated.ca

Estated, Inc.
20 Bay Street, 11th Floor, Toronto, Ontario M5J2N8, Canada

ESTATED

The contents of this email are confidential and intended for the recipient of this email.

APPENDIX ‘G’

Preliminary Design Drawings

Prepared by Spriet Associates

INSTALL LIGHT-DUTY STRAW BALE BARRIER (TYP.)

INDUSTRIAL ROAD

TOWER AVE.

INSTALL LIGHT-DUTY STRAW BALE BARRIER (TYP.)

PROPOSED x2 BOLLARDS SEE DETAIL THIS SHEET

DUNDONALD ROAD

CENTREVILLE DRIVE

GLENCOE OUTLET DRAIN

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

LOT 9

LOT 10

LOT 11

PROPOSED SILT FENCE (OPSD 219.130)

PROPOSED 22.0m-1630x1120 C.S.P. CULVERT

PROPOSED 12.0m-1630x1120 C.S.P. CULVERT

INDUSTRIAL PARK LIMITS

PROPOSED SILT FENCE (OPSD 219.130)

61.5-900 STM-0.25%

90.0-975 STM-0.25%

90.0-975 STM-0.25%

43.5-675 STM-0.50%

55.0-375 STM-0.50%

180.0-1500 STM-0.16%

35.0-1500 STM-0.18%

45° BEND

6.0-1500 STM-0.08%

REMOVE EX. TREE (1)

PROPOSED SILT FENCE (OPSD 219.130)

REMOVE EX. TREE (1)

REMOVE EX. TREE (2)

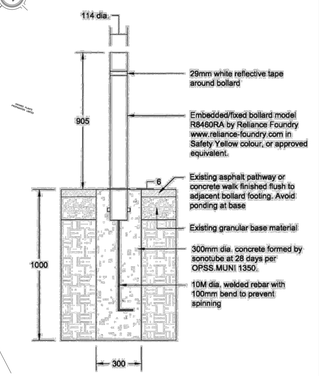
INDUSTRIAL PARK LIMITS

PROP. ACCESS MAINTENANCE PATH, 10:1 OR FLATTER (150mm GRAN. 'A' 300mm GRAN. 'B')

PROPOSED SILT FENCE (OPSD 219.130)

PROP. ACCESS MAINTENANCE PATH, 10:1 OR FLATTER (200mm GRANULAR 'A' 50mm TOPSOIL AND SEED)

PRELIMINARY



SOLID BOLLARD DETAIL

N.T.S.

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	CSL
DRAWN BY	PM
CHECKED	CSL
APPROVED	CSL
DATE	SEPT. 2025
225147-00	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:1000
VERT. 1:50
10.0m 0 20.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025

MASTER PLAN OF SERVICES & EROSION CONTROL

PROJECT No. 225147

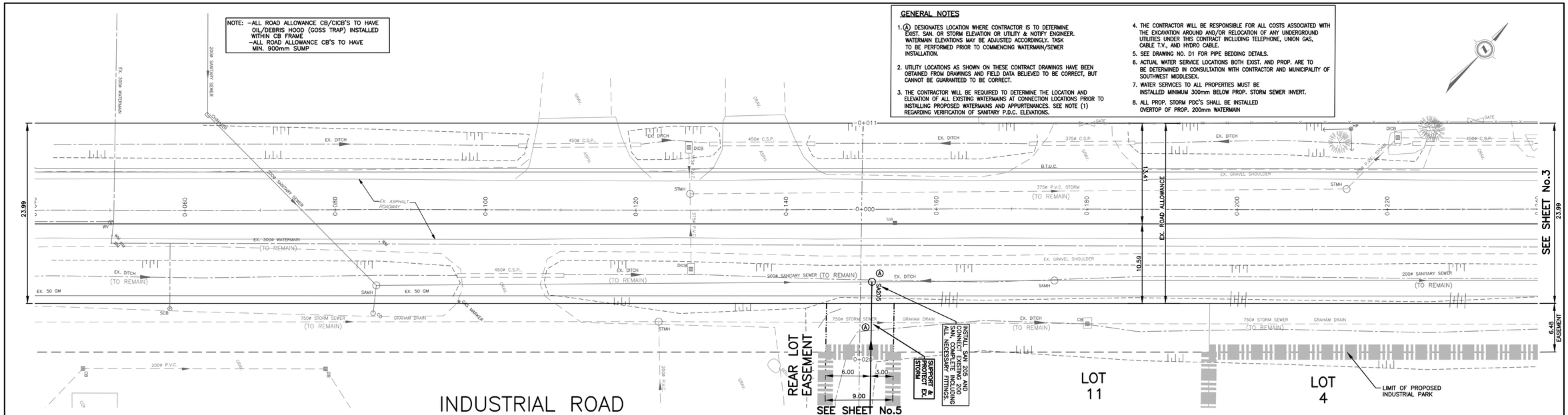
SHEET No. 1

PLAN FILE No.

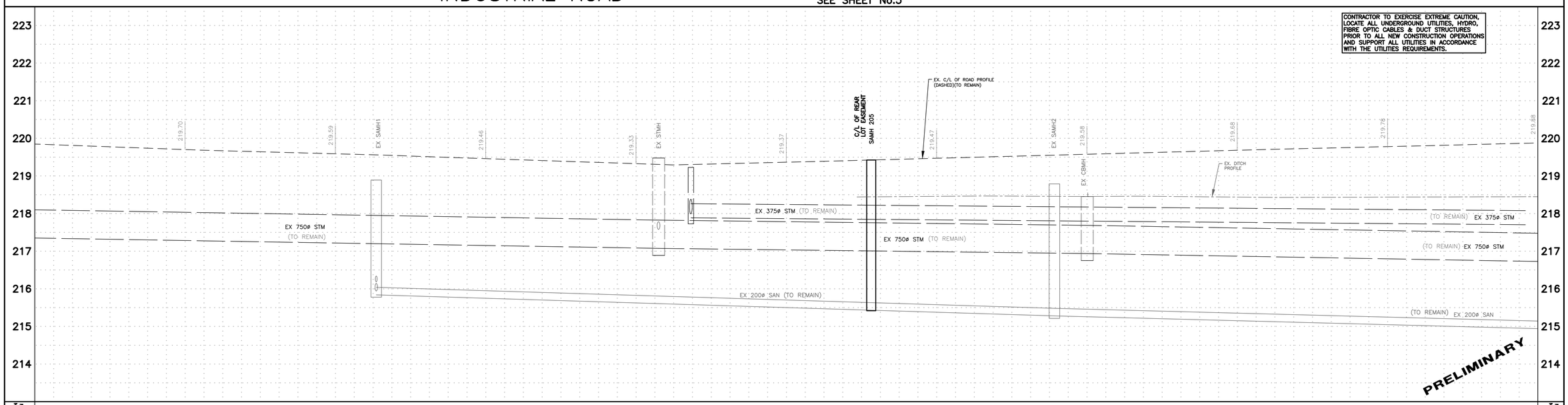
NOTE: –ALL ROAD ALLOWANCE CB/CICB'S TO HAVE OIL/DEBRIS HOOD (GOSS TRAP) INSTALLED WITHIN CB FRAME
–ALL ROAD ALLOWANCE CB'S TO HAVE MIN. 900mm SUMP

GENERAL NOTES

1. (A) DESIGNATES LOCATION WHERE CONTRACTOR IS TO DETERMINE EXIST. SAN. OR STORM ELEVATION OR UTILITY & NOTIFY ENGINEER. WATERMAIN ELEVATIONS MAY BE ADJUSTED ACCORDINGLY. TASK TO BE PERFORMED PRIOR TO COMMENCING WATERMAIN/SEWER INSTALLATION.
2. UTILITY LOCATIONS AS SHOWN ON THESE CONTRACT DRAWINGS HAVE BEEN OBTAINED FROM DRAWINGS AND FIELD DATA BELIEVED TO BE CORRECT, BUT CANNOT BE GUARANTEED TO BE CORRECT.
3. THE CONTRACTOR WILL BE REQUIRED TO DETERMINE THE LOCATION AND ELEVATION OF ALL EXISTING WATERMAINS AT CONNECTION LOCATIONS PRIOR TO INSTALLING PROPOSED WATERMAINS AND APPURTENANCES. SEE NOTE (1) REGARDING VERIFICATION OF SANITARY P.D.C. ELEVATIONS.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE EXCAVATION AROUND AND/OR RELOCATION OF ANY UNDERGROUND UTILITIES UNDER THIS CONTRACT INCLUDING TELEPHONE, UNION GAS, CABLE T.V., AND HYDRO CABLE.
5. SEE DRAWING NO. D1 FOR PIPE BEDDING DETAILS.
6. ACTUAL WATER SERVICE LOCATIONS BOTH EXIST. AND PROP. ARE TO BE DETERMINED IN CONSULTATION WITH CONTRACTOR AND MUNICIPALITY OF SOUTHWEST MIDDLESEX.
7. WATER SERVICES TO ALL PROPERTIES MUST BE INSTALLED MINIMUM 300mm BELOW PROP. STORM SEWER INVERT.
8. ALL PROP. STORM PDC'S SHALL BE INSTALLED OVERTOP OF PROP. 200mm WATERMAIN



CONTRACTOR TO EXERCISE EXTREME CAUTION, LOCATE ALL UNDERGROUND UTILITIES, HYDRO, FIBRE OPTIC CABLES & DUCT STRUCTURES PRIOR TO ALL NEW CONSTRUCTION OPERATIONS AND SUPPORT ALL UTILITIES IN ACCORDANCE WITH THE UTILITIES REQUIREMENTS.



STATION	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240
STORM SEWER INVERT				217.58S 217.08W 217.08E			216.94W 216.94E			
SANITARY SEWER INVERT		215.94NW 216.19S 215.84E					215.28W 215.28E			

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
					DESIGN JDA				
					DRAWN BY JDA				
					CHECKED CSL				
					APPROVED CSL				
					DATE JULY,2025				
					225147				

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
INDUSTRIAL ROAD
FROM 110.0m WEST OF REAR LOT EASEMENT TO STA. 0+240.0 EAST

PROJECT No. 225147
SHEET No. 2
PLAN FILE No.

GENERAL NOTES

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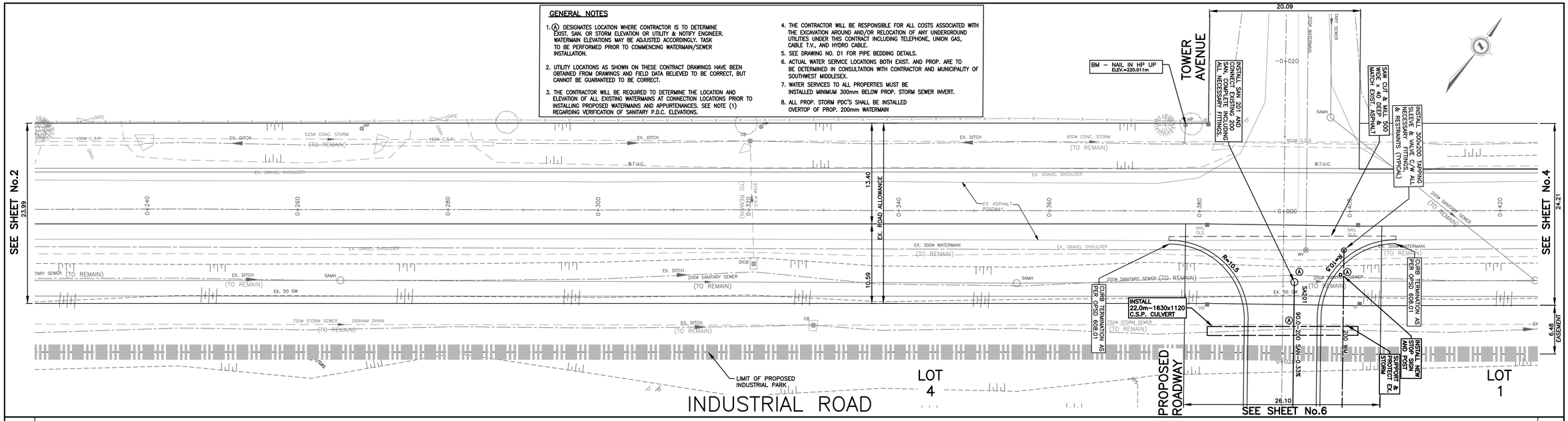
8. ALL PROP. STORM PDC'S SHALL BE INSTALLED OVERTOP OF PROP. 200mm WATERMAIN



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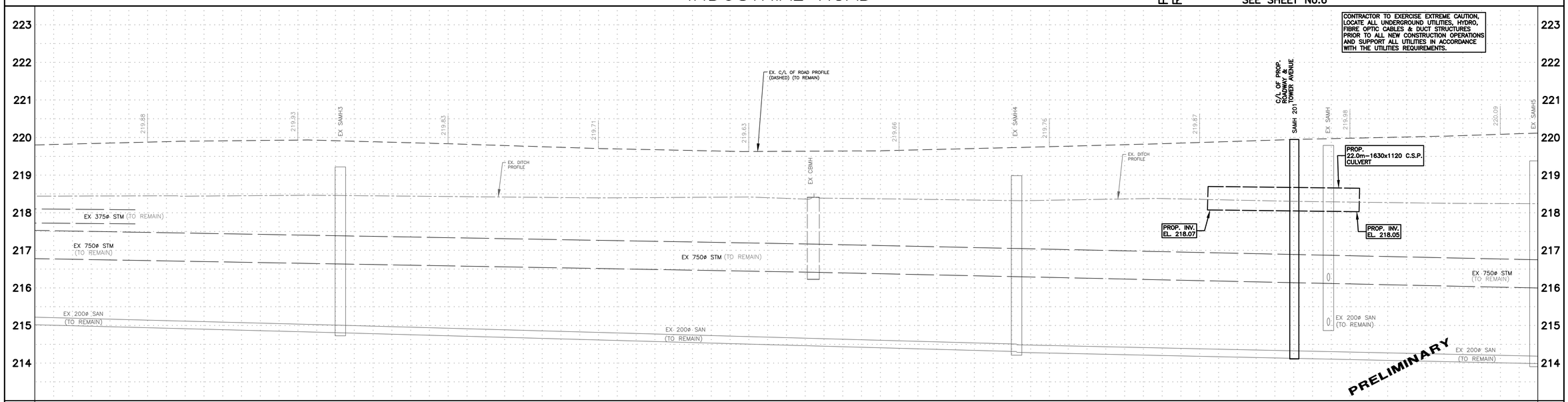

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
INDUSTRIAL ROAD
FROM STA. 0+240.0
TO 32.0m EAST OF TOWER AVENUE

PROJECT No. 225147
SHEET No. 3
PLAN FILE No.

GENERAL NOTES

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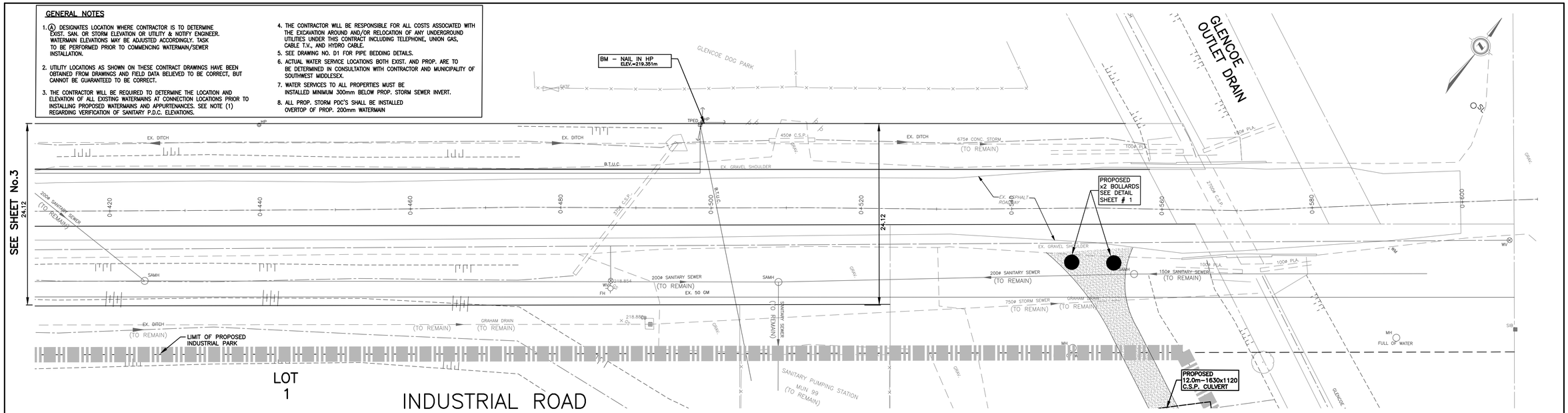

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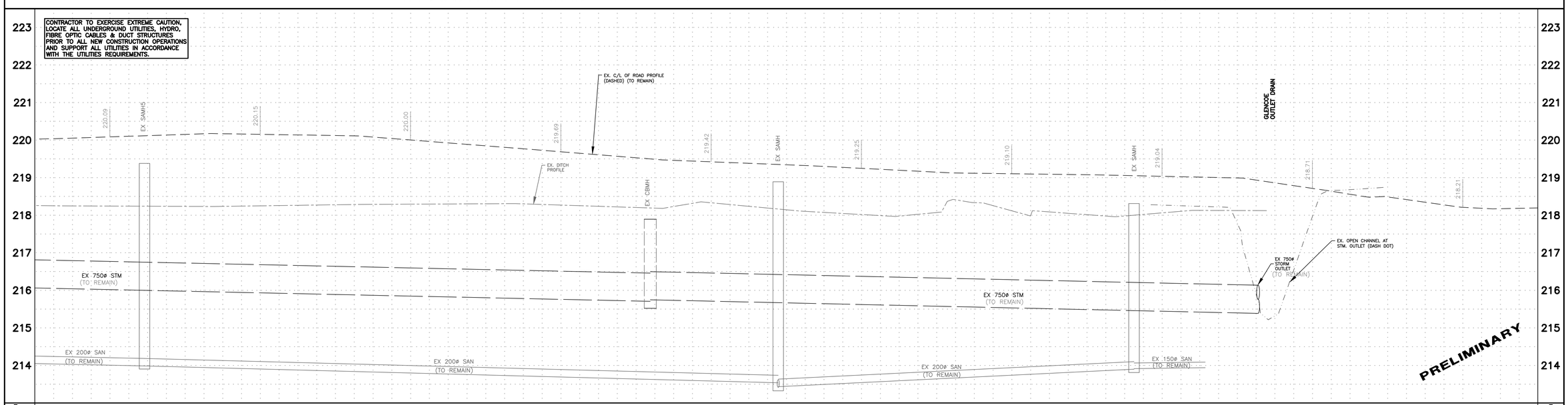


STATION	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600
C/L WATERMAIN ELEVATION										
STORM SEWER INVERT					215.71W 215.75E			215.39W		
SANITARY SEWER INVERT	213.99W 213.99E				213.54W 213.44E 213.42S			213.90W 213.92E		

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

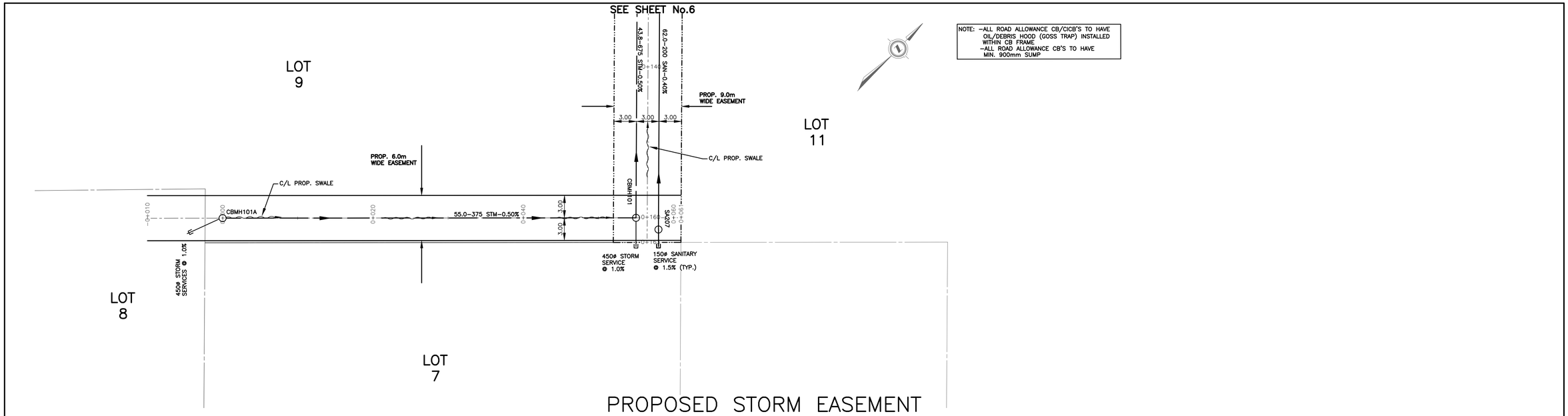
ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

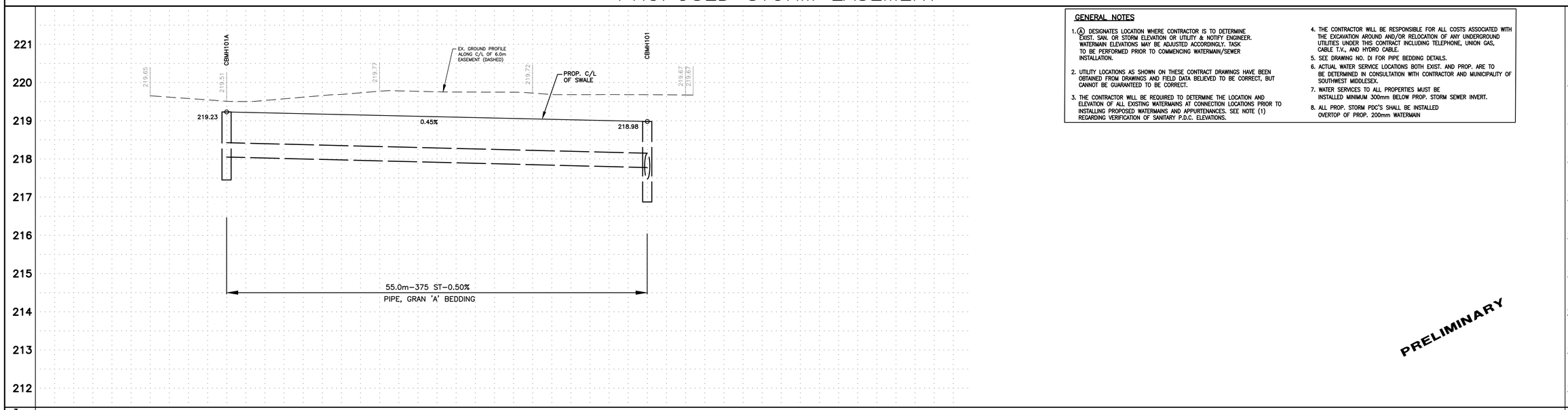
SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
INDUSTRIAL ROAD
FROM 17.0m EAST OF TOWER AVENUE TO GLENCOE OUTLET DRAIN

PROJECT No. 225147
SHEET No. 4
PLAN FILE No.



NOTE: –ALL ROAD ALLOWANCE CB/CICB'S TO HAVE OIL/DEBRIS HOOD (GOSS TRAP) INSTALLED WITHIN CB FRAME.
–ALL ROAD ALLOWANCE CB'S TO HAVE MIN. 900mm SUMP



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PRELIMINARY

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

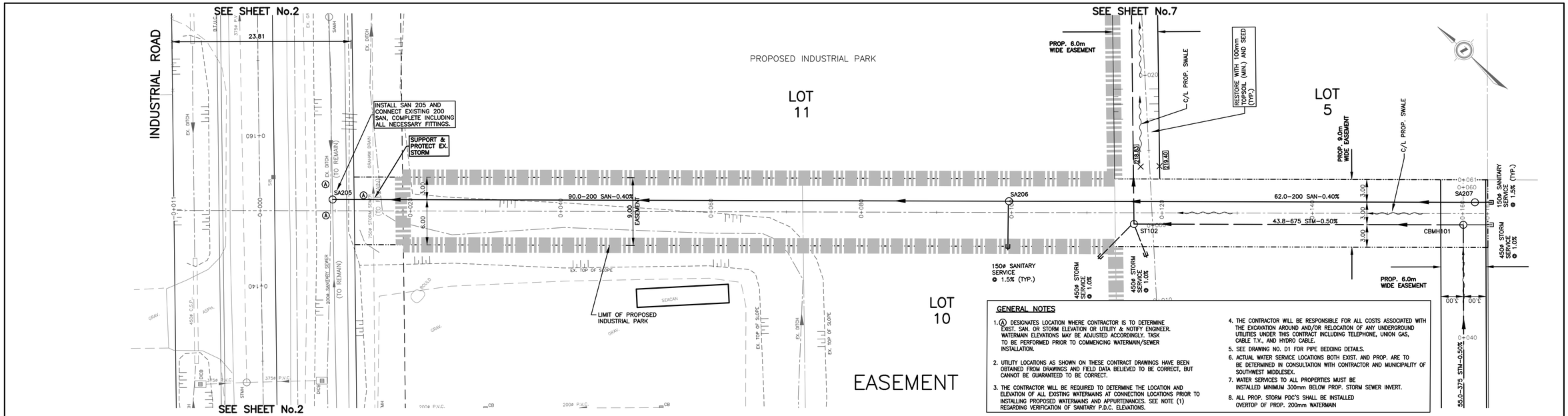
ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
PROPOSED EASEMENT
FROM STA. 0+000
TO STA. 0+060.0

PROJECT No. 225147
SHEET No. 5
PLAN FILE No.



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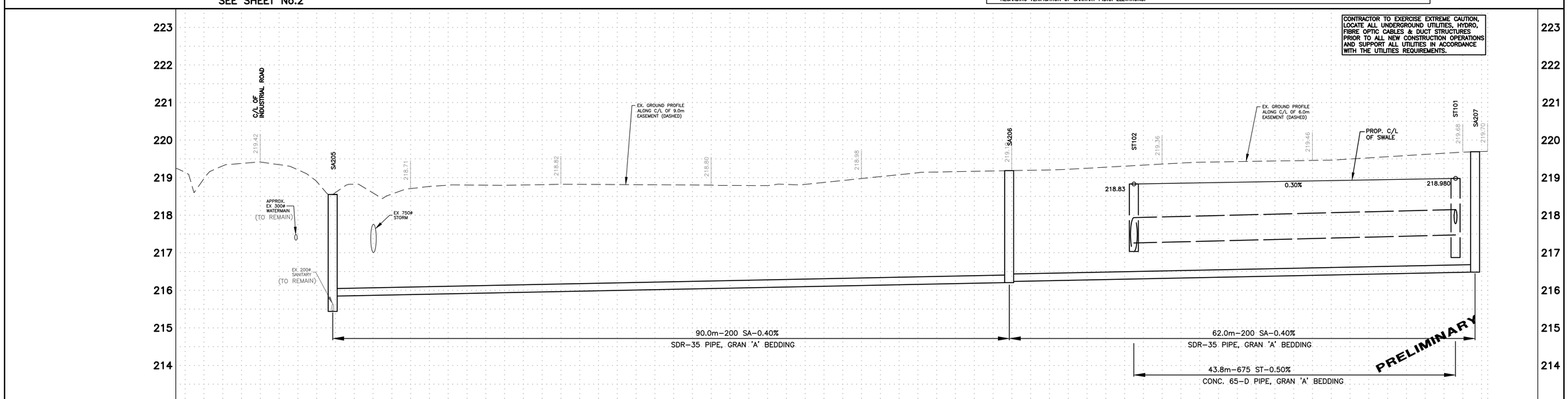
8. ALL PROP. STORM PDC'S SHALL BE INSTALLED OVERTOP OF PROP. 200mm WATERMAIN

CONTRACTOR TO EXERCISE EXTREME CAUTION, LOCATE ALL UNDERGROUND UTILITIES, HYDRO, FIBRE OPTIC CABLES & DUCT STRUCTURES PRIOR TO ALL NEW CONSTRUCTION OPERATIONS AND SUPPORT ALL UTILITIES IN ACCORDANCE WITH THE UTILITIES REQUIREMENTS.



STATION	0+000	0+009.4	0+015.1	0+020	0+040	0+060	0+080	0+098.4	0+105.1	0+120	0+140	0+159.1	0+160	0+161.7	0+163.31
C/L WATERMAIN ELEVATION															
STORM SEWER INVERT			217.006 W 217.078 S 217.006 E							217.035 E 217.260 S		217.474 N 217.774 W			
SANITARY SEWER INVERT		225.439 W 225.519 S 225.439 E						216.905 N 216.335 S						216.483 N	

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

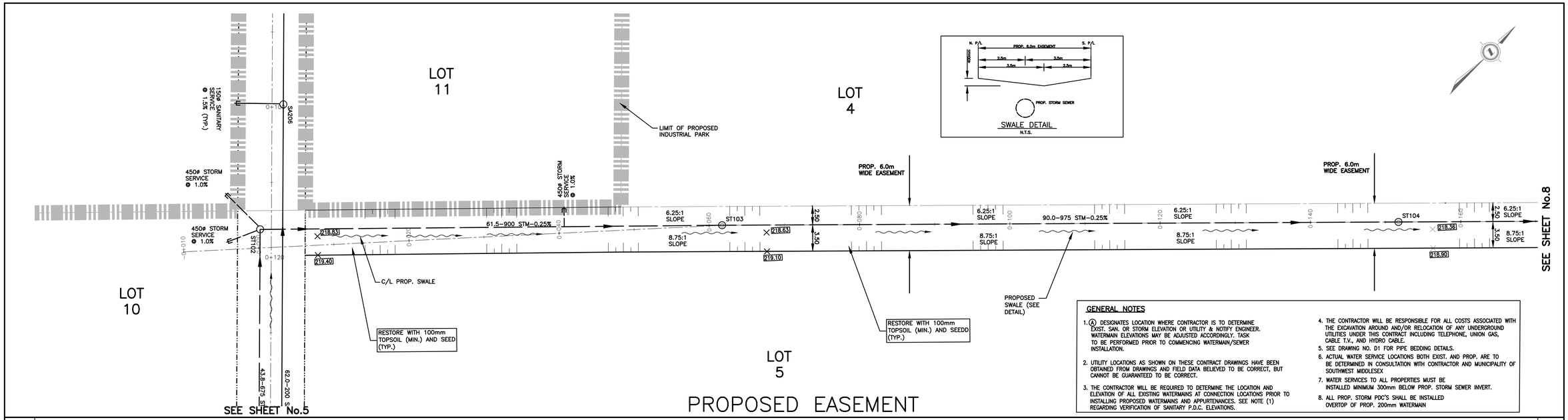
SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE

GLENCOE INDUSTRIAL PARK 2025

REAR LOT EASEMENT
FROM INDUSTRIAL ROAD
TO 163.0m S. OF INDUSTRIAL ROAD

PROJECT No. 225147
SHEET No. 6
PLAN FILE No.



GENERAL NOTES

1. (A) DESIGNATES LOCATION WHERE CONTRACTOR IS TO DETERMINE EXIST. SAN. OR STORM ELEVATION OR UTILITY & NOTIFY ENGINEER. WATERMAIN ELEVATIONS MAY BE ADJUSTED ACCORDINGLY. TASK TO BE PERFORMED PRIOR TO COMMENCING WATERMAIN/SEWER INSTALLATION.
2. UTILITY LOCATIONS AS SHOWN ON THESE CONTRACT DRAWINGS HAVE BEEN OBTAINED FROM DRAWINGS AND FIELD DATA BELIEVED TO BE CORRECT, BUT CANNOT BE GUARANTEED TO BE CORRECT.
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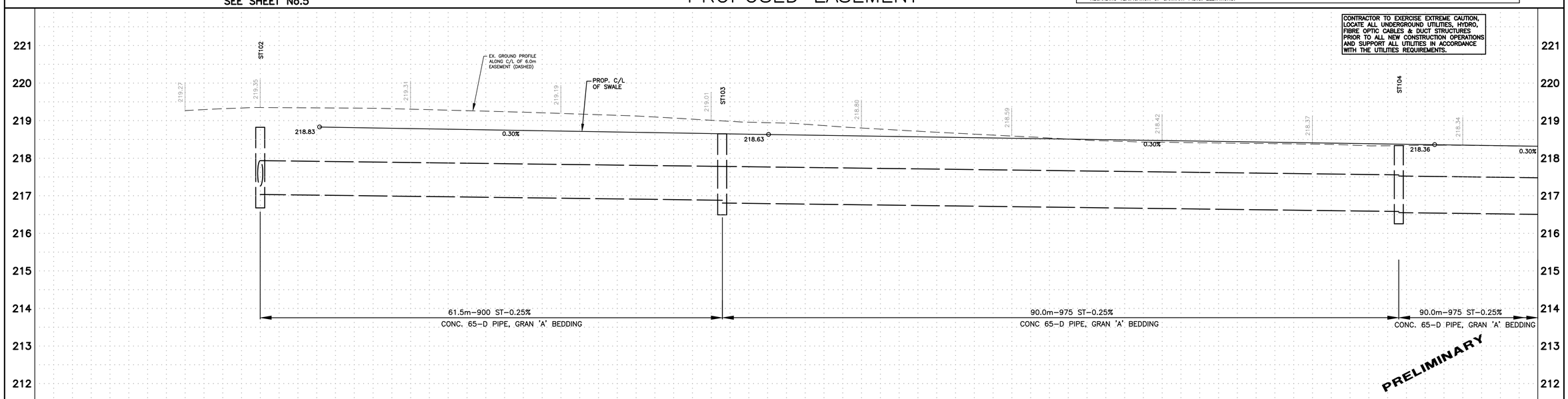


EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

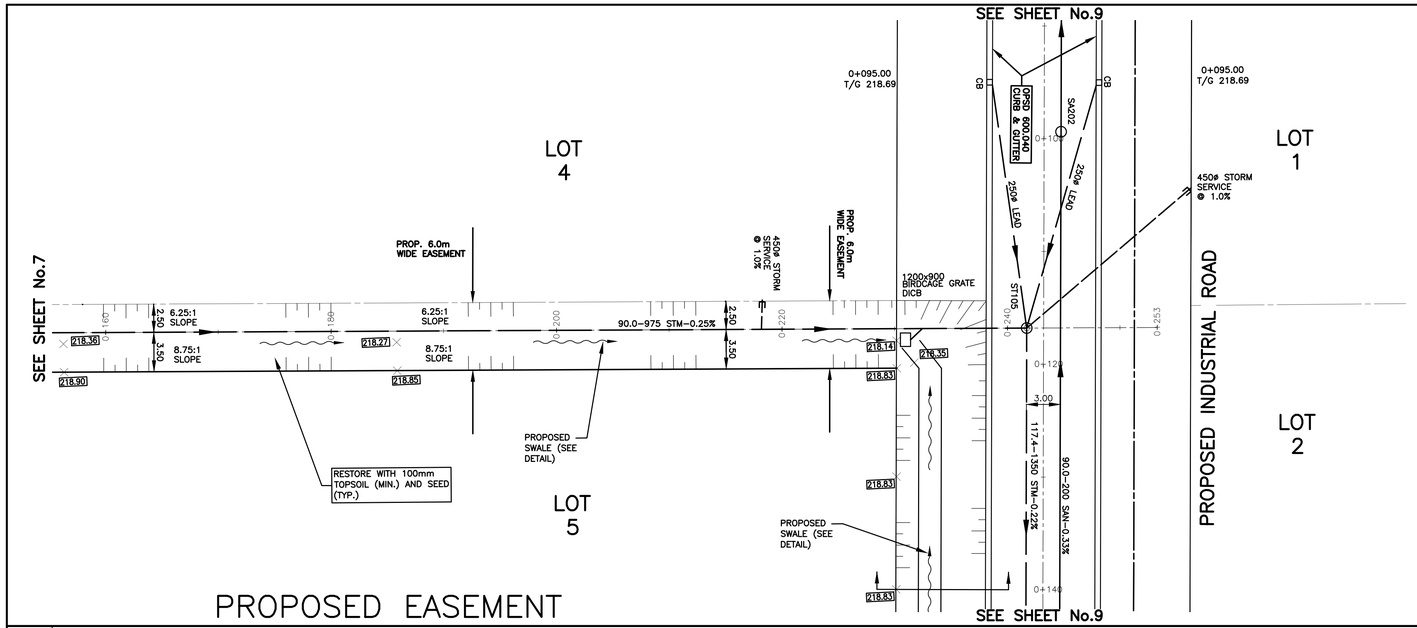
SOUTHWEST MIDDLESEX

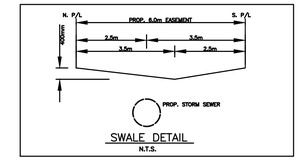
SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025

PROPOSED EASEMENT
FROM STA 0+000
TO STA. 0+170.0

PROJECT No. 225147
SHEET No. 7
PLAN FILE No.





NOTE: –ALL ROAD ALLOWANCE CB/CICB'S TO HAVE OIL/DEBRIS HOOD (GOSS TRAP) INSTALLED WITHIN CB FRAME
–ALL ROAD ALLOWANCE CB'S TO HAVE MIN. 900mm SUMP

NOTE:

1. (A) DESIGNATES LOCATION WHERE CONTRACTOR IS TO DETERMINE EXIST. SANITARY, STORM OR WATERMAIN ELEVATION OR UTILITY & NOTIFY ENGINEER. WATERMAIN ELEVATIONS MAY BE ADJUSTED ACCORDINGLY. TASK TO BE PERFORMED PRIOR TO COMMENCING WATERMAIN/SEWER INSTALLATION.

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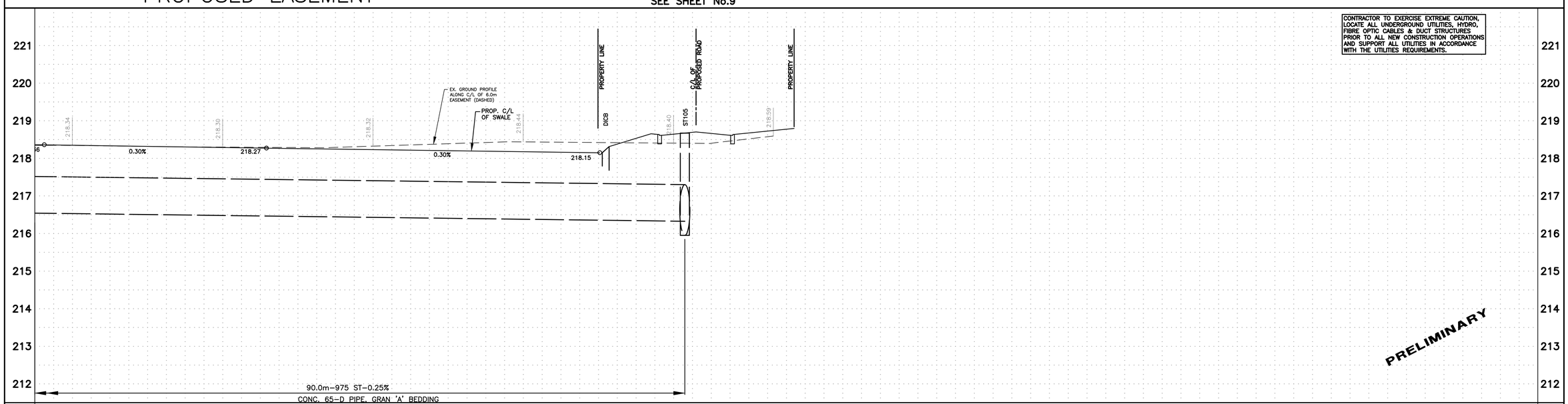


CONTRACTOR TO EXERCISE EXTREME CAUTION, LOCATE ALL UNDERGROUND UTILITIES, HYDRO, FIBRE OPTIC CABLES & DUCT STRUCTURES PRIOR TO ALL NEW CONSTRUCTION OPERATIONS AND SUPPORT ALL UTILITIES IN ACCORDANCE WITH THE UTILITIES REQUIREMENTS.

PRELIMINARY

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
					DESIGN JDA				
					DRAWN BY JDA				
					CHECKED CSL				
					APPROVED CSL				
					DATE JULY,2025				
					225147				

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

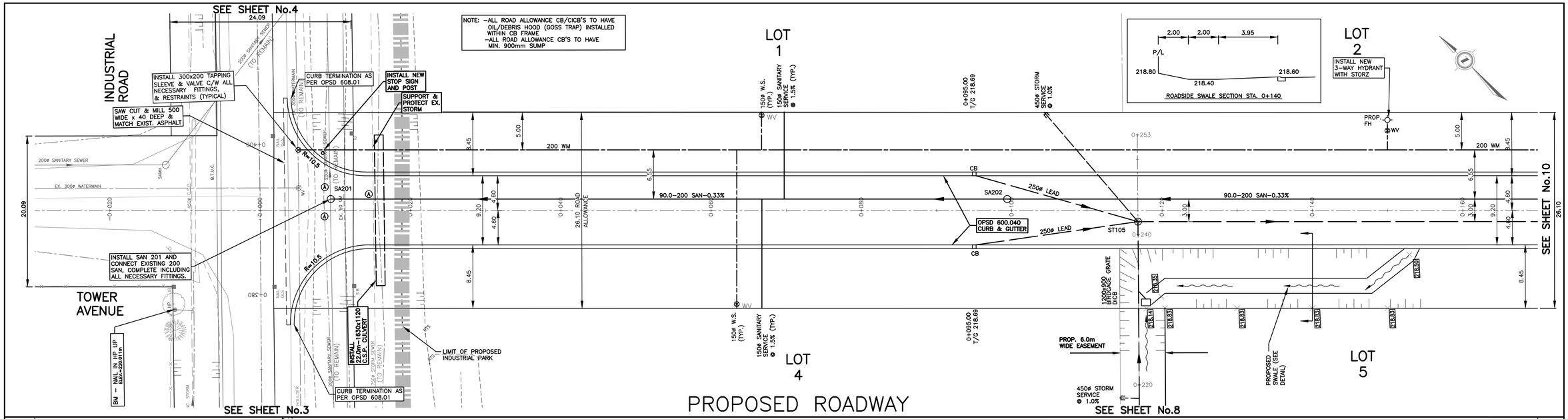
ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
PROPOSED EASEMENT
FROM STA 0+160
TO STA. 0+245

PROJECT No. 225147
SHEET No. 8
PLAN FILE No.



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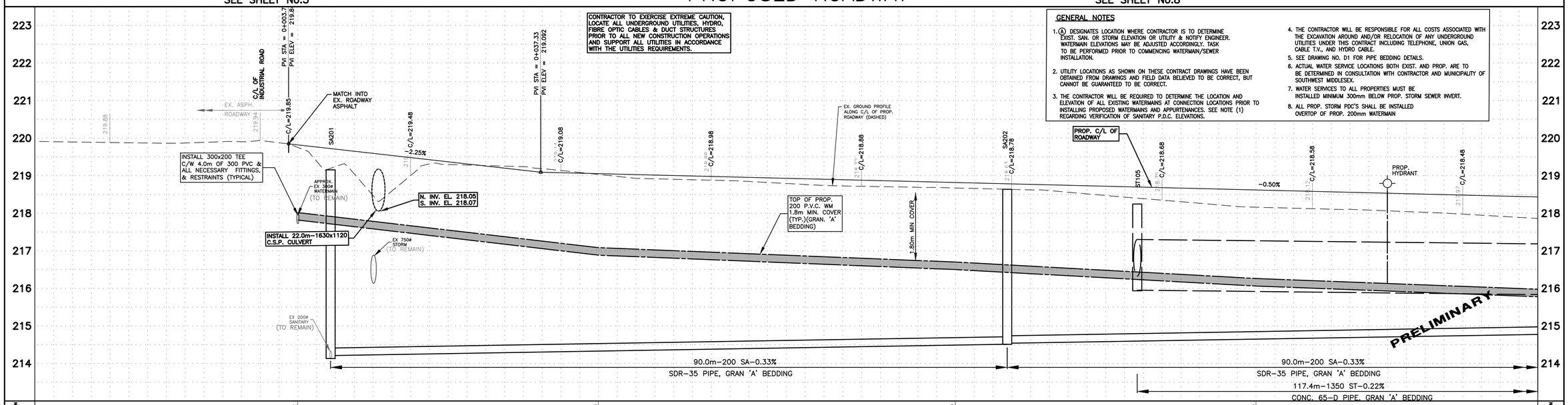


EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET –– LONDON (519) 672–4100 –– N6A 1A8

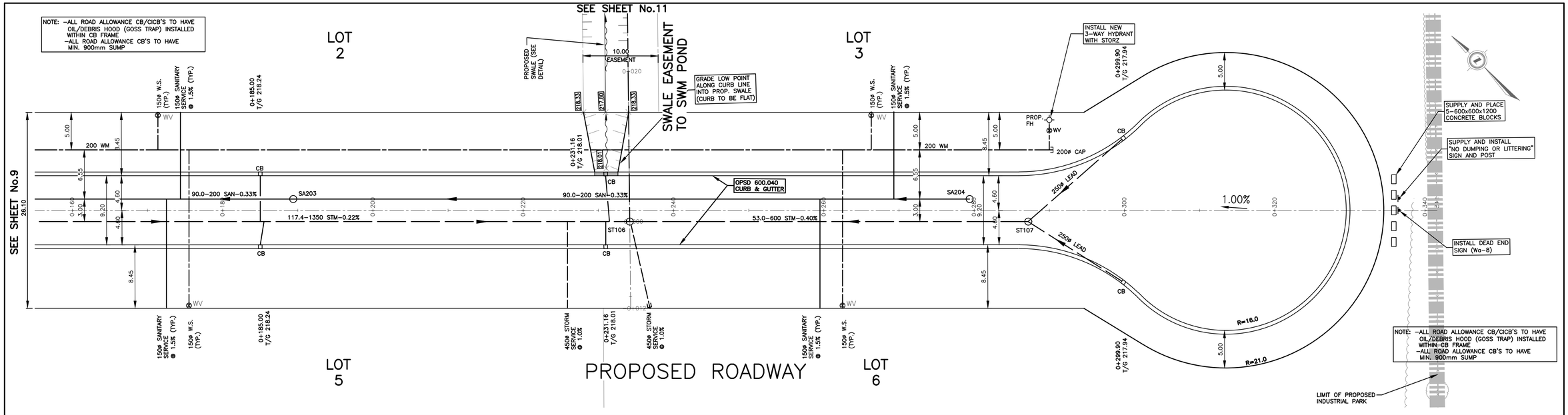
ENGINEER'S STAMP

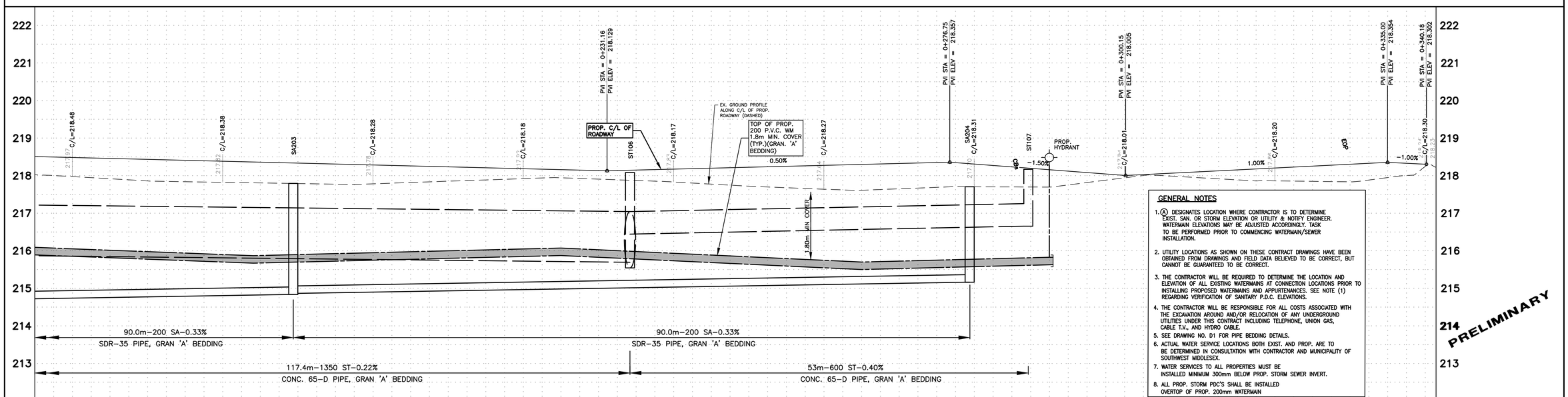
SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
PROPOSED ROADWAY
FROM INDUSTRIAL ROAD
TO STA. 0+170.0

PROJECT No. 225147
SHEET No. 9
PLAN FILE No.





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STATION	0+160	0+180	0+189.4	0+195	0+200	0+220	0+240	0+260	0+279.4 / 0+280	0+285	0+300	0+320	0+334	0+340	0+341.60
WATERMAIN TOP		215.87				216.07		215.70		215.83					
STORM SEWER INVERT							215.693 N 215.543 E 216.443 S			216.655 N					
SANITARY SEWER INVERT			214.836 N 214.886 S						215.163 N						

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET –– LONDON (519) 672–4100 –– N6A 1A8

ENGINEER'S STAMP

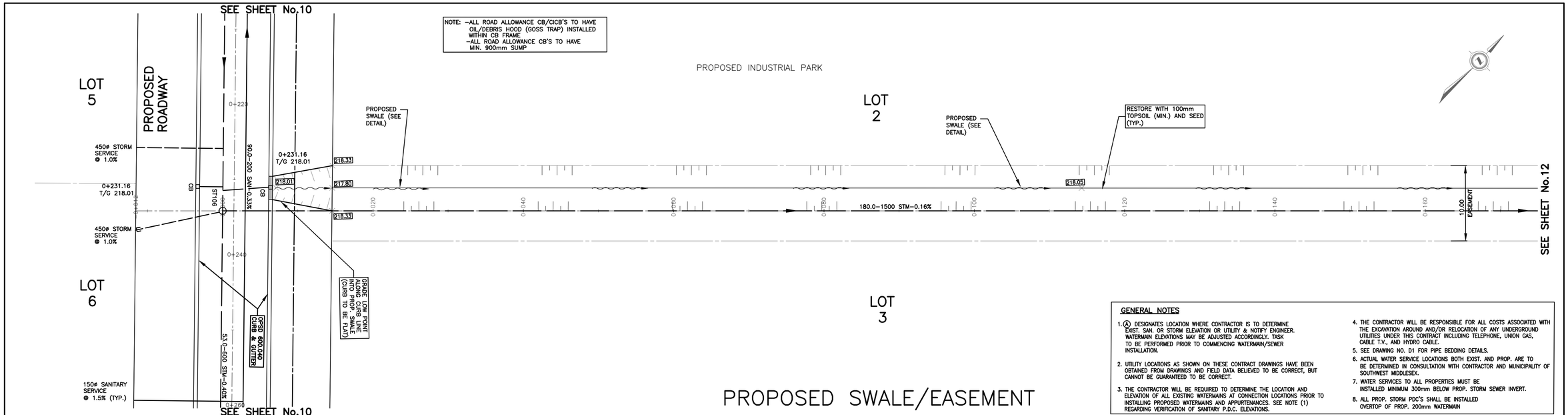
SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025

PROPOSED ROADWAY
FROM STA. 0+155.0 TO STA. 0+334.0

PROJECT No. 225147
SHEET No. 10
PLAN FILE No.



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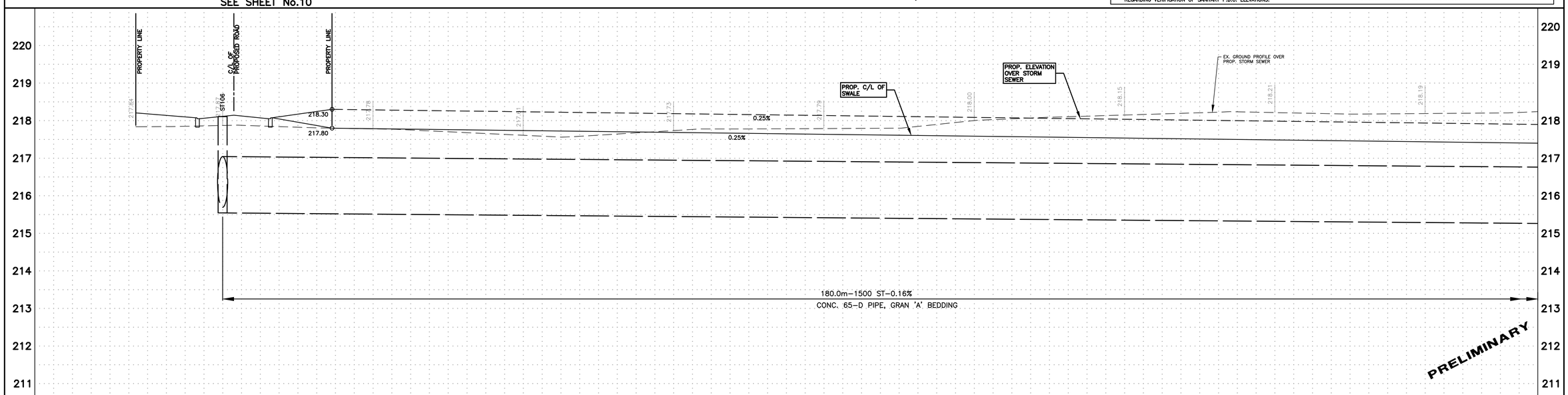


EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET –– LONDON (519) 672–4100 –– N6A 1A8

ENGINEER'S STAMP

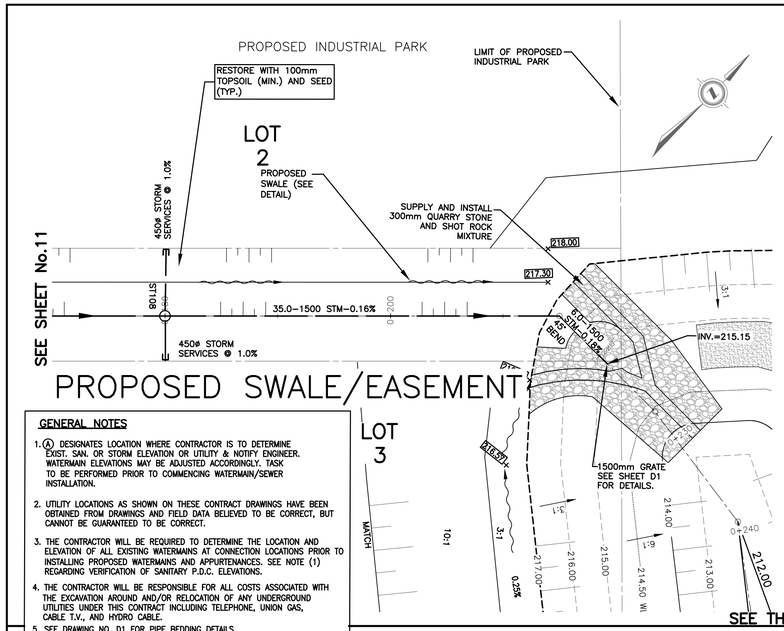
SOUTHWEST MIDDLESEX

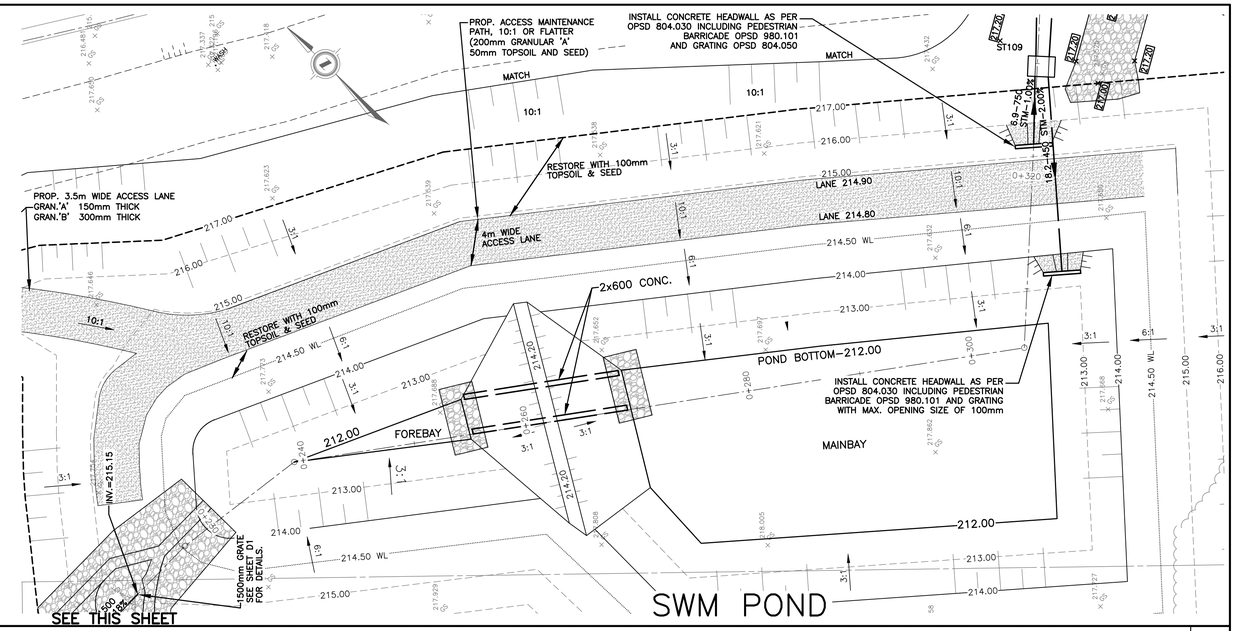
SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025

PROPOSED SWALE
FROM PROPOSED ROADWAY
STA. 0+175.0

PROJECT No. 225147
SHEET No. 11
PLAN FILE No.





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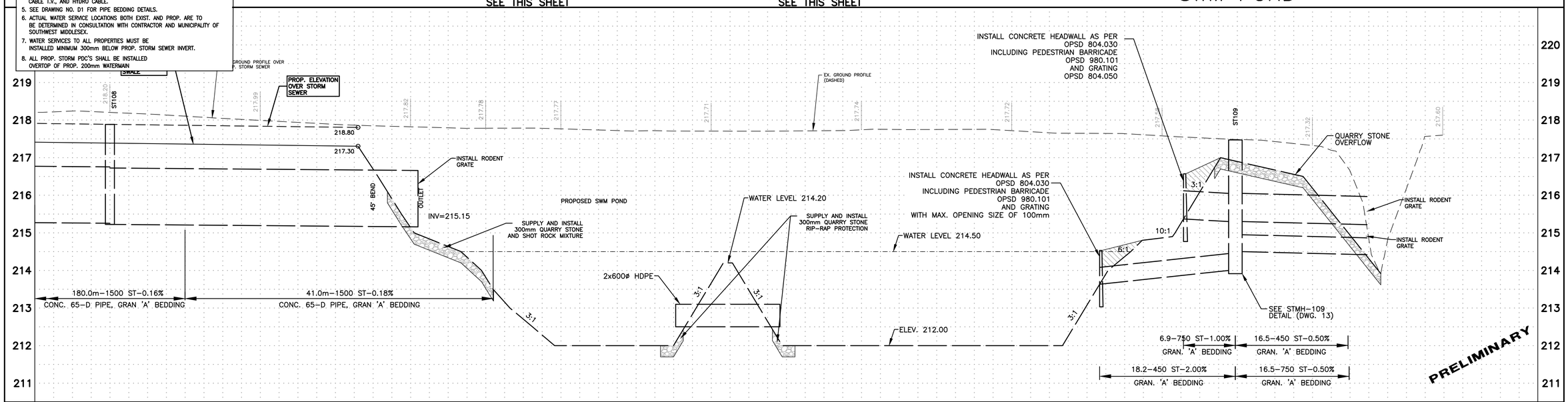


C/L WATERMAIN ELEVATION																							C/L WATERMAIN ELEVATION
STORM SEWER INVERT		215.255 W 215.225 E						215.15								213.64 N		215.37 S	215.30 S 214.00 N 214.50 N			214.42 S 215.22 S		STORM SEWER INVERT
SANITARY SEWER INVERT																							SANITARY SEWER INVERT
STATION		0+180		0+200			0+220			0+240			0+260			0+280		0+300		0+320		0+340		0+360	STATION

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

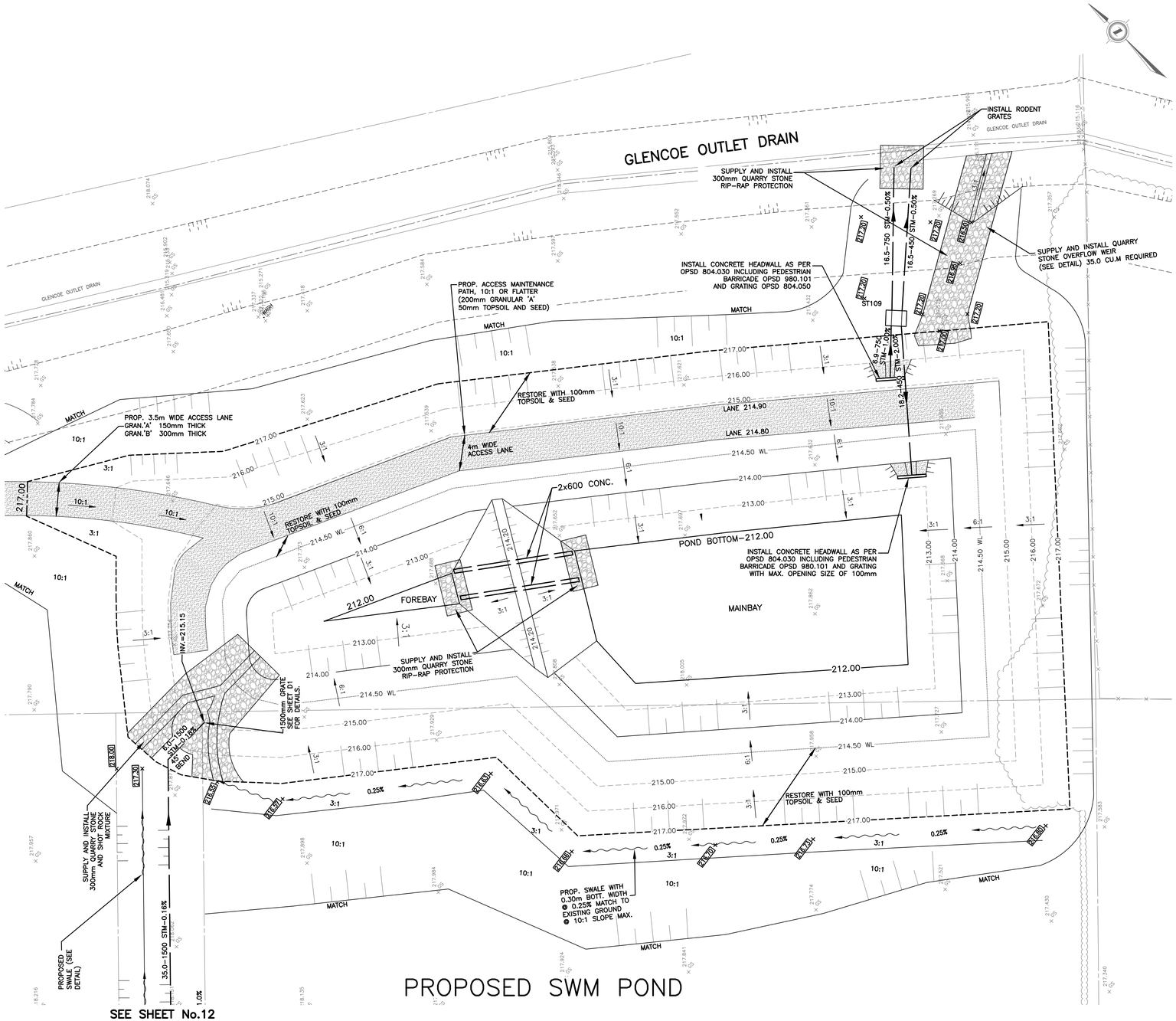
SOUTHWEST MIDDLESEX

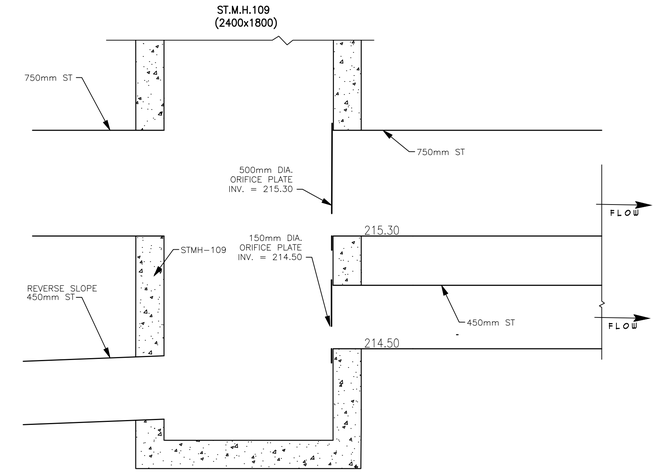
SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025

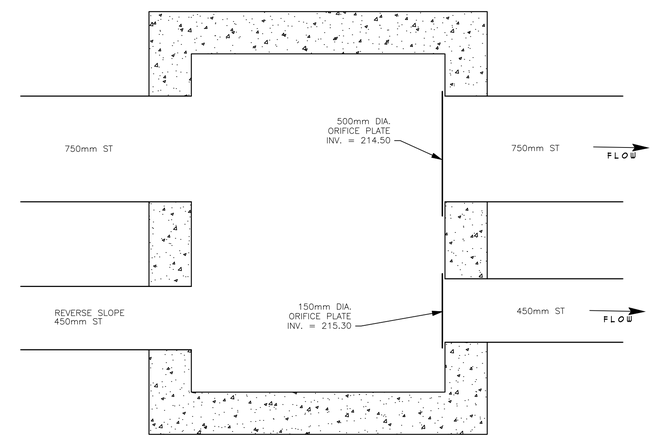
PROPOSED SWALE
FROM STA. 0+170.0 TO
SWM POND
SWM POND OUTLET

PROJECT No. 225147
SHEET No. 12
PLAN FILE No.





STMH-109 SECTION (VERTICAL)
NTS



STMH-109 DETAIL PLAN
NTS

PRELIMINARY

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

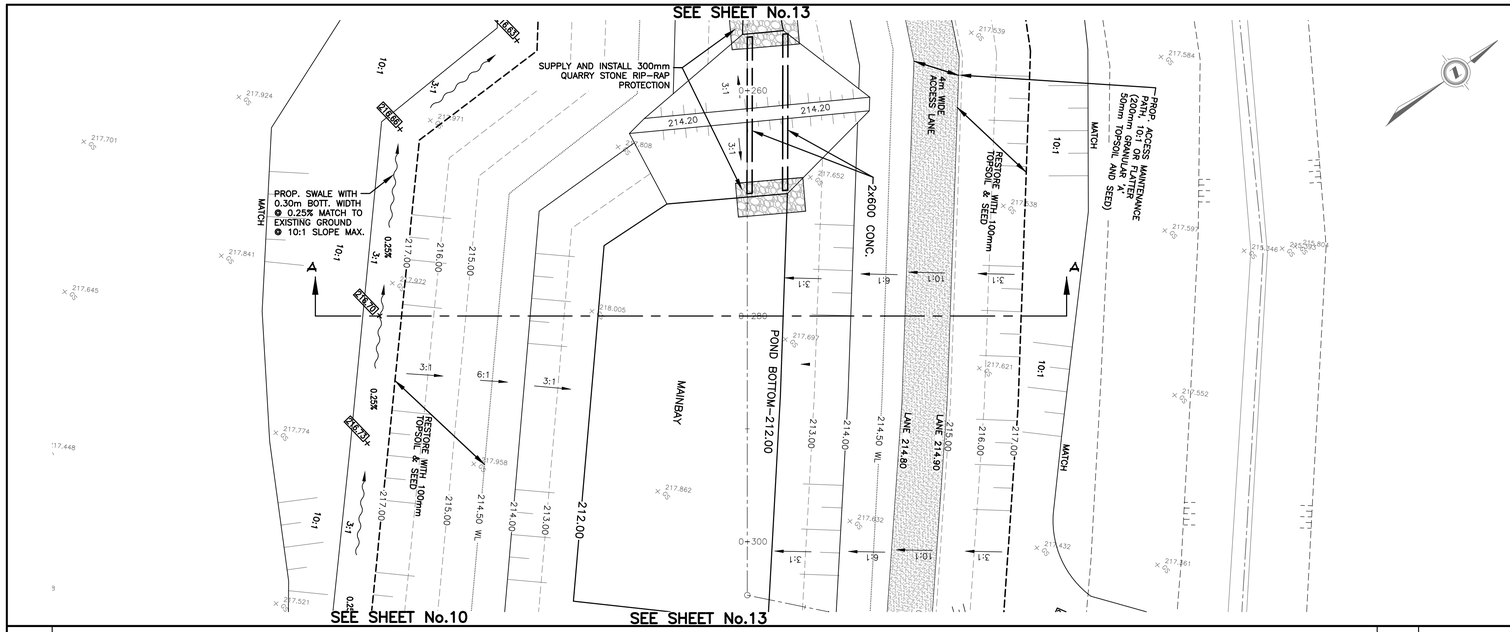
ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

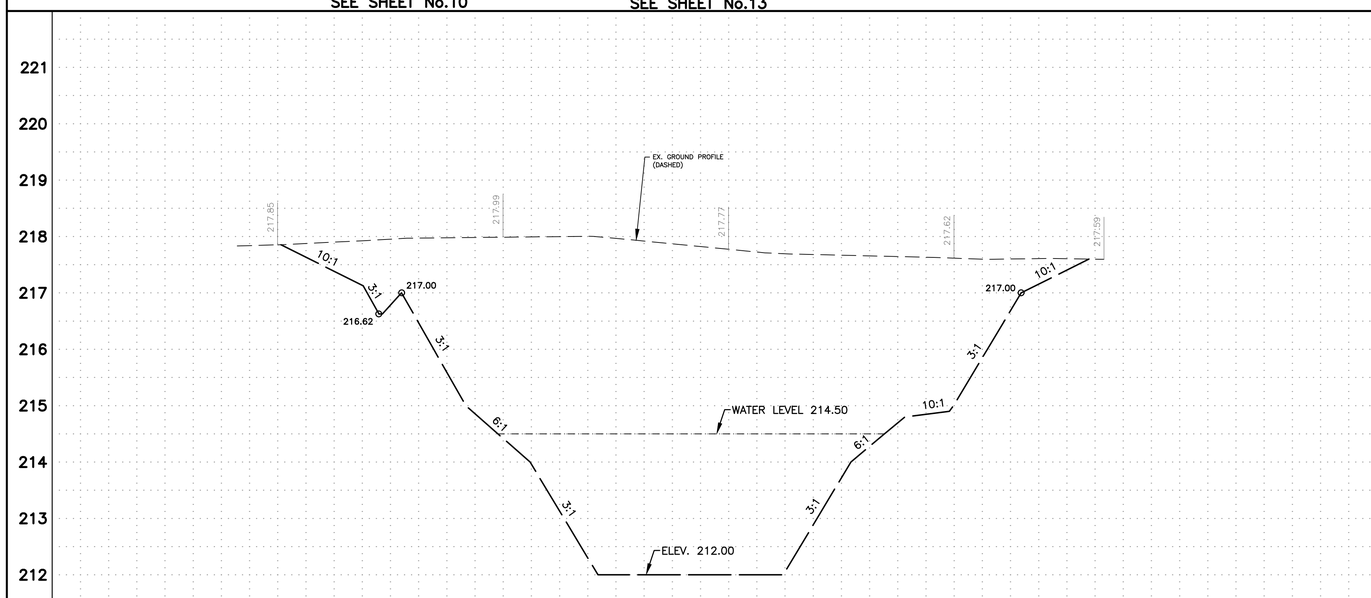
TITLE
GLENCOE INDUSTRIAL PARK 2025
PROPOSED SWM POND

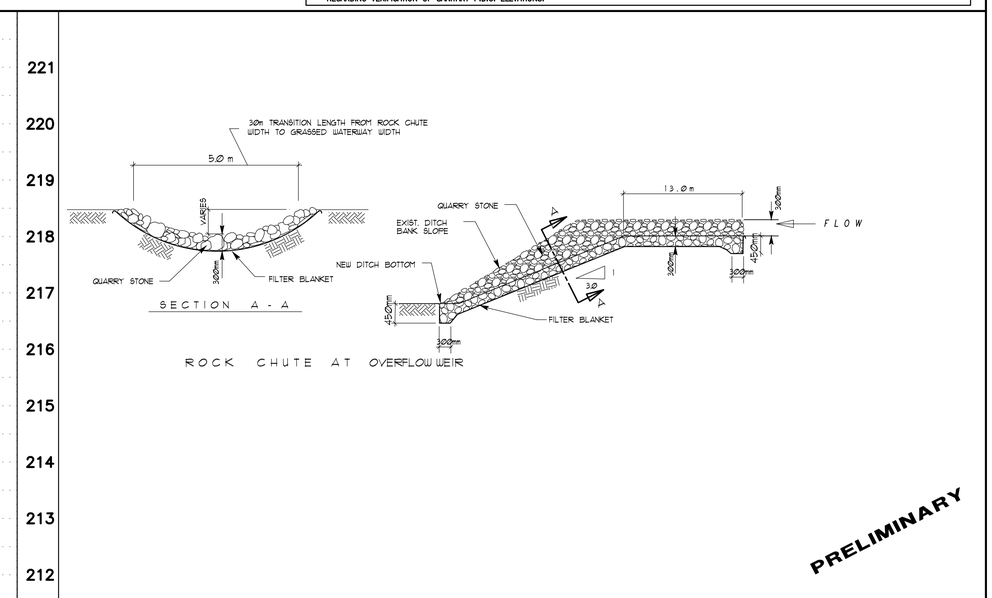
PROJECT No. 225147
SHEET No. 13
PLAN FILE No.



GENERAL NOTES

1. (A) DESIGNATES LOCATION WHERE CONTRACTOR IS TO DETERMINE EXIST. SAN. OR STORM ELEVATION OR UTILITY & NOTIFY ENGINEER. WATERMAIN ELEVATIONS MAY BE ADJUSTED ACCORDINGLY. TASK TO BE PERFORMED PRIOR TO COMMENCING WATERMAIN/SEWER INSTALLATION.
2. UTILITY LOCATIONS AS SHOWN ON THESE CONTRACT DRAWINGS HAVE BEEN OBTAINED FROM DRAWINGS AND FIELD DATA BELIEVED TO BE CORRECT, BUT CANNOT BE GUARANTEED TO BE CORRECT.
3. THE CONTRACTOR WILL BE REQUIRED TO DETERMINE THE LOCATION AND ELEVATION OF ALL EXISTING WATERMAINS AT CONNECTION LOCATIONS PRIOR TO INSTALLING PROPOSED WATERMAINS AND APPURTENANCES. SEE NOTE (1) REGARDING VERIFICATION OF SANITARY P.D.C. ELEVATIONS.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE EXCAVATION AROUND AND/OR RELOCATION OF ANY UNDERGROUND UTILITIES UNDER THIS CONTRACT INCLUDING TELEPHONE, UNION GAS, CABLE T.V., AND HYDRO CABLE.
5. SEE DRAWING NO. D1 FOR PIPE BEDDING DETAILS.
6. ACTUAL WATER SERVICE LOCATIONS BOTH EXIST. AND PROP. ARE TO BE DETERMINED IN CONSULTATION WITH CONTRACTOR AND MUNICIPALITY OF SOUTHWEST MIDDLESEX.
7. WATER SERVICES TO ALL PROPERTIES MUST BE INSTALLED MINIMUM 300mm BELOW PROP. STORM SEWER INVERT.
8. ALL PROP. STORM PDC'S SHALL BE INSTALLED OVERTOP OF PROP. 200mm WATERMAIN





PRELIMINARY

C/L WATERMAIN ELEVATION	
STORM SEWER INVERT	
SANITARY SEWER INVERT	
STATION	

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JDA
DRAWN BY	JDA
CHECKED	CSL
APPROVED	CSL
DATE	JULY,2025
225147	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:250
VERT. 1:50
2.5m 0 5.0m HORIZONTAL
0.5 0 1m VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
SWM POND
SECTION A-A AND DETAILS

PROJECT No. 225147
SHEET No. 14
PLAN FILE No.

NOTES:

1. THE OWNER SHALL MAINTAIN THE BLOCKS IN THIS PLAN IN AN UNDISTURBED CONDITION, EXCEPT WHERE INTERIM GRADING IS REQUIRED, UNTIL INDIVIDUAL BLOCKS ARE DEVELOPED THROUGH A SITE PLAN APPLICATION. THE OWNER SHALL DESIGN SITE GRADING FOR INDIVIDUAL BLOCKS IN THIS PLAN IN CONFORMITY WITH THE ACCEPTED SUBDIVISION GRADING PLAN.

2. EXISTING DRAINAGE OF ABUTTING LANDS IS NOT TO BE DISTURBED.

3. LOCALIZED SURFACE DRAINAGE FROM ABUTTING PROPERTIES TO BE DEVELOPED IN FUTURE MAY BE DISCHARGED ONTO PROPOSED LOTS IN THIS SUBDIVISION.

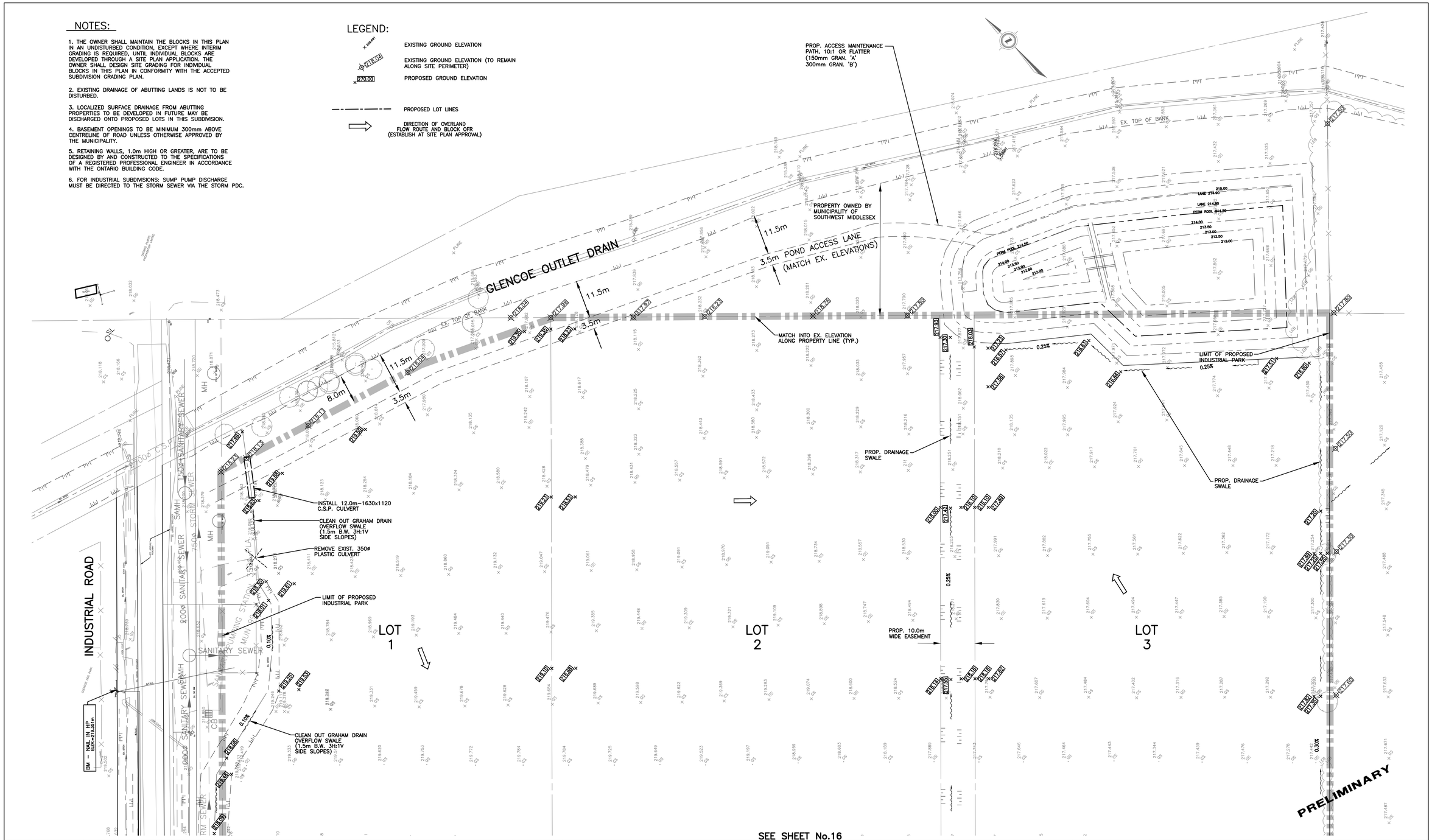
4. BASEMENT OPENINGS TO BE MINIMUM 300mm ABOVE CENTRELINE OF ROAD UNLESS OTHERWISE APPROVED BY THE MUNICIPALITY.

5. RETAINING WALLS, 1.0m HIGH OR GREATER, ARE TO BE DESIGNED BY AND CONSTRUCTED TO THE SPECIFICATIONS OF A REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.

6. FOR INDUSTRIAL SUBDIVISIONS: SUMP PUMP DISCHARGE MUST BE DIRECTED TO THE STORM SEWER VIA THE STORM PDC.

LEGEND:

- EXISTING GROUND ELEVATION
- EXISTING GROUND ELEVATION (TO REMAIN ALONG SITE PERIMETER)
- PROPOSED GROUND ELEVATION
- PROPOSED LOT LINES
- DIRECTION OF OVERLAND FLOW ROUTE AND BLOCK OFR (ESTABLISH AT SITE PLAN APPROVAL)



SEE SHEET No.16

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
					DESIGN CSL				
					DRAWN BY PM				
					CHECKED CSL				
					APPROVED CSL				
					DATE SEPT. 2025				
					225147-00				

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:500
5.0m 0 10.0m
HORIZONTAL

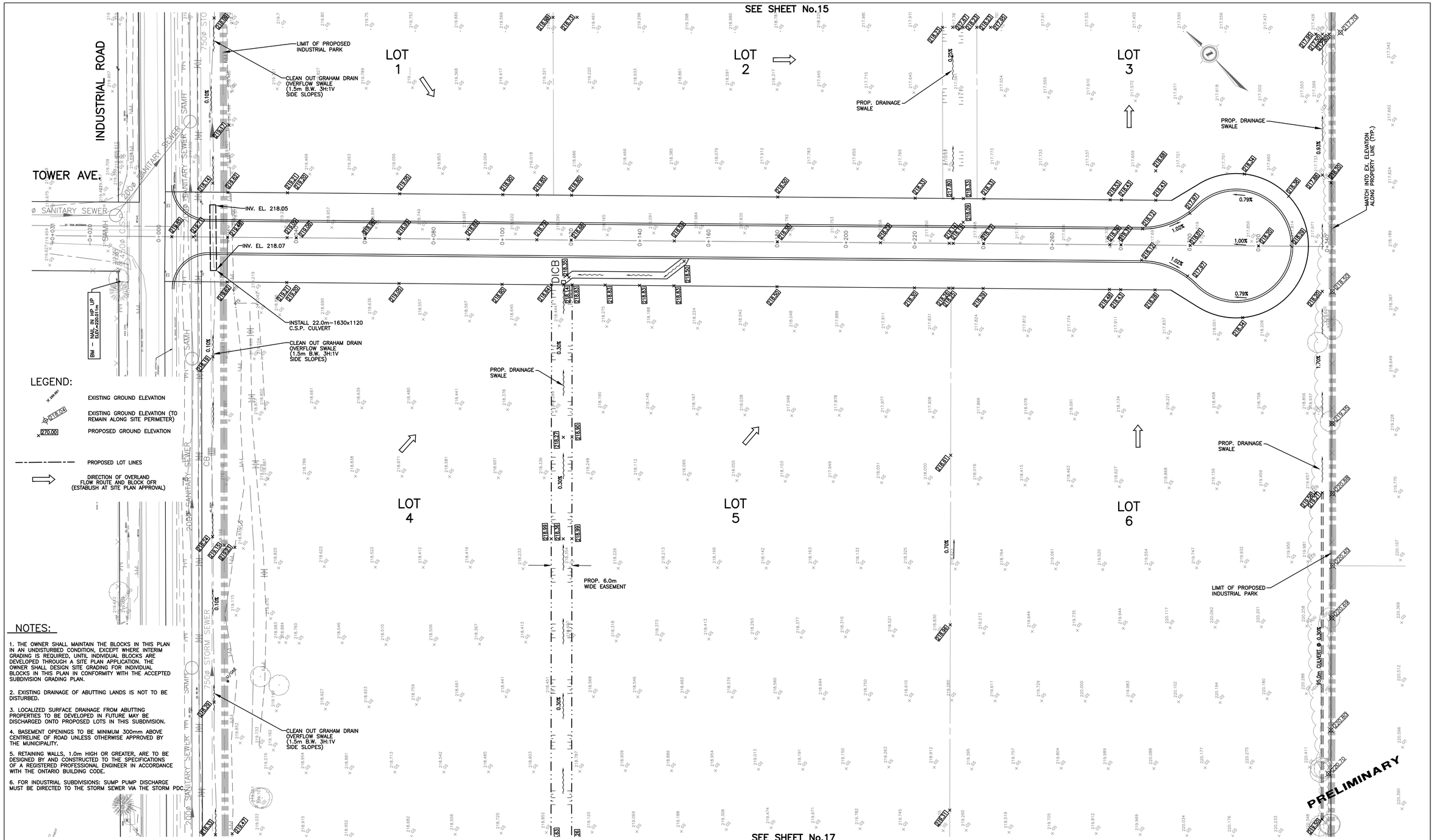
TITLE
GLENCOE INDUSTRIAL PARK 2025

LOT GRADING PLAN NO.1

PROJECT No. 225147

SHEET No. 15

PLAN FILE No.



LEGEND:

- EXISTING GROUND ELEVATION
- EXISTING GROUND ELEVATION (TO REMAIN ALONG SITE PERIMETER)
- PROPOSED GROUND ELEVATION
- PROPOSED LOT LINES
- DIRECTION OF OVERLAND FLOW ROUTE AND BLOCK OFR (ESTABLISH AT SITE PLAN APPROVAL)

NOTES:

1. THE OWNER SHALL MAINTAIN THE BLOCKS IN THIS PLAN IN AN UNDISTURBED CONDITION, EXCEPT WHERE INTERIM GRADING IS REQUIRED, UNTIL INDIVIDUAL BLOCKS ARE DEVELOPED THROUGH A SITE PLAN APPLICATION. THE OWNER SHALL DESIGN SITE GRADING FOR INDIVIDUAL BLOCKS IN THIS PLAN IN CONFORMITY WITH THE ACCEPTED SUBDIVISION GRADING PLAN.

2. EXISTING DRAINAGE OF ABUTTING LANDS IS NOT TO BE DISTURBED.

3. LOCALIZED SURFACE DRAINAGE FROM ABUTTING PROPERTIES TO BE DEVELOPED IN FUTURE MAY BE DISCHARGED ONTO PROPOSED LOTS IN THIS SUBDIVISION.

4. BASEMENT OPENINGS TO BE MINIMUM 300mm ABOVE CENTRELINE OF ROAD UNLESS OTHERWISE APPROVED BY THE MUNICIPALITY.

5. RETAINING WALLS, 1.0m HIGH OR GREATER, ARE TO BE DESIGNED BY AND CONSTRUCTED TO THE SPECIFICATIONS OF A REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.

6. FOR INDUSTRIAL SUBDIVISIONS: SUMP PUMP DISCHARGE MUST BE DIRECTED TO THE STORM SEWER VIA THE STORM PDC.

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	CSL
DRAWN BY	PM
CHECKED	CSL
APPROVED	CSL
DATE	SEPT. 2025

225147-00

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

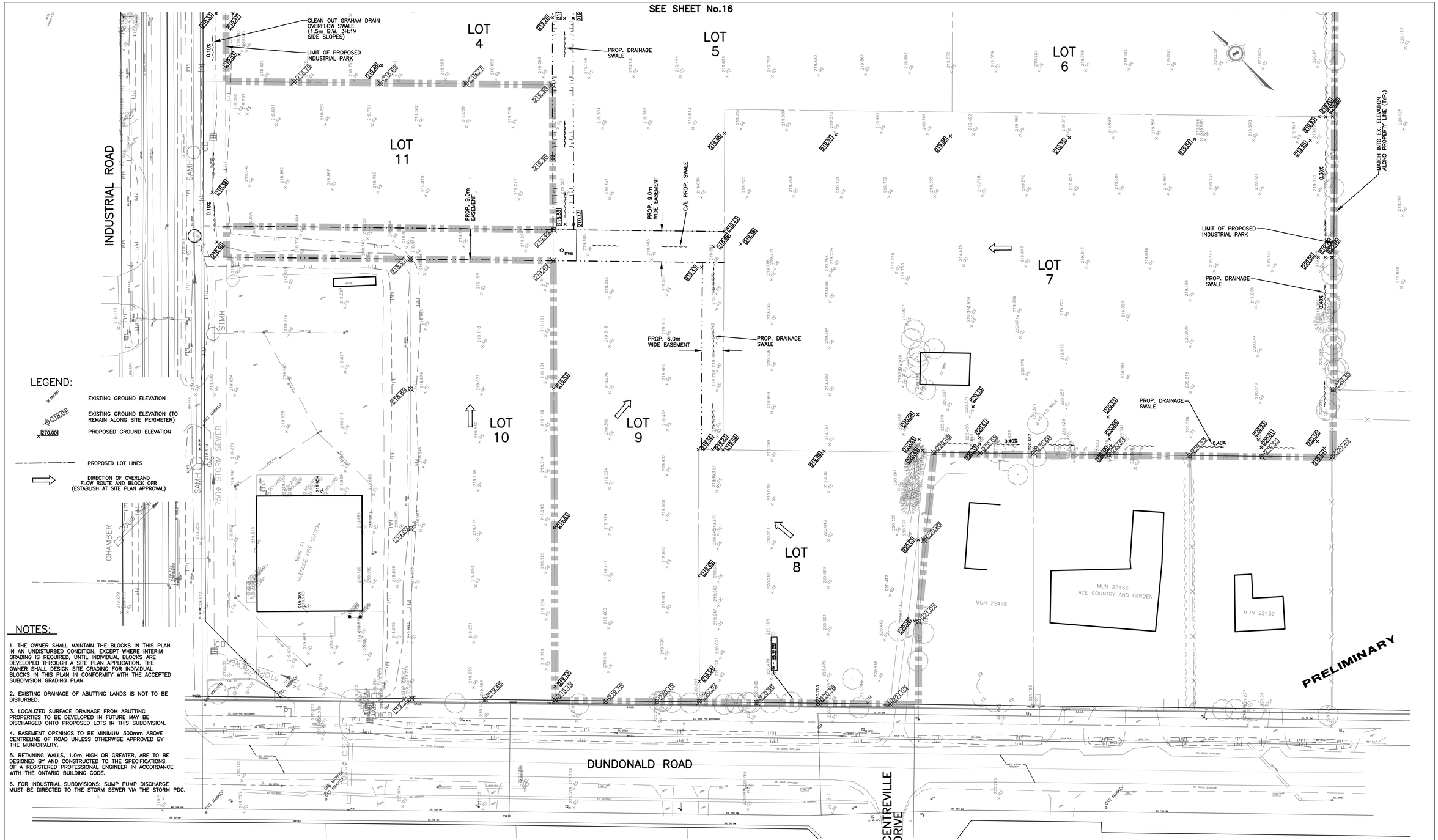
ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE HORZ. 1:500
5.0m 0 10.0m
HORIZONTAL

TITLE
GLENCOE INDUSTRIAL PARK 2025
LOT GRADING PLAN NO.2

PROJECT No. 225147
SHEET No. 16
PLAN FILE No.



LEGEND:

- EXISTING GROUND ELEVATION
- EXISTING GROUND ELEVATION (TO REMAIN ALONG SITE PERIMETER)
- PROPOSED GROUND ELEVATION
- PROPOSED LOT LINES
- DIRECTION OF OVERLAND FLOW ROUTE AND BLOCK OFR (ESTABLISH AT SITE PLAN APPROVAL)

NOTES:

1. THE OWNER SHALL MAINTAIN THE BLOCKS IN THIS PLAN IN AN UNDISTURBED CONDITION, EXCEPT WHERE INTERIM GRADING IS REQUIRED, UNTIL INDIVIDUAL BLOCKS ARE DEVELOPED THROUGH A SITE PLAN APPLICATION. THE OWNER SHALL DESIGN SITE GRADING FOR INDIVIDUAL BLOCKS IN THIS PLAN IN CONFORMITY WITH THE ACCEPTED SUBDIVISION GRADING PLAN.

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6. FOR INDUSTRIAL SUBDIVISIONS: SUMP PUMP DISCHARGE MUST BE DIRECTED TO THE STORM SEWER VIA THE STORM PDC.

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	CSL
DRAWN BY	PM
CHECKED	CSL
APPROVED	CSL
DATE	SEPT. 2025
225147-00	

No.	REVISIONS	DATE	CONSULTANT

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

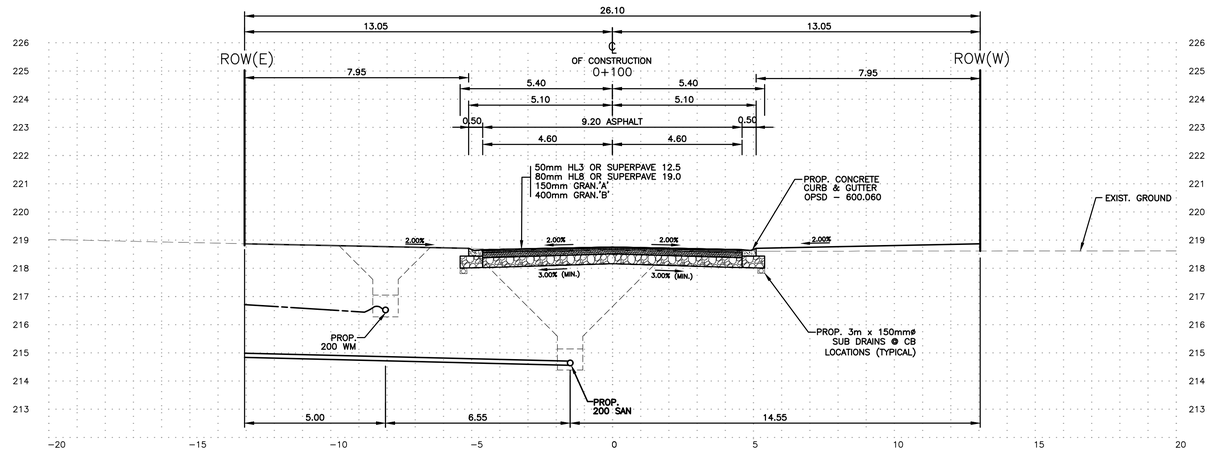
SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:500
5.0m 0 10.0m
HORIZONTAL

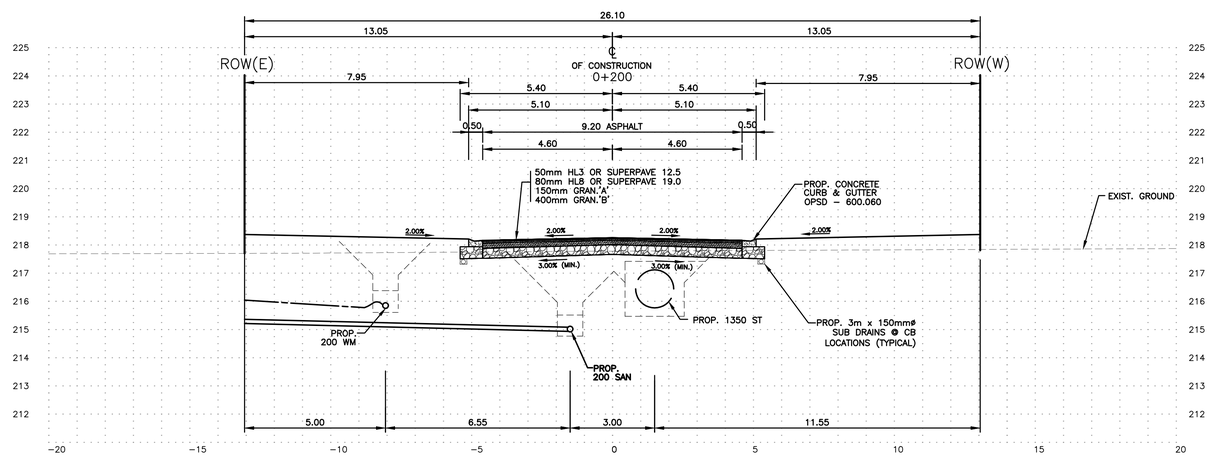
TITLE
GLENCOE INDUSTRIAL PARK 2025

LOT GRADING PLAN NO.3

PROJECT No. 225147
SHEET No. 17
PLAN FILE No.



PROPOSED INDUSTRIAL ROAD
STA. 0+100



PROPOSED INDUSTRIAL ROAD
STA. 0+200

PRELIMINARY

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
					DESIGN CSL				
					DRAWN BY PM				
					CHECKED CSL				
					APPROVED CSL				
					DATE SEPT. 2025				
					X–SECTIONS				

CONSULTANT OR DIVISION

SPRIET ASSOCIATES
LONDON LIMITED
CONSULTING ENGINEERS
155 YORK STREET -- LONDON (519) 672-4100 -- N6A 1A8

ENGINEER'S STAMP

SOUTHWEST MIDDLESEX

SCALE
HORZ. 1:100
VERT. 1:100
2.5m 0 5.0m
HORIZONTAL
0.5 0 1m
VERTICAL

TITLE
GLENCOE INDUSTRIAL PARK

TYPICAL CROSS SECTIONS

PROJECT No. 225147
SHEET No. 18
PLAN FILE No.

APPENDIX ‘H’

Notice of Completion

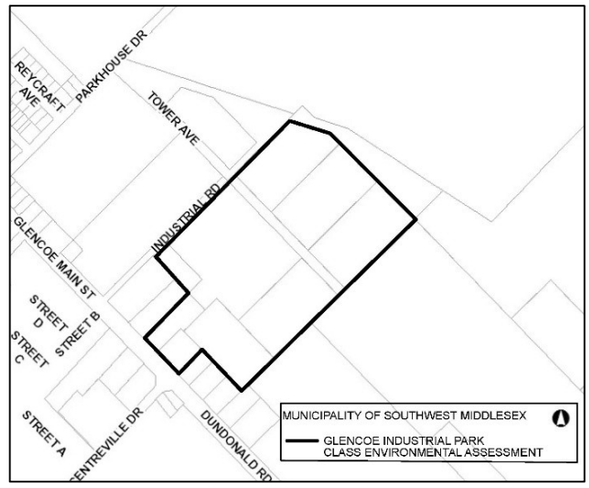
Prepared by Spriet Associates

Municipality of Southwest Middlesex

Glencoe Industrial Park

Community of Glencoe
Municipal Class Environmental Assessment

NOTICE OF STUDY COMPLETION



The Municipality of Southwest Middlesex is planning to extend Tower Avenue in the community of Glencoe to service industrial lands generally described as Range 2 NLR Part Lot 24. This project area is located on the site of the future Glencoe Industrial Park.

The proposed road extension would involve the construction of a municipal road extension, with watermains, sanitary sewers, storm sewers, and a stormwater management facility, to service industrial development planned for the project area. The planned new road would extend from Industrial Road approximately 340 meters to a turn-around circle. This road is intended to serve industrial lots within the project area. The land within the Class EA project area is owned by the Municipality.

The planning for this project is following the environmental screening process set out for Schedule B activities under the Municipal Class Environmental Assessment (Class EA) document. The screening process has been completed and no potential negative impacts were identified with the proposed road extension that could not be adequately mitigated. Subject to any comments received as a result of this notice and the receipt of necessary approvals, the Municipality intends to proceed with this project during the 2026 and 2027 construction seasons.

PUBLIC REVIEW AND PROJECT CONTACTS:

A Project File Report has been prepared to document the screening process, including the associated consultation and associated studies. This report is available for public review at the municipal office during normal hours of operation (153 McKellar Street, Glencoe) and is posted on the Southwest Middlesex website. Refer to *'News'* (*https://www.southwestmiddlesex.ca/town-hall/news).* For more information on this project and the Municipal Class EA planning process, contact Chris Lierman at Spriet Associates, the lead consultants for the project.

Chris Lierman, P.Eng., Project Engineer
Spriet Associates London Limited
155 York Street, London, Ontario N6A 1A8

Phone: 519-672-4100
Fax: 519-433-9351
E-mail: mail@spriet.on.ca

Interested persons may provide written comments to our project team by April 10, 2026. All Comments and concerns should be sent directly to Chris Lierman at Spriet Associates. Refer to the contact information listed above.

In addition, a request may be made to the Ministry of the Environment, Conservation and Parks for an order requiring a higher level of study (i.e. requiring an individual/comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate, or remedy adverse impacts on constitutionally protected aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name.

Requests should specify what kind of order is being requested (request for conditions or a request for an individual/comprehensive environmental assessment), how an order may prevent, mitigate, or remedy adverse impacts on Aboriginal and treaty rights, and any information in support of the statements in the request. This will ensure that the ministry is able to efficiently begin reviewing the request. The request should be sent in writing or by email or both:

Minister of the Environment, Conservation and Parks
Ministry of the Environment, Conservation & Parks
777 Bay Street, 5th Floor
Toronto, ON M7A 2J3
Minister.mecp@ontario.ca

Director, Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5
EABdirector@ontario.ca

Requests should also be copied to the Municipality of Southwest Middlesex, the project proponent, by mail or by e-mail:

Amanda Gubbels
Chief Administrative Officer
Municipality of Southwest Middlesex
153 McKellar Street, Glencoe ON N0L 1M0

Phone: 519-287-2015
E-mail: agubbels@southwestmiddlesex.ca

Please visit the ministry's website for more information on requests for orders under section 16 of the Environmental Assessment Act at: *https://www.ontario.ca/page/class-environmental-assessments-section-16-order*

All personal information included in your request – such as name, address, telephone number and property location – is collected, under the authority of section 30 of the Environmental Assessment Act and is collected and maintained for the purpose of creating a record that is available to the general public. As this information is collected for the purpose of public record, the protection of personal information provided in the Freedom of Information and Protection of Privacy Act (FIPPA) does not apply (s.37). Personal information you submit will become part of public record that is available to the general public unless you request that your personal information remain confidential.

This NOTICE first issued March 10, 2026.