



PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

5580 Manotick Main Street
Ottawa, ON
K4M 1E2

Submitted to:
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Phase Two Environmental Site Assessment

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Project No. B040048



Report Prepared for:

Ignite Architecture Inc.

December 9, 2024



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1.0 EXECUTIVE SUMMARY

Blastek Engineering Group (hereafter referred to as "Blastek") was retained by Ignite Architecture Inc. (hereafter referred to as "Ignite" or "Client"), represented by Ms. Nicole Chilton-Jones, to prepare a Phase Two Environmental Site Assessment (ESA) for the parcel of land located at 5580 Manotick Main Street in Ottawa, Ontario (hereafter referred to as the "Property" or "Site").

The Phase Two Property is an approximately 0.1-hectare (0.256 acres) parcel of land situated within a mixed residential and commercial area in the City of Ottawa, Ontario. The Phase Two Property is located approximately 135 m west of the Rideau River.

This Phase Two ESA was completed in accordance with the requirements for Phase Two ESAs as defined in Part VIII and Schedule E of Ontario Regulation 153/04. Blastek understands that the Client is planning to redevelop the Property with a commercial building. Since the planned Site use is less sensitive than the current Site use (residential to commercial), a Record of Site Condition (RSC) is not required.

Site stratigraphy generally consists of sand to silty sand deposits ranging from 1.2 to 2.1 metres depth, underlain by silty clay deposits extending to depths ranging from 2.4 to 6 metres below ground surface. Large boulders were encountered at all borehole locations.

Based on the Phase One and Phase Two ESA, the following Site Condition Standards (SCS) was considered applicable to the soil and groundwater quality of the Site:

- Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Industrial/Commercial/Community Property Use and medium to coarse textured soils (Table 3 SCS)

A total of nine soil samples, 8 bulk samples and 1 duplicate, and four groundwater samples, including 1 duplicate, were collected from the sampling locations and submitted to Eurofins Scientific for analysis of selected parameters. Contaminants of potential environmental concern, as identified in the Phase One ESA included PHCs, BTEX, VOCs, PAHs and metals.

Analytical results indicate that the Site complies with the applicable Property Use standards (MECP Table 3 SCS) for soil. However, one collected groundwater sample showed an exceedance for chloroform.

1.1 Recommendations

The Phase Two ESA identified concentrations of chloroform in groundwater exceeding the applicable Table 3 SCS in one of the monitoring wells. However, since this exceedance was observed in only a single well, Blastek does not recommend conducting remediation or a risk assessment for groundwater at the site. The generic standards for chloroform in groundwater were found to be below the threshold for drinking water quality. Exceedances of chloroform are commonly observed in urban groundwater, often as a result of treated water being released through leaking water and sewer lines, hydrant flushing, or other discharges. The elevated concentrations of chloroform at the site are likely attributed to well installation activities rather than to potential contaminants associated with PCAs or APECs. Therefore, the site meets the applicable Property Use Standards, and no further remediation or risk assessment is required.

2.0 INTRODUCTION

Blastek Engineering Group (Blastek) was retained by Ignite Architecture Inc., represented by Ms. Nicole Chilton-Jones to prepare a Phase Two Environmental Site Assessment (ESA) of a residential property located at 5580 Manotick Main Street in the City of Ottawa, Ontario (Site). The Property is owned by Abdulla Real Estate Holdings Co. The Site is rectangular in shape with an indent on the southwest side of the Property, the Site covers an area of approximately 0.1 hectares (approximately 0.217 acre) and is located in a mixed residential and commercial land use area. A Site Location Plan is included in Appendix A - Figure 1.

The Phase Two ESA was conducted following a Phase One ESA completed by Blastek in June 2024. Based on the findings of the Phase One ESA, four (4) areas of potential environmental concern (APEC) were identified on the Site.

This Phase Two Environmental Site Assessment (ESA) was conducted in accordance with the standard outlined in Ontario Regulation 153/04 (O. Reg. 153/04), as amended. Under O. Reg. 153/04, a Record of Site Condition (RSC) may not be required if a development project involves transitioning from a more sensitive land use (e.g., residential or parkland) to a less sensitive one (e.g., industrial or commercial). It is Blastek's understanding that the Phase Two ESA is not required to support the filing of an RSC for this Site.

2.1 Site Description

The Site is located west-southwest of Manotick Main Street in the City of Ottawa, Ontario. The Phase Two Property consists of one (1) parcel of irregularly shaped land, with a total area of



approximately 0.1 hectares (approximately 0.217 acre). The Site boundary is shown in Appendix A - Figure 1.

The Phase Two Property is situated 134 m west of Rideau River, occupied by residential property, and is bounded by Manotick Main Street followed by residential properties to the east, residential properties to the south and north and commercial properties to the west.

The Phase Two Property was first developed with building structures prior to the 1930s. It is understood that the Client intends to re-develop the property into a commercial two-storey building with a ground floor parking.

2.2 Property Ownership

The information for the Property Owner and the Client is provided in the table below.

Table 1: Phase Two Property Contact Information

Property Address	Property Owner	Client Contact
5580 Manotick Main Street, Ottawa, Ontario K4M 1E2, Canada	Abdulla Real Estate Holdings Co.	Nicole Chilton-Jones Ignite Architecture Inc. 533 Landswood Way Stittsville, Ottawa ON K2S 0A6

2.3 Current and Proposed Future Uses

The Site is currently developed with an abandoned building structure for residential use. The Site currently includes the following structures:

- Two-story house at the eastern portion of the Site adjacent to Manotick Main Street.
- Barn located on the southwest portion of the property.
- Workshop located on the north portion of the property.

It is understood that the Client intends to re-develop the property into a commercial two-storey building with a ground floor parking.

2.4 Applicable Site Condition Standards

Ontario Regulation 153/04 - Records of Site Condition, Part XV.1 of the Environmental Protection Act as amended - "O.Reg. 153/04, as amended" - establishes the legislative and regulatory requirements for contaminated sites in Ontario. The Ministry of Environment,

Conservation and Parks (MECP) document “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act,” dated April 15, 2011 sets out the prescribed contaminants and applicable Site Condition Standards (SCS) for those contaminants for the purposes of O. Reg. 153/04, as amended. The MECP SCS are set out in Tables 1 to 9 criteria applicable for various site conditions.

The selection of the appropriate MECP SCS for a Phase Two ESA is dependent upon several site-specific conditions, such as the existing/proposed property use, the existing/potential ground water use, the depth of clean-up, soil texture, depth to bedrock and proximity to the nearest body of water.

The MECP SCS applicable to the Site have been evaluated on the basis of the following rationale:

- The site does not include, nor is there evidence to suggest it could have an adverse effect on a sensitive environment.
- The borehole drilling program revealed that the bedrock is at depths greater than 6 metres (m) below existing grade across the Site.
- The glacially derived native silty sand and clay materials are of low permeability to depths up to at least 6 m below ground surface.
- The current land use is residential. The land use will be transitioning from residential to commercial land uses.
- The site is and will continue to be serviced by a municipal drinking water supply from the City of Ottawa.
- Overburden was encountered during investigation activities up to a depth of 6 m below ground surface (mbgs) and bedrock was not encountered. The water well records for the area illustrate that the overburden thickness is in excess of 10 m. Therefore, the Site is not considered a shallow soil property.
- Representative soil samples were collected from four (4) boreholes during the Phase Two Investigation and evaluated for pH. These measurements reported typical soil pH levels.
- The Site does not include all or part of a water body, the Site is not adjacent to a water body, and the Site does not include lands that are within 30 m of a water body. There

are no surface water bodies or watercourses located on the Site. The closest surface water body (Rideau River) is located approximately 130 – 150 m east of the Site;

- **Soil Texture:** Based on the visual observations of boulders and cobbles made during the field program, coarse grained soils are present across the Site. Coarse textured soil is defined by Section 42(2) of O. Reg.153/04 as “soil that contains 50 percent or more by mass of particles that are greater than 75 micrometers in mean diameter”. Therefore, coarse textured soils have been considered applicable for the Site.
- **Groundwater Use:** According to the City of Ottawa’s Water and Wastewater Infrastructure map, the municipal water system supplies the Site. Accordingly, the Site has been considered to be situated in a non-potable groundwater area.
- **Environmentally Sensitive Areas:** Section 41 of O. Reg.153/04 states that a property is to be considered environmentally sensitive if any of the following are applicable:
 - (1) The property is,
 - (i) Within an area of natural significance;
 - (ii) Includes or is adjacent to an area of natural significance or part of such an area; or
 - (iii) Includes land that is within 30 metres of an area of natural significance or part of such an area;

The Site is not considered to be environmentally sensitive as the Site is not within 30 m of an area of natural significance and the pH of the soil is within the ranges provided above.

Based on the above Site characteristics, the following SCS was considered applicable to the soil and groundwater quality of the Site:

- Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Industrial/Commercial/Community Property Use and coarse textured soils (Table 3 SCS).

3.0 BACKGROUND INFORMATION

3.1 Physical Setting

The Site is located in an area of hilly topography, sloping downwards towards the west. The subject Site is higher in elevation along the west Property limits. There are no natural surface

water bodies or open drainage ditches currently located on the Site. The nearest significant surface water body is the Rideau River located approximately 130-150 meters east-northeast of the Site.

According to the Generalized Bedrock Geology of Ottawa – Hull map from Geological Survey of Canada, the Site is located on the Oxford formation, which consists of dolomite and limestone. According to the Surficial Geology of Kemptville map from Geological Survey of Canada, the Site is located in an area of offshore marine deposits, which is describe by massive blue-grey clay, silty clay and silt, calcareous and fossiliferous, locally overlain by thin sands.

3.2 Past Investigations

One previous Phase One ESA was completed on the Site in 2024 by Blastek. A summary of the report is presented below.

Six (6) potentially contaminating activities (PCA) were identified on the Phase One Study Area that are associated with the Phase One Property:

- PCA 28 – Gasoline and associated products storage in fixed tanks: Fuel storage tank vent pipe on Site.
- PCA (Other) – no detailed information provided. May include inorganic chemicals, petroleum hydrocarbons, metals, waste oils: Unknown chemical manufacturing, processing and bulk storage on Site.
- PCA 37 – Operation of Dry-Cleaning Equipment (where chemicals are used): One dry cleaner located off Site (1160 Beaverwood Road, 150 m northwest of the Site).
- PCA 28 – Gasoline and associated products storage in fixed tanks: Oil spill off Site (1160D Beaverwood Road, 150 m west of the Site)
- PCA 28 – Gasoline and associated products storage in fixed tanks: Oil spill off Site (5561 Main Street, 135 m northwest of the Site)
- PCA 37 – Operation of Dry-Cleaning Equipment (where chemicals are used): Elevated concentrations of chlorinated volatile organic compounds in groundwater based on previous environmental studies.

The PCAs are illustrated in Appendix A - Figure 2.

These PCAs were deemed to be contributing to four (4) APECs on the Phase One Property:



- APEC 1 – The south portion of the residential building (Basement footprint): Fuel storage tank vent pipe on Site suggests a fuel oil furnace used for heating and a fuel tank could have been present. Soil and groundwater are expected to be impacted with petroleum hydrocarbons (PHCs), benzene, toluene, ethylene and xylene (BTEX), and metals.
- APEC 2 – Western portion of the Property: A tote on Site could have been used to store chemicals. Soil and groundwater are expected to be impacted with PHCs, BTEX, volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs).
- APEC 3 – Entire property: One dry cleaner located off Site, as well as elevated concentrations of chlorinated volatile organic compounds in groundwater based on previous environmental studies. Soil and groundwater are expected to be impacted with VOCs.
- APEC 4 – Western portion of the Property: Two oil spills off Site. Soil and groundwater are expected to be impacted by PHCs, BTEX and metals.

The APECs are illustrated in Appendix A – Figure 3.

4.0 SCOPE OF INVESTIGATION

4.1 Overview of the Site Investigation

Environmental sampling was carried out to characterize the quality of soil and groundwater within the APECs and to provide subsurface information relative to the potential environmental impacts.

The scope of the investigation included the following:

- Preparation of a sampling and analysis plan to document the purpose, rationale, number and location of samples to be collected as part of the Phase Two ESA;
- Advancement of 4 boreholes within the Site, 3 of which were converted to monitoring wells;
- Collection of 2 soil samples from each of the proposed boreholes for chemical analysis and submission of a total of 9 bulk soil samples (8 bulk samples, 1 duplicate sample) for chemical analysis of Contaminants of Potential Concern (COPCs) identified during the Phase One ESA;

- Collection of 4 groundwater samples (3 samples, 1 duplicate) for COPCs identified during the Phase One ESA;
- Comparison of the results to applicable MECP regulatory provincial standards and guidance documents as per O. Reg. 153/04; and
- Preparation of a Phase Two ESA report for the project summarizing the findings and providing conclusions and recommendations.

4.2 Media Investigated

Boreholes and monitoring wells were advanced on the Site to characterize the quality of the soil and groundwater and compare it to the applicable SCS. COPCs identified in the Phase One ESA conducted by Blastek for soil and groundwater included PHCs, BTEX, VOCs, PAHs and metals.

The soil sampling program included the collection and submission of two (2) representative soil samples from each borehole and one (1) duplicate soil sample for laboratory analysis of the COPCs.

The groundwater sampling program included the measurement of the groundwater table from the three monitoring wells developed, the purging, collection and submission of groundwater samples from each well and one (1) duplicate groundwater sample for laboratory analysis of the COPCs.

4.3 Phase One Conceptual Site Model

The Phase One ESA conducted by Blastek in June 2024 identified six (6) PCAs on the Phase One Study Area that are associated with the Phase One Property. These PCAs were deemed to be contributing to four (4) APECs on the Phase One Property. The identified PCAs and APECs are presented in the tables below.

Table 2: PCAs identified on, in or under the Phase One Study Area

PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Location	Description	Contributing to APEC (Yes/No)
PCA-1	#28 – Gasoline and associated products storage in fixed tanks	On Site	A fuel storage tank vent pipe in the basement suggests a fuel oil furnace used for heating and a fuel tank could have been present on the Property. Based on Site reconnaissance.	Yes
PCA-2	(Other) – no detailed information provided. May include inorganic chemicals, petroleum hydrocarbons, metals, waste oils.	On Site	Unknown chemical manufacturing, processing and bulk storage: The tote on the north side of the barn could have been used to store chemicals. Based on Site reconnaissance.	Yes
PCA-3	#37 – Operation of Dry Cleaning Equipment where chemicals are used)	1160 Beaverwood Road	Quality Cleaners, dry cleaner located to the northwest of the Site at 150 m.	Yes
PCA-4	#28 – Gasoline and Associated Products Storage in Fixed Tanks	1160D Beaverwood Road	Listed in the Fuel Oil Spills and Leaks database with a hit to a service/riser distribution pipeline. Located at approximately 150 m west of the Site	Yes

PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Location	Description	Contributing to APEC (Yes/No)
PCA-5	#28 – Gasoline and Associated Products Storage in Fixed Tanks	5561 Main Street	Listed in the Ontario Spill database with a furnace oil spill in 1996 on earth basement floor. Located at approximately 135 m north-west of the Site	Yes
PCA-6	#37 – Operation of Dry-Cleaning Equipment (where chemicals are used)	Area to the northwest of the Site	Based on a review of the previous environmental reports for the Phase One Property, elevated concentration of chlorinated volatile organic compounds were detected in groundwater.	Yes



Table 3: List of Areas of Potential Environmental Concern

APEC No.	Location of APEC on Phase One Property	PCA	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	The south portion of the residential building (Basement footprint)	28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site (PCA-1)	PHCs, BTEX, Metals	Soil and Groundwater
APEC-2	Western portion of the Property	(Other) Chemical manufacturing, processing and bulk storage	On-Site (PCA-2)	VOCs, PHCs, BTEX, PAHs	Soil and Groundwater
APEC-3	Entire property	37. Operation of Dry Cleaning Equipment (where chemicals are used)	Off-Site (PCA-3 and PCA-6)	VOCs	Soil and Groundwater
APEC-4	Western portion of the Property	28. Gasoline and Associated Products Storage in Fixed Tanks	Off-Site (PCA-4 and PCA-5)	PHCs, BTEX, Metals	Soil and Groundwater

5.0 INVESTIGATION METHOD

5.1 General

USL-1, a licensed Utility locator, was contracted to identify the location of all underground buried utilities at the Site. Public utilities including communications, gas, hydro, municipal water/sewer and streetlights, as well as private utilities were cleared through these services.

Blastek conducted the Phase Two ESA field investigation between September 19 and October 9, 2024. Four (4) boreholes (BH24-01, BH24-02, BH24-03 and BH24-04) were advanced on the Site, three (3) of which were converted to monitoring wells. Soil samples were collected for the COPCs identified in the Phase One ESA (PHCs, BTEX, VOCs, PAHs and metals). Groundwater was sampled from the developed monitoring wells across the Site and submitted for laboratory analyses of the COPCs.

5.2 Drilling and Excavating

The boreholes were advanced within the overburden to depths ranging from approximately 3.7 to 6.0 metres below ground surface (mbgs). The boreholes were advanced using a track mounted CME-45C/300 drill rig with a NW casing advancer coupled with a tricone drill bit supplied and operated by OGS Inc. of Almonte, Ontario. Soil samples were collected using a 50-millimetre diameter split spoon sampler advanced using a 140-pound hammer.

Monitoring wells were installed in boreholes BH24-02, BH24-03 and BH24-04 for measurement of the groundwater level and groundwater sampling. All monitoring wells were sampled as part of the Phase Two ESA investigation.

5.3 Soil

5.3.1 Sampling

Soil samples from the boreholes advanced on the Site were collected via a 50 mm diameter split spoon. Samples were transferred immediately into laboratory supplied jars and placed in a cooler. If sufficient soil was recovered, the remaining soil was placed in a Ziplock bag to allow for field screening measurements. Clean gloves were worn and changed between each sample. Soil samples were inspected in the field for visual, tactile and olfactory evidence of impact.



Soil samples were each labeled with their unique identification number and recorded on the laboratory chain of custody.

A total of 10 soil samples (8 bulk samples, 1 duplicate and 1 TCLP) were collected and placed in coolers with ice packs. Samples along with a chain of custody were submitted to Eurofins Scientific in Ottawa, Ontario, which is an accredited laboratory.

Borehole logs are provided in Appendix B.

5.3.2 Field Screening

Samples were inspected in the field for visual, tactile and olfactory evidence of impact. Blastek field personnel visually classified and logged the subsurface conditions encountered at each sampling location at the time of the field work.

Soil samples were screened for total VOCs using a RKI GX-6000 Photo Ionizing Detector (PID). The detection limit of the instrument ranges from 0 to 6,000 ppm. The RKI GX-6000 PID was obtained by Blastek from Maxim Environmental and Safety Inc. (Maxim) for this project. Maxim calibrated the instrument to isobutylene before use.

Headspace VOC concentrations were measured after sealing and shaking soil samples in plastic bags. The results ranged from 0.0 to 0.4 ppm.

5.4 Groundwater

5.4.1 Sampling

Each monitoring well was purged a minimum of three well volumes or to dry from each location. Well purging was conducted using a peristaltic pump with dedicated disposable tubing. Groundwater samples were subsequently collected, after allowing for a period of aquifer stabilization, using low-flow sampling techniques to allow for the collection of representative samples. Groundwater samples were collected from the monitoring wells directly into laboratory supplied bottles using a peristaltic pump with dedicated disposable tubing.

Groundwater samples were each labeled with their unique identification number and recorded on the laboratory chain of custody.

A total of 4 groundwater samples, one from each of the 3 monitoring wells and one duplicate were collected and placed in coolers with ice packs. Samples along with a chain of custody were submitted to Eurofins Scientific in Ottawa, Ontario, which is an accredited laboratory.

5.4.2 Field Screening

Vapours from the monitoring wells were screened for total VOCs and combustible using RKI Eagle 2 Gas Monitor calibrated to hexane and isobutylene, respectively, operated in methane elimination mode. The detection limit of the PID ranges from 0 to 2,000 ppm and that of the catalytic sensor ranges from 0 to 50,000 ppm. The RKI Eagle 2 was obtained by Blastek from Maxim Environmental and Safety Inc. (Maxim) for this project. Combustible headspace well vapour readings were 0 ppm. Total VOC headspace readings were 0 ppm.

5.5 Analytical Testing

Soil and groundwater samples were collected directly into laboratory-supplied sampling containers, stored in dedicated coolers with ice packs to maintain required sample storage temperatures and shipped to Eurofins Scientific in Ottawa, Ontario. Samples were submitted under standard chain-of-custody procedures. Complete laboratory certificates of analysis for are provided in Appendix C.

5.6 Quality Assurance and Quality Control Measures

Soil and groundwater samples were collected directly into laboratory-supplied sampling containers. All samples were stored and shipped in dedicated coolers and were submitted to Eurofins Scientific, under standard chain-of-custody procedures.

Equipment cleaning procedures for soil sampling consisted of manual cleaning of split spoons. Following each split spoon sample all loose soils were removed from the spoons by heavy brush.

The soil sampling program included the submission of two representative overburden/fill soil sample from each borehole location for laboratory analysis of the identified COPCs. 1 duplicate sample was collected and submitted to Eurofins Scientific for PHCs, BTEX, VOCs, PAHs, and metals and inorganics.

Prior to groundwater sampling, static groundwater levels were determined using an electronic water level tape. To ensure no cross contamination between wells, the water level meter probe and wetted tape length was rinsed with deionised water between wells.

All required lengths of tubing for the groundwater sampling were rinsed with deionised water before and after usage at each designated well. Dedicated tubing was used for groundwater sampling at each well.



Field quality control measures employed during the Phase Two ESA investigations consisted of the collection of a field duplicate QA/QC sample for metals, mercury and chromium VI in groundwater. The duplicate groundwater sample was submitted to Eurofins Scientific for analysis of selected parameters.

The field duplicate samples were assessed by calculating the relative percent difference (RPD) and comparing the results to the acceptance criteria.

6.0 REVIEW AND EVALUATION

6.1 Soil Stratigraphy

It is important to note that the brief soil descriptions provided below is for information purposes only and should not be relied upon, as actual soil conditions on-site may vary from the soil descriptions provided.

General subsurface conditions were observed during field investigations carried out by Blastek in September and October 2024. A surficial layer of asphalt with a thickness of 25 millimetres was encountered at borehole BH24-01.

Sand to silty sand deposits were encountered at ground surface or below the asphalt in borehole BH24-01. The sand to silty sand layer ranged from 1.2 to 2.1 metres depth.

Silty clay deposits were encountered below the sand to silty sand deposits and extended to depths ranging from 2.4 to 6 metres below ground surface.

Large boulders were encountered at all borehole locations. Bedrock was not encountered at any of the borehole locations.

6.2 Groundwater Elevations and Flow Direction

Groundwater depths were measured directly from the top of each monitoring well casing using an electronic water level tape measure. The length of riser extending beyond the ground surface was subtracted from the measurements to obtain the depths below ground surface.

Groundwater depths were measured immediately after well installation, before purging on October 7, 2024 and before sampling on October 8, 2024. The measurements are presented in Table 4 below.

Table 4: Groundwater Depths

Monitoring Well	Screened Interval (mbgs)	Installation Date	Groundwater depth after installation (mbgs)	Groundwater depth before purging (mbgs)	Groundwater depth before sampling (mbgs)
BH24-02	4.29 – 5.81	October 1, 2024	5.35	5.67	5.68
BH24-03	4.28 – 5.80	October 2, 2024	3.34	5.59	5.60
BH24-04	4.35 – 5.87	October 2, 2024	0.40	3.62	5.16

Assumed groundwater direction is illustrated in Appendix A - Figure 4. Groundwater was assumed to flow towards the Rideau River located to the west of the Site. According to the Supplementary Bedrock Hydrogeologic Investigation of PCE Contamination, Village of Manotick, prepared by Raven Beck Environmental Limited, dated 30 July 1996, the groundwater from the upper and lower aquifers of the Site was found to flow towards the Rideau River.

6.3 Soil Field Screening Results

Headspace VOC concentrations were measured after sealing and shaking soil samples in plastic bags. The results ranged from 0.0 to 0.4 ppm. The results are summarized in Table 5 below.

Table 5: Soil Field Screening Results

Monitoring Well	Sample	Depth Interval (mbgs)	VOC concentration (isobutylene) (ppm)
BH24-02	SS1	0 – 0.61	0.0
BH24-02	SS2	1.52 – 2.13	0.0
BH24-02	SS6	4.88 – 5.49	0.0
BH24-02	SS7	5.49 – 6.10	0.0
BH24-03	SS1	0 – 0.61	0.0
BH24-03	SS2	0.76 – 1.37	0.0
BH24-03	SS3	1.52 – 2.13	0.0
BH24-03	SS4	2.29 – 2.36	0.0
BH24-03	SS5	2.74 – 3.35	0.0
BH24-03	SS8	4.88 – 5.49	0.4

Monitoring Well	Sample	Depth Interval (mbgs)	VOC concentration (isobutylene) (ppm)
BH24-03	SS9	5.49 – 6.10	0.3
BH24-04	SS2	0.76 – 1.12	0.1
BH24-04	SS3	2.44 – 2.59	0.0
BH24-04	SS6	4.27 – 4.88	0.0
BH24-04	SS8	5.49 – 6.10	0.0

The measurements are considered low and do not suggest the presence of VOCs.

6.4 Soil Quality

A total of 9 soil samples, 8 bulk samples and 1 duplicate, were submitted to Eurofins Scientific, which is an accredited laboratory, for analysis of the COPCs. Exceedances to the selected MECP Table 3 SCS are summarized in Table 6 below. No exceedances to Table 3 SCS were observed.

Table 6: Soil Analytical Results

Monitoring Well	Sample	Depth Interval (mbgs)	COPCs	Exceedances to Table 3 SCS
BH24-01	SS1 SS2	0 – 1.22	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None
BH24-01	SS3 SS4	1.22 – 2.43	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None
BH24-02	SS3	2.29 – 2.90	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None
BH24-02	SS4	3.05 – 3.66	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None
BH24-03	SS6	3.51 – 4.12	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None
BH24-03	SS7	4.27 – 4.88	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None

Monitoring Well	Sample	Depth Interval (mbgs)	COPCs	Exceedances to Table 3 SCS
BH24-03	SS701	4.27 – 4.88	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None
BH24-04	SS7	4.88 – 5.49	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None
BH24-04	SS8	5.49 – 6.10	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	None

One (1) soil sample, BH24-04 SS5 TCLP, was submitted for TCLP analysis of PAHs, VOCs and Metals & Inorganics. The TCLP analytical results were compared to the Leachate Quality Criteria listed in Schedule 4 of O. Reg. 558/00: General – Waste Management. The TCLP analytical results indicated no exceedances to the Leachate Quality Criteria.

6.5 Groundwater Quality

Well screens were installed in the overburden in boreholes BH24-02, BH24-03 and BH24-04 for groundwater depth measurements and groundwater sample collections.

Groundwater samples were collected from the monitoring wells directly into laboratory supplied bottles using a peristaltic pump with dedicated disposable tubing. A total of 4 groundwater samples, including 1 duplicate, were submitted to Eurofins Scientific for analysis of the selected parameters. The groundwater samples submitted for analyses and the analytical parameters are summarized in Table 7 below and are presented in Figure 5 of Appendix A.

Table 7: Groundwater Analytical Results

Monitoring Well	Sample	Groundwater Depth before sampling (mbgs)	COPCs	Exceedances to Table 3 SCS
BH24-02	GW	5.68	VOCs, BTEX, Metals	None
BH24-03	GW	5.60	PHCs, VOCs, BTEX	None
BH24-04	GW	5.16	PHCs, VOCs, BTEX, PAHs, Metals & Inorganics	Chloroform

Monitoring Well	Sample	Groundwater Depth before sampling (mbgs)	COPCs	Exceedances to Table 3 SCS
BH24-04	GW2	5.16	Metals, Mercury, Chromium VI	None

Groundwater samples met the applicable MECP Table 3 SCS for all parameters analyzed, with the exception of chloroform in BH24-04 GW. Exceedance of chloroform levels in groundwater can sometimes result from spills of drinking water. In Canada, the drinking water standard for chloroform is 0.1 mg/L as per the Guidelines for Canadian Drinking Water Quality from Health Canada. The groundwater standard for chloroform is 0.0024 mg/L as per Table 3 SCS of O. Reg. 153/04. This means the drinking water standard is over 41 times higher than the groundwater standard. The concentration of chloroform in BH24-04 GW was found to be 0.0117 mg/L.

6.6 Quality Assurance and Quality Control Results

A quality assurance/quality control (QA/QC) program was implemented during the Phase Two ESA field investigations. The QA/QC program consisted of the use of standard decontamination protocols, as well as the collection of duplicate samples. The QA/QC program also included internal laboratory QA/QC completed by Eurofins Scientific.

Blastek's QA/QC program consisted of the collection of blind field duplicates for soil and groundwater samples. Field duplicates were collected at a minimum rate of 10% of the total samples. 1 duplicate sample was collected for soil and 1 duplicate sample was collected for groundwater.

Laboratory analyses were completed by Eurofins Scientific, a CALA-certified laboratory. Eurofins completed all analyses in accordance with internal laboratory QC programs that include standardized analytical methods and procedures, in accordance with O.Reg. 153/04. Quality Assurance Summary Reports were provided by Eurofins for all completed analyses. Complete laboratory certificates of analysis are provided in Appendix C.

Blastek's QA/QC program included submission of soil and groundwater duplicates, in order to determine the precision of the analytical methods and field sampling procedures. For soil, BH24-03 SS701 was submitted as the duplicate of sample BH24-03 SS7 for PHCs, VOCs,

BTEXX, PAHs and Metals & Inorganics. For groundwater, BH24-04 GW2 was submitted as the duplicate of sample BH24-04 GW for Metals, Mercury and Chromium VI.

The relative percent difference (RPD) was calculated for all parameters with concentrations greater than five times the reportable detection limit (RDL). The calculated soil RPD values for BH24-03 SS7 and BH24-03 SS701 ranged from 0% to 43.9%.

All calculated RPDs were within the required performance standards according to the *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality*, except for the following:

- Total Chromium had an RPD of 43.9%, exceeding the 30% standard; and
- Nickel had an RPD of 34.1%, exceeding the 30% standard.

These exceedances are likely attributed to the heterogeneity of soil and not representative of the sampling procedures followed during the sampling program.

The only calculated groundwater RPD value for BH24-04 GW and BH24-04 GW2 was 0%.

7.0 PHASE TWO CONCEPTUAL SITE MODEL

7.1 Past Investigations

One previous Phase One ESA was completed on the Site in 2024 by Blastek. A summary of the report is presented below.

Six (6) potentially contaminating activities (PCA) were identified on the Phase One Study Area that are associated with the Phase One Property:

- PCA 28 – Gasoline and associated products storage in fixed tanks: Fuel storage tank vent pipe on Site.
- PCA (Other) – no detailed information provided. May include inorganic chemicals, petroleum hydrocarbons, metals, waste oils: Unknown chemical manufacturing, processing and bulk storage on Site.
- PCA 37 – Operation of Dry-Cleaning Equipment (where chemicals are used): One dry cleaner located off Site (1160 Beaverwood Road, 150 m northwest of the Site).
- PCA 28 – Gasoline and associated products storage in fixed tanks: Oil spill off Site (1160D Beaverwood Road, 150 m west of the Site)

- PCA 28 – Gasoline and associated products storage in fixed tanks: Oil spill off Site (5561 Main Street, 135 m northwest of the Site)
- PCA 37 – Operation of Dry-Cleaning Equipment (where chemicals are used): Elevated concentrations of chlorinated volatile organic compounds in groundwater based on previous environmental studies.

These PCAs were deemed to be contributing to four (4) APECs on the Phase One Property:

- APEC 1 – The south portion of the residential building (Basement footprint): Fuel storage tank vent pipe on Site suggests a fuel oil furnace used for heating and a fuel tank could have been present. Soil and groundwater are expected to be impacted with petroleum hydrocarbons (PHCs), benzene, toluene, ethylene and xylene (BTEX), and metals.
- APEC 2 – Western portion of the Property: A tote on Site could have been used to store chemicals. Soil and groundwater are expected to be impacted with PHCs, BTEX, volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs).
- APEC 3 – Entire property: One dry cleaner located off Site, as well as elevated concentrations of chlorinated volatile organic compounds in groundwater based on previous environmental studies. Soil and groundwater are expected to be impacted with VOCs.
- APEC 4 – Western portion of the Property: Two oil spills off Site. Soil and groundwater are expected to be impacted by PHCs, BTEX and metals.

7.2 Physical Setting

The Site is located in an area of hilly topography, sloping downwards towards the west. The subject Site is higher in elevation along the west Property limits. There are no natural surface water bodies or open drainage ditches currently located on the Site. The nearest significant surface water body is the Rideau River located approximately 130-150 meters east-northeast of the Site.

According to the Generalized Bedrock Geology of Ottawa – Hull map from Geological Survey of Canada, the Site is located on the Oxford formation, which consists of dolomite and limestone. According to the Surficial Geology of Kemptville map from Geological Survey of Canada, the Site is located in an area of offshore marine deposits, which is describe by

massive blue-grey clay, silty clay and silt, calcareous and fossiliferous, locally overlain by thin sands.

7.3 Site Stratigraphy

Site stratigraphy generally consists of sand to silty sand deposits ranging from 1.2 to 2.1 metres depth, underlain by silty clay deposits extending to depths ranging from 2.4 to 6 metres below ground surface. Large boulders were encountered at all borehole locations.

7.4 Groundwater Elevations and Flow Direction

Groundwater depths were measured directly from the top of each monitoring well casing using an electronic water level tape measure. The length of riser extending beyond the ground surface was subtracted from the measurements to obtain the depths below ground surface.

Groundwater depths were measured immediately after well installation, before purging on October 7, 2024 and before sampling on October 8, 2024. The measurements are presented in Table 4 below.

Table 8: Groundwater Depths

Monitoring Well	Screened Interval (mbgs)	Installation Date	Groundwater depth after installation (mbgs)	Groundwater depth before purging (mbgs)	Groundwater depth before sampling (mbgs)
BH24-02	4.29 – 5.81	October 1, 2024	5.35	5.67	5.68
BH24-03	4.28 – 5.80	October 2, 2024	3.34	5.59	5.60
BH24-04	4.35 – 5.87	October 2, 2024	0.40	3.62	5.16

7.5 Proposed Buildings and Other Structures

It is understood that the Client intends to re-develop the property into a commercial two-storey building with a ground floor parking.

7.6 Applicable Site Condition Standards

Based on the Phase One and Phase Two ESA, the following SCS was considered applicable to the soil quality of the Site:



- Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Industrial/Commercial/Community Property Use and coarse textured soils (Table 3 SCS)

Based on the Phase One and Phase Two ESA, the following SCS was considered applicable to the groundwater quality of the Site:

- Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Use and coarse textured soils (Table 3 SCS)

7.7 Media Investigated

Boreholes and monitoring wells were advanced on the Site to characterize the quality of the soil and groundwater and compare it to the applicable SCS. The boreholes were advanced using a track mounted CME-45C/300 drill rig with a NW casing advancer coupled with a tricone drill bit supplied and operated by OGS Inc. of Almonte, Ontario. COPCs identified in the Phase One ESA conducted by Blastek for soil and groundwater included PHCs, BTEX, VOCs, PAHs and metals.

The soil sampling program included the collection and submission of two (2) representative soil samples from each borehole and one (1) duplicate soil sample for laboratory analysis of the COPCs.

The groundwater sampling program included the measurement of the groundwater table from the three monitoring wells developed, the purging, collection and submission of groundwater samples from each well and one (1) duplicate groundwater sample for laboratory analysis of the COPCs.

7.8 Soil Quality

Samples were inspected in the field for visual, tactile and olfactory evidence of impact.

Soil samples were screened for total VOCs using a RKI GX-6000 Photo Ionizing Detector (PID). The detection limit of the instrument ranges from 0 to 6,000 ppm. Headspace VOC concentrations were measured after sealing and shaking soil samples in plastic bags. The results ranged from 0.0 to 0.4 ppm.

A total of 9 soil samples, 8 bulk samples and 1 duplicate, were submitted to Eurofins Scientific, which is an accredited laboratory, for analysis of the COPCs. No exceedances to Table 3 SCS

were observed. Soil samples met the applicable MECP Table 3 SCS for all parameters analyzed.

One (1) soil sample, BH24-04 SS5 TCLP, was submitted for TCLP analysis of PAHs, VOCs and Metals & Inorganics. The TCLP analytical results were compared to the Leachate Quality Criteria listed in Schedule 4 of O. Reg. 558/00: General – Waste Management. The TCLP analytical results indicated no exceedances to the Leachate Quality Criteria.

7.9 Groundwater Quality

Well screens were installed in the overburden in boreholes BH24-02, BH24-03 and BH24-04 for groundwater depth measurements and groundwater sample collections.

Groundwater samples were collected from the monitoring wells directly into laboratory supplied bottles using a peristaltic pump with dedicated disposable tubing. A total of 4 groundwater samples, including 1 duplicate, were submitted to Eurofins Scientific for analysis of the selected parameters.

Groundwater samples met the applicable MECP Table 3 SCS for all parameters analyzed, with the exception of chloroform in BH24-04 GW. The elevated concentration of chloroform is not considered an exceedance.

7.10 Areas Where Contaminants Are Present

The results of the soil and groundwater quality investigation completed as part of the Phase Two ESA identified the presence of chloroform in groundwater with concentrations exceeding the MECP Table 3 SCS. The chloroform exceedance was found in the groundwater at BH24-04.

8.0 CONCLUSION

The Site consists of the property at 5580 Manotick Main Street, Ottawa, Ontario. The Site was first developed with building structures prior to the 1930s. It is understood that the Client intends to re-develop the property into a commercial two-storey building with a ground floor parking. Four APECs were identified across the Site:

- APEC 1 – The south portion of the residential building (Basement footprint): Fuel storage tank vent pipe on Site suggests a fuel oil furnace used for heating and a fuel tank could have been present. Soil and groundwater are expected to be impacted with

petroleum hydrocarbons (PHCs), benzene, toluene, ethylene and xylene (BTEX), and metals.

- APEC 2 – Western portion of the Property: A tote on Site could have been used to store chemicals. Soil and groundwater are expected to be impacted with PHCs, BTEX, volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs).
- APEC 3 – Entire property: One dry cleaner located off Site, as well as elevated concentrations of chlorinated volatile organic compounds in groundwater based on previous environmental studies. Soil and groundwater are expected to be impacted with VOCs.
- APEC 4 – Western portion of the Property: Two oil spills off Site. Soil and groundwater are expected to be impacted by PHCs, BTEX and metals.

Site stratigraphy generally consists of sand to silty sand deposits ranging from 1.2 to 2.1 metres depth, underlain by silty clay deposits extending to depths ranging from 2.4 to 6 metres below ground surface. Large boulders were encountered at all borehole locations.

Based on the Phase One and Phase Two ESA, the following SCS was considered applicable to the soil quality of the Site:

- Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Industrial/Commercial/Community Property Use and coarse textured soils (Table 3 SCS)

Based on the Phase One and Phase Two ESA, the following SCS was considered applicable to the groundwater quality of the Site:

- Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Use and coarse textured soils (Table 3 SCS)




A total of nine soil samples, 8 bulk samples and 1 duplicate, and four groundwater samples, including 1 duplicate, were collected from the sampling locations and submitted to Eurofins Scientific for analysis of selected parameters. Contaminants of potential environmental concern, as identified in the Phase One ESA included PHCs, BTEX, VOCs, PAHs and metals.

Analytical results indicated that the Site meets the applicable MECP Table 3 SCS for soil, but not for groundwater. One groundwater sample exceeded the applicable MECP Table 3 SCS for chloroform.

8.1 Recommendations

The Phase Two ESA identified chloroform concentrations in groundwater that exceed the applicable Table 3 SCS at monitoring well BH24-04. However, since this exceedance was observed at only one of the three monitoring wells, Blastek does not recommend the remediation of groundwater on the Site. Following the revision of the generic standards for chloroform in groundwater – now set below drinking water standards – chloroform exceedances have commonly been found in urban groundwater, often due to the release of treated water through leaking water and sewer lines, hydrant flushing, or other discharges. As a result, the elevated concentrations of chloroform on the site are considered to be related to well installation activities, rather than to PCAs or APECs. Therefore, the Site meets the applicable Property Use Standards.

8.2 Signatures

Prepared by:	Review by:
	 
Marc Orfali, <i>EIT.</i>	Dr. Nizar Zyoud <i>Ph.D., P.Eng.</i>
Project Coordinator	Hydrogeologist

9.0 LIMITATION OF INVESTIGATION

The conclusions are presented based upon the readily available public information within the time frame of this mandate by trained professionals, following a prescribed and recognised assessment procedure.

This report is not intended to address, or provide comment on the presence, or absence of organic growth organisms commonly referred to as mould, through statements, inferences or omissions.

The report is prepared for the use of the Client and his named representatives in making an informed financial and business decision regarding environmental liabilities that may be associated with the Site. The use of this report for any other purpose is at the Client's own risk.

The Client must understand that changing circumstances in the physical or regulatory environment, the administration and use of the Site, as well as changes in any substances stored, used, or disposed of at the Site, could significantly alter the conclusions and information contained in this report. Therefore, it is important that the Client periodically re-evaluates the Site and reviews developments or operations, which may potentially impact the Site.

10.0 REFERENCES

Blastek Engineering Group. June 2024. Phase One Environmental Site Assessment, 5580 Manotick Main Street, Ottawa, Ontario.

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Ministry of the Environment, Conservation and Parks (MECP) Table 3: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, March 2004, amended July 1, 2011. Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Industrial/Commercial/Community Property Use with coarse textured soils.

Ministry of the Environment, Conservation and Parks (MECP) Table 3: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, March 2004, amended July 1, 2011. Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Use with coarse textured soils.

Ministry of the Environment, Conservation and Parks (MECP). Guidance on sampling and analytical methods for use at contaminated sites in Ontario. Revised December 1996.

Ministry of the Environment, Conservation and Parks (MECP). January 1, 2014. Ontario Regulation 153/04, Made under the Environmental Protection Act, Part XV.1 – Records of Site Condition.



Ministry of the Environment, Conservation and Parks (MECP). Soil, Groundwater and Sediment Standards for use under part XV.1 of the Environmental Protection Act. April 15, 2011.



STATEMENT OF LIMITATIONS AND CONDITIONS

This Report has been prepared in accordance with generally accepted engineering or environmental consulting practices in the applicable jurisdiction. No other warranty, expressed or implied, is intended or made.

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report, which is of a summary nature and is not intended to stand alone without reference to the instructions given to BLASTEK by the Client, communications between BLASTEK and the Client, and any other reports, proposals or documents prepared by BLASTEK for the Client relative to the specific site described herein, all of which together constitute the Report. IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. BLASTEK IS NOT RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

The Report has been prepared for the specific site, development, design objectives and purposes that were described to BLASTEK by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the Report, subject to the limitations provided herein, are only valid to the extent that the Report expressly addresses proposed development, design objectives and purposes, and then only to the extent that there has been no material alteration to or variation from any of the said descriptions provided to BLASTEK, unless BLASTEK is specifically requested by the Client to review and revise the Report in light of such alteration or variation.

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Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled.

Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and the Report is delivered subject to the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. If special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared based on conditions in evidence at the time of site inspections and based on information provided to BLASTEK. BLASTEK has relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, BLASTEK does not accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by BLASTEK. BLASTEK is entitled to rely on such representations, information and instructions and is not required to carry out investigations to determine the truth or accuracy of such representations, information, and instructions.

Design Services: The Report may form part of design and construction documents for information purposes even though it may have been issued prior to final design being completed. BLASTEK should be retained to review final design, project plans and related documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the Report's recommendations and the final design detailed in the contract documents should be reported to BLASTEK immediately so that BLASTEK can address potential conflicts.

Construction Services: During construction BLASTEK should be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for BLASTEK to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

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Appendix A

Figure 1 – Site Location Plan

Figure 2 – Potentially Contaminating Activities

Figure 3 – Areas of Potential Environmental Concern

Figure 4 – Groundwater Direction

Figure 5 – Groundwater Exceedances











Legend

- Phase Two Property
- Borehole
- Borehole/monitoring well

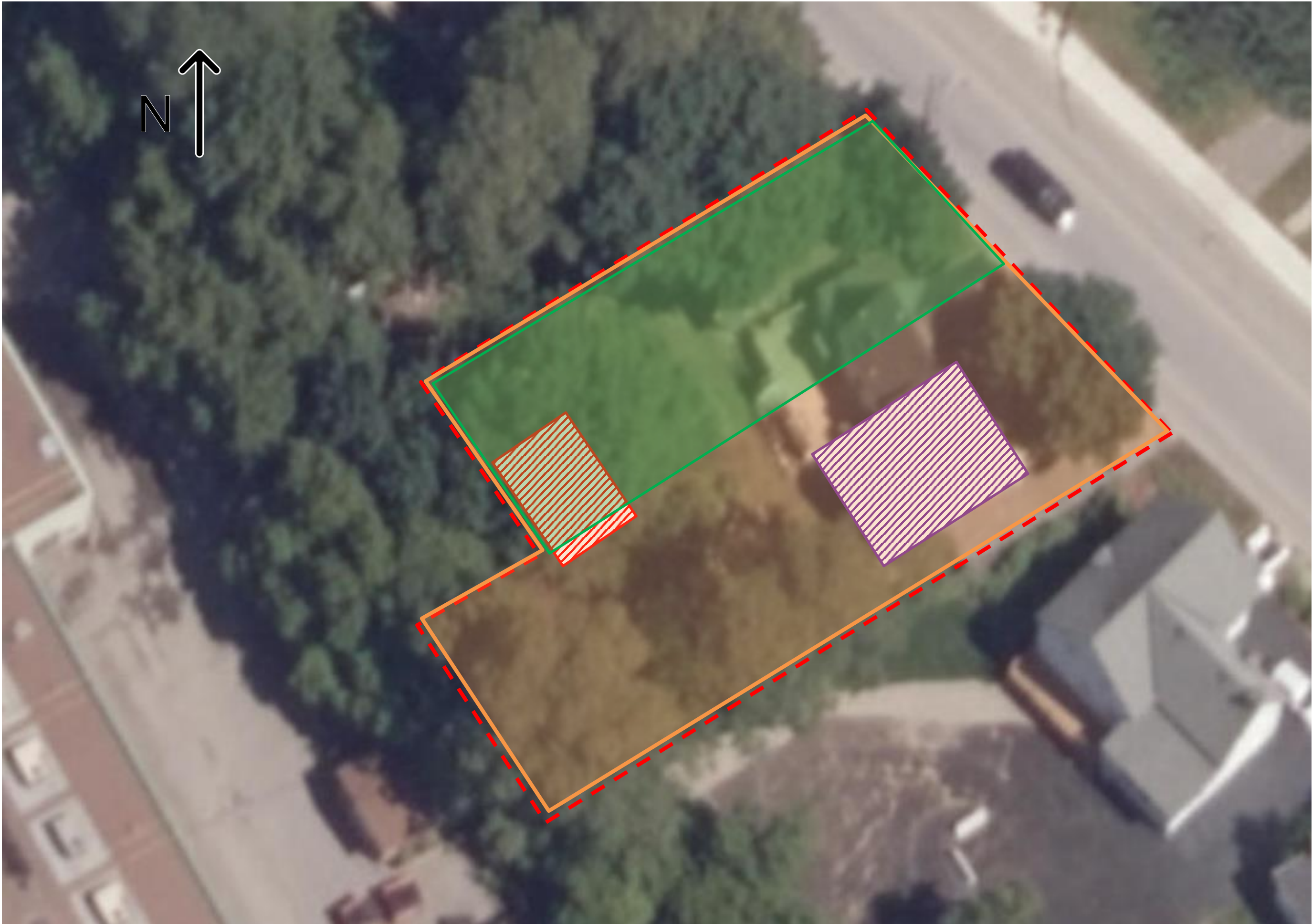
0	10/06/2024		
Revision	Date	Issue	Approval
Client	Ignite Architecture Inc.		
Site	5580 Manotick Main Street, Ottawa, Ontario		
ReportTitle	Phase Two Environmental Site Assessment		
DrawingTitle	Site Location Pan		
Designed By	M.O	Scale	N/A
Drawn By	M.O	Date	12/09/2024
Approved By	S.A	Project No.	B040048
Figure No.	1		








Legend

-  Phase One Property
-  Phase One Study Area
-  Gasoline and Associated Products Storage in Fixed Tanks
-  Unknown chemical manufacturing, processing and bulk storage
-   Operation of Dry Cleaning Equipment (where chemicals are used)
-   Gasoline and Associated Products Storage in Fixed Tanks

Revision	Date	Issue	Approval
Client Ignite Architecture Inc.			
Site 5580 Manotick Main Street, Ottawa, Ontario			
ReportTitle Phase Two Environmental Site Assessment			
DrawingTitle Potentially Contaminating Activities			
Designed By M.O		Scale N/A	
Drawn By M.O		Date 12/09/2024	
Approved By S.A		Project No. B040048	
Figure No. 2			




Legend

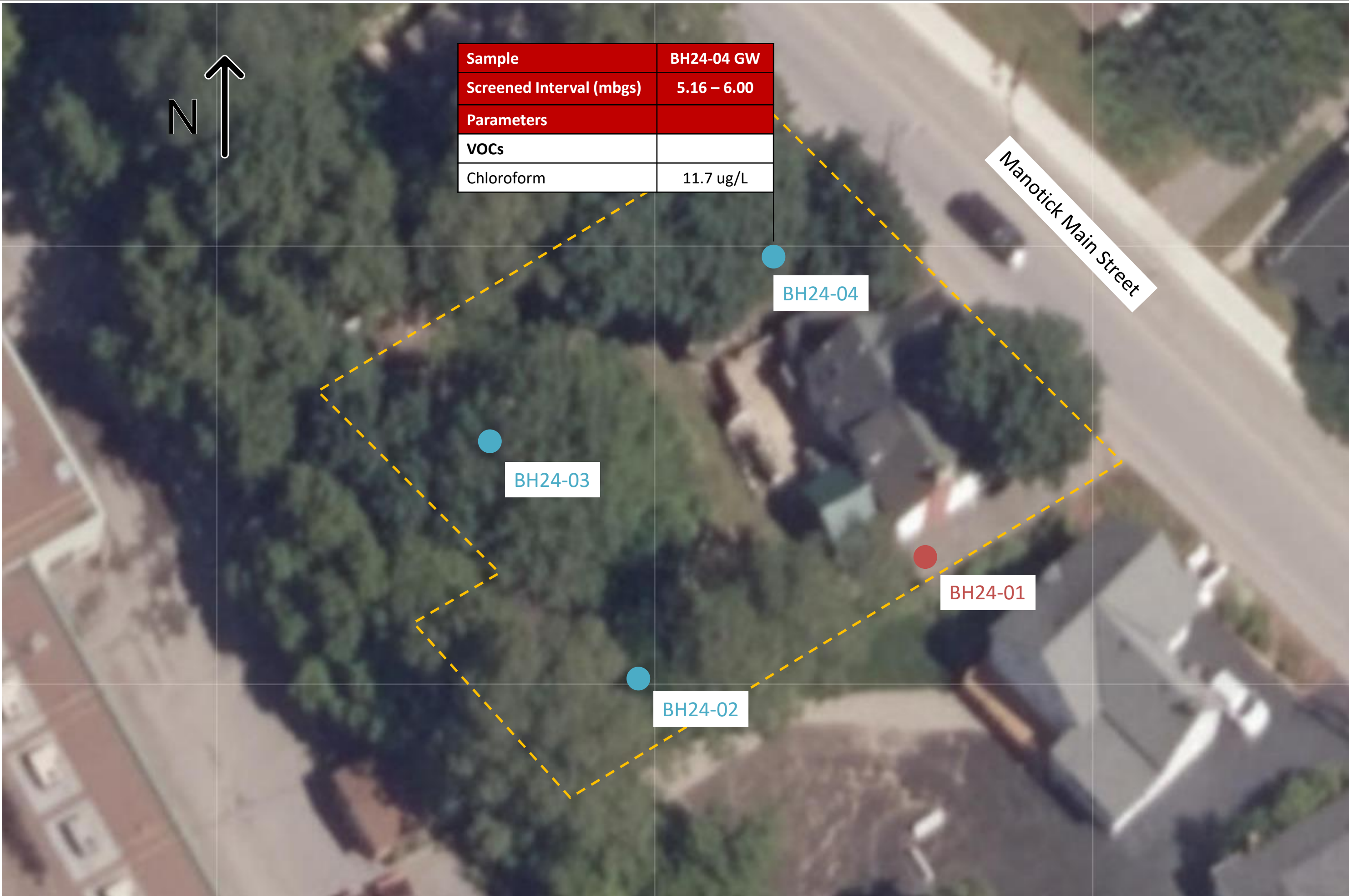
-  Phase One Property
-  APEC 1
-  APEC 2
-  APEC 3
-  APEC 4

Revision	Date	Issue	Approval
Client			
Ignite Architecture Inc.			
Site			
5580 Manotick Main Street, Ottawa, Ontario			
ReportTitle			
Phase Two Environmental Site Assessment			
DrawingTitle			
Areas of Potential Environmental Concern			
Designed By		Scale	
M.O		N/A	
Drawn By		Date	
M.O		12/09/2024	
Approved By		Project No.	
S.A		B040048	
Figure No.			



- Legend
-  Phase Two Property
 -  Assumed Groundwater Direction

Revision	Date	Issue	Approval
Client Ignite Architecture Inc.			
Site 5580 Manotick Main Street, Ottawa, Ontario			
ReportTitle Phase Two Environmental Site Assessment			
DrawingTitle Assumed Groundwater Direction			
Designed By M.O		Scale N/A	
Drawn By M.O		Date 12/09/2024	
Approved By S.A		Project No. B040048	



Legend

- Phase Two Property
- Borehole
- Borehole/monitoring well

Standards

Parameters	MECP Table 3
VOCs	
Chloroform	2.4 ug/L

0	10/06/2024		
Revision	Date	Issue	Approval
Client	Ignite Architecture Inc.		
Site	5580 Manotick Main Street, Ottawa, Ontario		
ReportTitle	Phase Two Environmental Site Assessment		
DrawingTitle	Groundwater Exceedances		
Designed By	M.O	Scale	N/A
Drawn By	M.O	Date	12/09/2024
Approved By	S.A	Project No.	B040048
Figure No.	5		



Appendix B

Borehole Logs

Project No.: B040048

Drill Date: October 1, 2024

Project: 5580 Manotick Main St - Phase Two ESA

Drilled by: OGS Inc.

Location: 5580 Manotick Main Street, Ottawa, ON K4M 1E2

Datum: Below Existing Ground Level

Material Description	Symbol	Elev.	Samples		Scale (m)	SPT "N" Value				Soil Moisture (%)		GWL	Monitor Details	Test Data
		Depth	No.	Type		0	25	50	75	0	25			
Ground Surface														
ASPHALT		0.0												
SAND: grey brown, with gravel, trace silt		0.025	1	SS										
SILT: brown, some clay, with organic material, gravel and crushed rock		0.17	2	SS										
SILTY CLAY: greenish brown, with small to medium gravel and crushed rock		1.2	3	SS										
			4	SS										
BOULDER		2.4												
END OF BOREHOLE		3.7												

Notes:

PP = pocket penetrometer TCV = total combustible vapour BRD = bulk relative density SS = Split Spoon
 PL = plastic limit LL = liquid limit PI = plasticity index FV = field vane LV = lab vane VS = vane sensitivity

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Ph: (613) 383-2503

<https://blastekgroup.com>

Project No.: B040048






Drill Date: October 1, 2024

Project: 5580 Manotick Main St - Phase Two ESA

Drilled by: OGS Inc.

Location: 5580 Manotick Main Street, Ottawa, ON K4M 1E2

Datum: Below Existing Ground Level

Material Description	Symbol	Elev.	Samples		Scale (m)	SPT "N" Value				Soil Moisture (%)		GWL	Monitor Details	Test Data
		Depth	No.	Type		0	25	50	75	0	25			
Ground Surface														
SAND: fine, trace silt, light brown, with gravel and crushed rock		0.0					●							
SANDY SILT: brown, some small to medium gravel and crushed rock		0.6						●						
			3	SS			●							
SILTY CLAY: greenish brown, with small to medium gravel and crushed rock		3.0	4	SS		●								
BOULDER		3.6												
SILTY CLAY: greenish brown, with small to medium gravel and crushed rock		4.8							●					
									●					
END OF BOREHOLE AT TARGET DEPTH		5.9												

Notes:

PP = pocket penetrometer TCV = total combustible vapour BRD = bulk relative density SS = Split Spoon
 PL = plastic limit LL = liquid limit PI = plasticity index FV = field vane LV = lab vane VS = vane sensitivity

Blastek Engineering Group

1550 Laperriere Ave #102,

Ottawa, ON K1Z 7T2

Ph: (613) 383-2503

<https://blastekgroup.com>

Project No.: B040048

Drill Date: October 2, 2024

Project: 5580 Manotick Main St - Phase Two ESA

Drilled by: OGS Inc.

Location: 5580 Manotick Main Street, Ottawa, ON K4M 1E2

Datum: Below Existing Ground Level

Material Description	Symbol	Elev.	Samples		Scale (m)	SPT "N" Value				Soil Moisture (%)		GWL	Monitor Details	Test Data
		Depth	No.	Type		0	25	50	75	0	25			
Ground Surface		0.0												
SAND: fine, some silt, brown, with gravel and crushed rock														
BOULDER		2.3												
SILTY CLAY: greenish brown, with small to medium gravel and crushed rock		3.3	6	SS										
			7	SS										
END OF BOREHOLE AT TARGET DEPTH		5.9												

Notes:

PP = pocket penetrometer TCV = total combustible vapour BRD = bulk relative density SS = Split Spoon
 PL = plastic limit LL = liquid limit PI = plasticity index FV = field vane LV = lab vane VS = vane sensitivity

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Drilled by: OGS Inc.

Location: 5580 Manotick Main Street, Ottawa, ON K4M 1E2

Datum: Below Existing Ground Level

Material Description	Symbol	Elev.	Samples		Scale (m)	SPT "N" Value				Soil Moisture (%)		GWL	Monitor Details	Test Data
		Depth	No.	Type		0	25	50	75	0	25			
Ground Surface														
SILTY SAND: brown, with organic material, gravel and crushed rock		0.0												
BOULDER		1.1												
SILTY CLAY: greenish brown, with small to large gravel and crushed rock		3.6	5	SS		●								
			6	SS		●								
			7	SS		●								
			8	SS		●								
END OF BOREHOLE AT TARGET DEPTH		6.0												

Notes:

PP = pocket penetrometer TCV = total combustible vapour BRD = bulk relative density SS = Split Spoon
 PL = plastic limit LL = liquid limit PI = plasticity index FV = field vane LV = lab vane VS = vane sensitivity

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Appendix C

Certificates of Analysis

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
Invoice to: Blastek Engineering Group
PO#: B040048

Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869
Temperature (C): 19
Custody Seal:

Page 1 of 39

Dear Marc Orfali:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Sample Comment Summary

Sample ID: 1744742 BH24-02 SS3 For all samples in this report, metals spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.
--

Report Comments:

Emma-Dawn Ferguson, Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at <https://directory.cala.ca/>

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

EETC Reg 153 Version 19.rpt



Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-09-30
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Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria

Results relate only to the parameters tested on the samples submitted.
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Date Submitted: 2024-09-30
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Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Hydrocarbons

Lab I.D.
Sample Matrix
Sample Type
Sample Date
Sampling Time
Sample I.D.

1744742
Soil153
2024-09-30
BH24-02
SS3

1744743
Soil153
2024-09-30
BH24-02
SS4

1745060
Soil153
2024-10-01
BH24-01
SS1 SS2

1745061
Soil153
2024-10-01
BH24-01
SS3 SS4

1745062
Soil153
2024-10-01
BH24-03
SS6

Analyte	Batch No	MRL	Units	Guideline	1744742 Soil153 2024-09-30 BH24-02 SS3	1744743 Soil153 2024-09-30 BH24-02 SS4	1745060 Soil153 2024-10-01 BH24-01 SS1 SS2	1745061 Soil153 2024-10-01 BH24-01 SS3 SS4	1745062 Soil153 2024-10-01 BH24-03 SS6
PHC's F1	466601	10	ug/g	STD 55	<10	<10			
	466764	10	ug/g	STD 55			<10	<10	<10
PHC's F1-BTEX	466604	10	ug/g		<10	<10			
	466769	10	ug/g				<10	<10	<10
PHC's F2	466565	2	ug/g	STD 230		<2			
	466566	2	ug/g	STD 230	<2				
	466776	2	ug/g	STD 230			<2	<2	4
PHC's F2-Naph	466813	2	ug/g		<2	<2			
	466816	2	ug/g				<2	<2	4
PHC's F3	466565	20	ug/g	STD 1700		<20			
	466566	20	ug/g	STD 1700	<20				
	466776	20	ug/g	STD 1700			<20	<20	<20
PHC's F3-PAH	466818	20	ug/g		<20	<20	<20	<20	<20
PHC's F4	466565	20	ug/g	STD 3300		<20			
	466566	20	ug/g	STD 3300	<20				
	466776	20	ug/g	STD 3300			<20	<20	<20

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Date Submitted: 2024-10-02
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Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1745063 Soil153 - 2024-10-02 BH24-03 SS7	1745064 Soil153 - 2024-10-02 BH24-03 SS701	1745065 Soil153 - 2024-10-02 BH24-04 SS7	1745066 Soil153 - 2024-10-02 BH24-04 SS8
PHC's F1	466764	10	ug/g	STD 55		<10	<10	<10	<10
PHC's F1-BTEX	466769	10	ug/g			<10	<10	<10	<10
PHC's F2	466776	2	ug/g	STD 230				<2	
	466779	2	ug/g	STD 230		<2	<2		<2
PHC's F2-Naph	466816	2	ug/g			<2	<2	<2	<2
PHC's F3	466776	20	ug/g	STD 1700				<20	
	466779	20	ug/g	STD 1700		<20	<20		<20
PHC's F3-PAH	466818	20	ug/g			<20	<20	<20	<20
PHC's F4	466776	20	ug/g	STD 3300				<20	
	466779	20	ug/g	STD 3300		<20	<20		<20

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1744742 Soil153 - 2024-09-30 BH24-02 SS3	1744743 Soil153 - 2024-09-30 BH24-02 SS4	1745060 Soil153 - 2024-10-01 BH24-01 SS1 SS2	1745061 Soil153 - 2024-10-01 BH24-01 SS3 SS4	1745062 Soil153 - 2024-10-01 BH24-03 SS6
Antimony	466619	1	ug/g	STD 40		<1	<1			
	466722	1	ug/g	STD 40				<1	<1	<1
Arsenic	466619	1	ug/g	STD 18		3	3			
	466722	1	ug/g	STD 18				3	3	3
Barium	466619	1	ug/g	STD 670		42	53			
	466722	1	ug/g	STD 670				38	54	48
Beryllium	466619	1	ug/g	STD 8		<1	<1			
	466722	1	ug/g	STD 8				<1	<1	<1
Boron (Hot Water Soluble)	466723	0.25	ug/g	STD 2		<0.25	<0.25	<0.25	<0.25	

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Certificate of Analysis

Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Metals

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
Guideline					BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
Analyte	Batch No	MRL	Units	Guideline					
Boron (Hot Water Soluble)	466787	0.25	ug/g	STD 2					<0.25
Boron (total)	466619	5	ug/g	STD 120	<5	<5			
	466722	5	ug/g	STD 120			<5	<5	<5
Cadmium	466619	0.4	ug/g	STD 1.9	<0.4	<0.4			
	466722	0.4	ug/g	STD 1.9			<0.4	<0.4	<0.4
Chromium Total	466619	1	ug/g	STD 160	44	29			
	466722	1	ug/g	STD 160			26	32	54
Cobalt	466619	1	ug/g	STD 80	7	7			
	466722	1	ug/g	STD 80			5	6	7
Copper	466619	1	ug/g	STD 230	22	24			
	466722	1	ug/g	STD 230			20	23	20
Lead	466619	1	ug/g	STD 120	8	8			
	466722	1	ug/g	STD 120			7	7	8
Mercury	466619	0.1	ug/g	STD 3.9	<0.1	<0.1			
	466722	0.1	ug/g	STD 3.9			<0.1	<0.1	<0.1
Molybdenum	466619	1	ug/g	STD 40	2	2			
	466722	1	ug/g	STD 40			1	2	2
Nickel	466619	1	ug/g	STD 270	24	18			
	466722	1	ug/g	STD 270			13	15	26
Selenium	466619	0.5	ug/g	STD 5.5	<0.5	<0.5			
	466722	0.5	ug/g	STD 5.5			<0.5	<0.5	<0.5
Silver	466619	0.2	ug/g	STD 40	<0.2	<0.2			
	466722	0.2	ug/g	STD 40			<0.2	<0.2	<0.2

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Certificate of Analysis

Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
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Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Metals

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
Guideline					2024-09-30	2024-09-30	2024-10-01	2024-10-01	2024-10-01
Analyte	Batch No	MRL	Units	Guideline	BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
Thallium	466619	1	ug/g	STD 3.3	<1	<1			
	466722	1	ug/g	STD 3.3			<1	<1	<1
Uranium	466619	0.5	ug/g	STD 33	0.6	0.6			
	466722	0.5	ug/g	STD 33			0.6	0.7	0.6
Vanadium	466619	2	ug/g	STD 86	23	24			
	466722	2	ug/g	STD 86			22	23	24
Zinc	466619	2	ug/g	STD 340	25	23			
	466722	2	ug/g	STD 340			19	20	23

Metals

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1745063 Soil153	1745064 Soil153	1745065 Soil153	1745066 Soil153
Guideline					2024-10-02	2024-10-02	2024-10-02	2024-10-02
Analyte	Batch No	MRL	Units	Guideline	BH24-03 SS7	BH24-03 SS701	BH24-04 SS7	BH24-04 SS8
Antimony	466722	1	ug/g	STD 40	<1	<1	<1	<1
Arsenic	466722	1	ug/g	STD 18	3	3	3	3
Barium	466722	1	ug/g	STD 670	41	43	60	66
Beryllium	466722	1	ug/g	STD 8	<1	<1	<1	<1
Boron (Hot Water Soluble)	466787	0.25	ug/g	STD 2	<0.25	<0.25	<0.25	<0.25
Boron (total)	466722	5	ug/g	STD 120	<5	<5	<5	<5
Cadmium	466722	0.4	ug/g	STD 1.9	<0.4	<0.4	<0.4	<0.4
Chromium Total	466722	1	ug/g	STD 160	50	32	41	41
Chromium VI	466809	0.20	ug/g	STD 8	<0.20	<0.20		
Cobalt	466722	1	ug/g	STD 80	7	6	7	7
Copper	466722	1	ug/g	STD 230	18	19	18	18

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Environment Testing

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Report Number: 3011336
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Manotick Main St.
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Metals

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1745063 Soil153 - 2024-10-02 BH24-03 SS7	1745064 Soil153 - 2024-10-02 BH24-03 SS701	1745065 Soil153 - 2024-10-02 BH24-04 SS7	1745066 Soil153 - 2024-10-02 BH24-04 SS8
Analyte	Batch No	MRL	Units	Guideline				
Lead	466722	1	ug/g	STD 120	7	7	8	7
Mercury	466722	0.1	ug/g	STD 3.9	<0.1	<0.1	<0.1	<0.1
Molybdenum	466722	1	ug/g	STD 40	2	2	2	1
Nickel	466722	1	ug/g	STD 270	24	17	21	22
Selenium	466722	0.5	ug/g	STD 5.5	<0.5	<0.5	<0.5	<0.5
Silver	466722	0.2	ug/g	STD 40	<0.2	<0.2	<0.2	<0.2
Thallium	466722	1	ug/g	STD 3.3	<1	<1	<1	<1
Uranium	466722	0.5	ug/g	STD 33	0.6	0.6	0.6	0.6
Vanadium	466722	2	ug/g	STD 86	22	22	23	24
Zinc	466722	2	ug/g	STD 340	19	20	21	20

Others

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1744742 Soil153 2024-09-30 BH24-02 SS3	1744743 Soil153 2024-09-30 BH24-02 SS4	1745060 Soil153 - 2024-10-01 BH24-01 SS1 SS2	1745061 Soil153 - 2024-10-01 BH24-01 SS3 SS4	1745062 Soil153 - 2024-10-01 BH24-03 SS6
Analyte	Batch No	MRL	Units	Guideline					
Chromium VI	466695	0.02	ug/g	STD 8	0.05	0.05			
	466784	0.2	ug/g	STD 8			<0.2	<0.2	<0.2

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Manotick Main St.
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Others

Guideline = O.Reg 153-T3-Ind/Com-Coarse							
<u>Others</u>					Lab I.D.	1745065	1745066
					Sample Matrix	Soil153	Soil153
					Sample Type	-	-
					Sample Date	2024-10-02	2024-10-02
					Sampling Time		
					Sample I.D.	BH24-04	BH24-04
Analyte	Batch No	MRL	Units	Guideline	SS7	SS8	
Chromium VI	466784	0.2	ug/g	STD 8	<0.2	<0.2	

PAH

PAH					Lab I.D.	1744742	1744743	1745060	1745061	1745062
					Sample Matrix	Soil153	Soil153	Soil153	Soil153	Soil153
				Sample Type	2024-09-30	2024-09-30	-	-	-	
				Sample Date			2024-10-01	2024-10-01	2024-10-01	
				Sampling Time						
				Sample I.D.	BH24-02	BH24-02	BH24-01	BH24-01	BH24-03	
Analyte	Batch No	MRL	Units	Guideline	SS3	SS4	SS1 SS2	SS3 SS4	SS6	
1+2-methylnaphthalene	466578	0.05	ug/g	STD 76	<0.05	<0.05				
	466690	0.05	ug/g	STD 76			<0.05			
	466741	0.05	ug/g	STD 76				<0.05	<0.05	
Acenaphthene	466529	0.05	ug/g	STD 96	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 96				<0.05	<0.05	
Acenaphthylene	466529	0.05	ug/g	STD 0.15	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.15				<0.05	<0.05	
Anthracene	466529	0.05	ug/g	STD 0.67	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.67				<0.05	<0.05	
Benz[a]anthracene	466529	0.05	ug/g	STD 0.96	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.96				<0.05	<0.05	
Benzo[a]pyrene	466529	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.3				<0.05	<0.05	

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Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1744742	1744743	1745060	1745061	1745062	
					Soil153	Soil153	Soil153	Soil153	Soil153	
					2024-09-30	2024-09-30	2024-10-01	2024-10-01	2024-10-01	
					BH24-02	BH24-02	BH24-01	BH24-01	BH24-03	
					SS3	SS4	SS1 SS2	SS3 SS4	SS6	
Benzo[b]fluoranthene	466529	0.05	ug/g	STD 0.96	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.96				<0.05	<0.05	
Benzo[ghi]perylene	466529	0.05	ug/g	STD 9.6	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 9.6				<0.05	<0.05	
Benzo[k]fluoranthene	466529	0.05	ug/g	STD 0.96	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.96				<0.05	<0.05	
Chrysene	466529	0.05	ug/g	STD 9.6	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 9.6				<0.05	<0.05	
Dibenz[a h]anthracene	466529	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.1				<0.05	<0.05	
Fluoranthene	466529	0.05	ug/g	STD 9.6	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 9.6				<0.05	<0.05	
Fluorene	466529	0.05	ug/g	STD 62	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 62				<0.05	<0.05	
Indeno[1 2 3-cd]pyrene	466529	0.05	ug/g	STD 0.76	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 0.76				<0.05	<0.05	
Methlynaphthalene, 1-	466529	0.05	ug/g	STD 76	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 76				<0.05	<0.05	
Methlynaphthalene, 2-	466529	0.05	ug/g	STD 76	<0.05	<0.05	<0.05			
	466735	0.05	ug/g	STD 76				<0.05	<0.05	
Naphthalene	466529	0.013	ug/g	STD 9.6	<0.013	<0.013	<0.013			
	466735	0.013	ug/g	STD 9.6				<0.013	<0.013	
Phenanthrene	466529	0.05	ug/g	STD 12	<0.05	<0.05	<0.05			

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Client: Blastek Eng. Group
1550 Laperriere Avenue
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Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1744742 Soil153 2024-09-30 BH24-02 SS3	1744743 Soil153 2024-09-30 BH24-02 SS4	1745060 Soil153 2024-10-01 BH24-01 SS1 SS2	1745061 Soil153 2024-10-01 BH24-01 SS3 SS4	1745062 Soil153 2024-10-01 BH24-03 SS6
Phenanthrene	466735	0.05	ug/g	STD 12					<0.05	<0.05
Pyrene	466529	0.05	ug/g	STD 96		<0.05	<0.05	<0.05		
	466735	0.05	ug/g	STD 96					<0.05	<0.05

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1745063 Soil153 2024-10-02 BH24-03 SS7	1745064 Soil153 2024-10-02 BH24-03 SS701	1745065 Soil153 2024-10-02 BH24-04 SS7	1745066 Soil153 2024-10-02 BH24-04 SS8
1+2-methylnaphthalene	466741	0.05	ug/g	STD 76		<0.05	<0.05	<0.05	<0.05
Acenaphthene	466735	0.05	ug/g	STD 96		<0.05	<0.05	<0.05	<0.05
Acenaphthylene	466735	0.05	ug/g	STD 0.15		<0.05	<0.05	<0.05	<0.05
Anthracene	466735	0.05	ug/g	STD 0.67		<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	466735	0.05	ug/g	STD 0.96		<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	466735	0.05	ug/g	STD 0.3		<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	466735	0.05	ug/g	STD 0.96		<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	466735	0.05	ug/g	STD 9.6		<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	466735	0.05	ug/g	STD 0.96		<0.05	<0.05	<0.05	<0.05
Chrysene	466735	0.05	ug/g	STD 9.6		<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	466735	0.05	ug/g	STD 0.1		<0.05	<0.05	<0.05	<0.05
Fluoranthene	466735	0.05	ug/g	STD 9.6		<0.05	<0.05	<0.05	<0.05
Fluorene	466735	0.05	ug/g	STD 62		<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	466735	0.05	ug/g	STD 0.76		<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	466735	0.05	ug/g	STD 76		<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	466735	0.05	ug/g	STD 76		<0.05	<0.05	<0.05	<0.05

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Attention: Mr Marc Orfali
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Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1745063 Soil153 - 2024-10-02 BH24-03 SS7	1745064 Soil153 - 2024-10-02 BH24-03 SS701	1745065 Soil153 - 2024-10-02 BH24-04 SS7	1745066 Soil153 - 2024-10-02 BH24-04 SS8
Naphthalene	466735	0.013	ug/g	STD 9.6		<0.013	<0.013	<0.013	<0.013
Phenanthrene	466735	0.05	ug/g	STD 12		<0.05	<0.05	<0.05	<0.05
Pyrene	466735	0.05	ug/g	STD 96		<0.05	<0.05	<0.05	<0.05

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1744742 Soil153 2024-09-30 BH24-02 SS3	1744743 Soil153 2024-09-30 BH24-02 SS4	1745060 Soil153 - 2024-10-01 BH24-01 SS1 SS2	1745061 Soil153 - 2024-10-01 BH24-01 SS3 SS4	1745062 Soil153 - 2024-10-01 BH24-03 SS6
Acetone	466599	0.50	ug/g	STD 16		<0.50	<0.50			
	466754	0.50	ug/g	STD 16				<0.50	<0.50	
	466755	0.50	ug/g	STD 16						<0.50
Benzene	466599	0.0068	ug/g	STD 0.32		<0.0068	<0.0068			
	466754	0.0068	ug/g	STD 0.32				<0.0068	<0.0068	
	466755	0.0068	ug/g	STD 0.32						<0.0068
Bromodichloromethane	466599	0.05	ug/g	STD 18		<0.05	<0.05			
	466754	0.05	ug/g	STD 18				<0.05	<0.05	
	466755	0.05	ug/g	STD 18						<0.05
Bromoform	466599	0.05	ug/g	STD 0.61		<0.05	<0.05			
	466754	0.05	ug/g	STD 0.61				<0.05	<0.05	
	466755	0.05	ug/g	STD 0.61						<0.05
Bromomethane	466599	0.05	ug/g	STD 0.05		<0.05	<0.05			
	466754	0.05	ug/g	STD 0.05				<0.05	<0.05	
	466755	0.05	ug/g	STD 0.05						<0.05
Carbon Tetrachloride	466599	0.05	ug/g	STD 0.21		<0.05	<0.05			

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Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.				
					1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
					2024-09-30	2024-09-30	2024-10-01	2024-10-01	2024-10-01
					BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
Carbon Tetrachloride	466754	0.05	ug/g	STD 0.21			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.21					<0.05
Chlorobenzene	466599	0.05	ug/g	STD 2.4	<0.05	<0.05			
	466754	0.05	ug/g	STD 2.4			<0.05	<0.05	
	466755	0.05	ug/g	STD 2.4					<0.05
Chloroform	466599	0.05	ug/g	STD 0.47	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.47			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.47					<0.05
Dibromochloromethane	466599	0.05	ug/g	STD 13	<0.05	<0.05			
	466754	0.05	ug/g	STD 13			<0.05	<0.05	
	466755	0.05	ug/g	STD 13					<0.05
Dichlorobenzene, 1,2-	466599	0.05	ug/g	STD 6.8	<0.05	<0.05			
	466754	0.05	ug/g	STD 6.8			<0.05	<0.05	
	466755	0.05	ug/g	STD 6.8					<0.05
Dichlorobenzene, 1,3-	466599	0.05	ug/g	STD 9.6	<0.05	<0.05			
	466754	0.05	ug/g	STD 9.6			<0.05	<0.05	
	466755	0.05	ug/g	STD 9.6					<0.05
Dichlorobenzene, 1,4-	466599	0.05	ug/g	STD 0.2	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.2			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.2					<0.05
Dichlorodifluoromethane	466599	0.05	ug/g	STD 16	<0.05	<0.05			
	466754	0.05	ug/g	STD 16			<0.05	<0.05	
	466755	0.05	ug/g	STD 16					<0.05

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Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.				
					1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
					2024-09-30	2024-09-30	2024-10-01	2024-10-01	2024-10-01
					BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
Dichloroethane, 1,1-	466599	0.05	ug/g	STD 17	<0.05	<0.05			
	466754	0.05	ug/g	STD 17			<0.05	<0.05	
	466755	0.05	ug/g	STD 17					<0.05
Dichloroethane, 1,2-	466599	0.05	ug/g	STD 0.05	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.05			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.05					<0.05
Dichloroethylene, 1,1-	466599	0.05	ug/g	STD 0.064	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.064			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.064					<0.05
Dichloroethylene, 1,2-cis-	466599	0.05	ug/g	STD 55	<0.05	<0.05			
	466754	0.05	ug/g	STD 55			<0.05	<0.05	
	466755	0.05	ug/g	STD 55					<0.05
Dichloroethylene, 1,2-trans-	466599	0.05	ug/g	STD 1.3	<0.05	<0.05			
	466754	0.05	ug/g	STD 1.3			<0.05	<0.05	
	466755	0.05	ug/g	STD 1.3					<0.05
Dichloropropane, 1,2-	466599	0.05	ug/g	STD 0.16	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.16			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.16					<0.05
Dichloropropene, 1,3-	466603	0.05	ug/g	STD 0.18	<0.05	<0.05			
	466767	0.05	ug/g	STD 0.18			<0.05	<0.05	<0.05
Dichloropropene, 1,3-cis-	466599	0.05	ug/g		<0.05	<0.05			
	466754	0.05	ug/g				<0.05	<0.05	
	466755	0.05	ug/g						<0.05

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Certificate of Analysis

Environment Testing

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1550 Laperriere Avenue
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K1Z 7T2
Attention: Mr Marc Orfali
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Report Number: 3011336
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Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Volatiles

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.				
Analyte	Batch No	MRL	Units	Guideline	BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
Dichloropropene,1,3-trans-	466599	0.05	ug/g		<0.05	<0.05			
	466754	0.05	ug/g				<0.05	<0.05	
	466755	0.05	ug/g						<0.05
Ethylbenzene	466599	0.018	ug/g	STD 9.5	<0.018	<0.018			
	466754	0.018	ug/g	STD 9.5			<0.018	<0.018	
	466755	0.018	ug/g	STD 9.5					<0.018
Ethylene dibromide	466599	0.05	ug/g	STD 0.05	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.05			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.05					<0.05
Hexane (n)	466599	0.05	ug/g	STD 46	<0.05	<0.05			
	466754	0.05	ug/g	STD 46			<0.05	<0.05	
	466755	0.05	ug/g	STD 46					<0.05
Methyl Ethyl Ketone	466599	0.50	ug/g	STD 70	<0.50	<0.50			
	466754	0.50	ug/g	STD 70			<0.50	<0.50	
	466755	0.50	ug/g	STD 70					<0.50
Methyl Isobutyl Ketone	466599	0.50	ug/g	STD 31	<0.50	<0.50			
	466754	0.50	ug/g	STD 31			<0.50	<0.50	
	466755	0.50	ug/g	STD 31					<0.50
Methyl tert-Butyl Ether (MTBE)	466599	0.05	ug/g	STD 11	<0.05	<0.05			
	466754	0.05	ug/g	STD 11			<0.05	<0.05	
	466755	0.05	ug/g	STD 11					<0.05
Methylene Chloride	466599	0.05	ug/g	STD 1.6	<0.05	<0.05			
	466754	0.05	ug/g	STD 1.6			<0.05	<0.05	

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Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim
Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial
Water Quality Guideline, IPWQO = Interim Provincial Water Quality
Objective, TDR = Typical Desired Range

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Attention: Mr Marc Orfali
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Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.				
					1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
					2024-09-30	2024-09-30	2024-10-01	2024-10-01	2024-10-01
					BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
Methylene Chloride	466755	0.05	ug/g	STD 1.6					<0.05
Styrene	466599	0.05	ug/g	STD 34	<0.05	<0.05			
	466754	0.05	ug/g	STD 34			<0.05	<0.05	
	466755	0.05	ug/g	STD 34					<0.05
Tetrachloroethane, 1,1,1,2,-	466599	0.05	ug/g	STD 0.087	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.087			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.087					<0.05
Tetrachloroethane, 1,1,2,2,-	466599	0.05	ug/g	STD 0.05	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.05			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.05					<0.05
Tetrachloroethylene	466599	0.05	ug/g	STD 4.5	<0.05	<0.05			
	466754	0.05	ug/g	STD 4.5			<0.05	<0.05	
	466755	0.05	ug/g	STD 4.5					<0.05
Toluene	466599	0.08	ug/g	STD 68	<0.08	<0.08			
	466754	0.08	ug/g	STD 68			<0.08	<0.08	
	466755	0.08	ug/g	STD 68					<0.08
Trichloroethane, 1,1,1,-	466599	0.05	ug/g	STD 6.1	<0.05	<0.05			
	466754	0.05	ug/g	STD 6.1			<0.05	<0.05	
	466755	0.05	ug/g	STD 6.1					<0.05
Trichloroethane, 1,1,2,-	466599	0.05	ug/g	STD 0.05	<0.05	<0.05			
	466754	0.05	ug/g	STD 0.05			<0.05	<0.05	
	466755	0.05	ug/g	STD 0.05					<0.05
Trichloroethylene	466599	0.01	ug/g	STD 0.91	<0.01	<0.01			

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Certificate of Analysis

Environment Testing

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Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
Analyte	Batch No	MRL	Units	Guideline	BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
Trichloroethylene	466754	0.01	ug/g	STD 0.91			<0.01	<0.01	
	466755	0.01	ug/g	STD 0.91					<0.01
Trichlorofluoromethane	466599	0.05	ug/g	STD 4	<0.05	<0.05			
	466754	0.05	ug/g	STD 4			<0.05	<0.05	
	466755	0.05	ug/g	STD 4					<0.05
Vinyl Chloride	466599	0.02	ug/g	STD 0.032	<0.02	<0.02			
	466754	0.02	ug/g	STD 0.032			<0.02	<0.02	
	466755	0.02	ug/g	STD 0.032					<0.02
Xylene Mixture	466602	0.05	ug/g	STD 26	<0.05	<0.05			
	466766	0.05	ug/g	STD 26			<0.05	<0.05	<0.05
Xylene, m/p-	466599	0.05	ug/g		<0.05	<0.05			
	466754	0.05	ug/g				<0.05	<0.05	
	466755	0.05	ug/g						<0.05
Xylene, o-	466599	0.05	ug/g		<0.05	<0.05			
	466754	0.05	ug/g				<0.05	<0.05	
	466755	0.05	ug/g						<0.05

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1550 Laperriere Avenue
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Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1745063 Soil153 - 2024-10-02 BH24-03 SS7	1745064 Soil153 - 2024-10-02 BH24-03 SS701	1745065 Soil153 - 2024-10-02 BH24-04 SS7	1745066 Soil153 - 2024-10-02 BH24-04 SS8
Analyte	Batch No	MRL	Units	Guideline				
Acetone	466754	0.50	ug/g	STD 16	<0.50	<0.50	<0.50	<0.50
Benzene	466754	0.0068	ug/g	STD 0.32	<0.0068	<0.0068	<0.0068	<0.0068
Bromodichloromethane	466754	0.05	ug/g	STD 18	<0.05	<0.05	<0.05	<0.05
Bromoform	466754	0.05	ug/g	STD 0.61	<0.05	<0.05	<0.05	<0.05
Bromomethane	466754	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	466754	0.05	ug/g	STD 0.21	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	466754	0.05	ug/g	STD 2.4	<0.05	<0.05	<0.05	<0.05
Chloroform	466754	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	466754	0.05	ug/g	STD 13	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	466754	0.05	ug/g	STD 6.8	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	466754	0.05	ug/g	STD 9.6	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	466754	0.05	ug/g	STD 0.2	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	466754	0.05	ug/g	STD 16	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	466754	0.05	ug/g	STD 17	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,2-	466754	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,1-	466754	0.05	ug/g	STD 0.064	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-cis-	466754	0.05	ug/g	STD 55	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-trans-	466754	0.05	ug/g	STD 1.3	<0.05	<0.05	<0.05	<0.05
Dichloropropane, 1,2-	466754	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05
Dichloropropene,1,3-	466767	0.05	ug/g	STD 0.18	<0.05	<0.05	<0.05	<0.05
Dichloropropene,1,3-cis-	466754	0.05	ug/g		<0.05	<0.05	<0.05	<0.05
Dichloropropene,1,3-trans-	466754	0.05	ug/g		<0.05	<0.05	<0.05	<0.05
Ethylbenzene	466754	0.018	ug/g	STD 9.5	<0.018	<0.018	<0.018	<0.018

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Certificate of Analysis

Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1745063 Soil153 - 2024-10-02 BH24-03 SS7	1745064 Soil153 - 2024-10-02 BH24-03 SS701	1745065 Soil153 - 2024-10-02 BH24-04 SS7	1745066 Soil153 - 2024-10-02 BH24-04 SS8
Analyte	Batch No	MRL	Units	Guideline				
Ethylene dibromide	466754	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05
Hexane (n)	466754	0.05	ug/g	STD 46	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	466754	0.50	ug/g	STD 70	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	466754	0.50	ug/g	STD 31	<0.50	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	466754	0.05	ug/g	STD 11	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	466754	0.05	ug/g	STD 1.6	<0.05	<0.05	<0.05	<0.05
Styrene	466754	0.05	ug/g	STD 34	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2,-	466754	0.05	ug/g	STD 0.087	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,2,2,-	466754	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	466754	0.05	ug/g	STD 4.5	<0.05	<0.05	<0.05	<0.05
Toluene	466754	0.08	ug/g	STD 68	<0.08	<0.08	<0.08	<0.08
Trichloroethane, 1,1,1,-	466754	0.05	ug/g	STD 6.1	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,2,-	466754	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethylene	466754	0.01	ug/g	STD 0.91	<0.01	<0.01	<0.01	<0.01
Trichlorofluoromethane	466754	0.05	ug/g	STD 4	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	466754	0.02	ug/g	STD 0.032	<0.02	<0.02	<0.02	<0.02
Xylene Mixture	466766	0.05	ug/g	STD 26	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	466754	0.05	ug/g		<0.05	<0.05	<0.05	<0.05
Xylene, o-	466754	0.05	ug/g		<0.05	<0.05	<0.05	<0.05

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Report Number: 3011336
Date Submitted: 2024-09-30
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St Phase 2 ESA
COC #: 916869

Guideline = O.Reg 153-T3-Ind/Com-Coarse

Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1744742	Soil153	-	2024-09-30	-	BH24-02 SS3
Cyanide (CN-)	466775	0.005	ug/g	STD 0.051	1744743	Soil153	-	2024-09-30	-	BH24-02 SS4
Electrical Conductivity	466774	0.05	mS/cm	STD 1.4	1745060	Soil153	-	2024-10-01	-	BH24-01 SS1 SS2
pH - CaCl2	466550	2.00			1745061	Soil153	-	2024-10-01	-	BH24-01 SS3 SS4
	466721	2.00			1745062	Soil153	-	2024-10-01	-	BH24-03 SS6
Sodium Adsorption Ratio	466780	0.01		STD 12						

Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1745063	Soil153	-	2024-10-02	-	BH24-03 SS7
Cyanide (CN-)	466775	0.005	ug/g	STD 0.051	1745064	Soil153	-	2024-10-02	-	BH24-03 SS701
Electrical Conductivity	466774	0.05	mS/cm	STD 1.4	1745065	Soil153	-	2024-10-02	-	BH24-04 SS7
pH - CaCl2	466721	2.00			1745066	Soil153	-	2024-10-02	-	BH24-04 SS8
Sodium Adsorption Ratio	466780	0.01		STD 12						

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Moisture

					Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.	Guideline					
Analyte	Batch No	MRL	Units	Guideline												
Moisture-Humidite	466565	0.1	%		1744742	Soil153	-	2024-09-30		BH24-02	SS3		6.6			
	466566	0.1	%		1744743	Soil153	-	2024-09-30		BH24-02	SS4					
	466776	0.1	%		1745060	Soil153	-	2024-10-01		BH24-01	SS1 SS2		13.0	7.9	8.8	

Moisture

					Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.	Guideline					
Analyte	Batch No	MRL	Units	Guideline												
Moisture-Humidite	466776	0.1	%		1745063	Soil153	-	2024-10-02		BH24-03	SS7		3.4			
	466779	0.1	%		1745064	Soil153	-	2024-10-02		BH24-03	SS701		9.4	8.8	8.3	

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PHC Surrogate

				Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.	Guideline	1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
Analyte	Batch No	MRL	Units												
Alpha-androstrane	466565	0	%				2024-09-30		BH24-02 SS3						
	466566	0	%						BH24-02 SS4	96					
	466776	0	%						BH24-01 SS1 SS2			76	82		93

PHC Surrogate

				Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.	Guideline	1745063 Soil153	1745064 Soil153	1745065 Soil153	1745066 Soil153
Analyte	Batch No	MRL	Units											
Alpha-androstrane	466776	0	%				2024-10-02		BH24-03 SS7				73	
	466779	0	%						BH24-03 SS701	72	71			65

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VOCs Surrogates

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1744742 Soil153	1744743 Soil153	1745060 Soil153	1745061 Soil153	1745062 Soil153
Analyte	Batch No	MRL	Units	Guideline	BH24-02 SS3	BH24-02 SS4	BH24-01 SS1 SS2	BH24-01 SS3 SS4	BH24-03 SS6
1,2-dichloroethane-d4	466599	0	%		110	123			
	466754	0	%				122	115	
	466755	0	%						127
4-bromofluorobenzene	466599	0	%		86	82			
	466754	0	%				80	84	
	466755	0	%						91
Toluene-d8	466599	0	%		93	95			
	466754	0	%				90	90	
	466755	0	%						116

VOCs Surrogates

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1745063 Soil153	1745064 Soil153	1745065 Soil153	1745066 Soil153
Analyte	Batch No	MRL	Units	Guideline	BH24-03 SS7	BH24-03 SS701	BH24-04 SS7	BH24-04 SS8
1,2-dichloroethane-d4	466754	0	%		117	121	108	116
4-bromofluorobenzene	466754	0	%		92	80	84	86
Toluene-d8	466754	0	%		118	90	84	88

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466529	Methlynaphthalene, 1-	<0.05 ug/g	84	50-140	82	50-140	0	0-40
466529	Methlynaphthalene, 2-	<0.05 ug/g	51	50-140	60	50-140	0	0-40
466529	Acenaphthene	<0.05 ug/g	58	50-140	53	50-140	0	0-40
466529	Acenaphthylene	<0.05 ug/g	53	50-140	50	50-140	0	0-40
466529	Anthracene	<0.05 ug/g	56	50-140	55	50-140	0	0-40
466529	Benz[a]anthracene	<0.05 ug/g	70	50-140	55	50-140	0	0-40
466529	Benzo[a]pyrene	<0.05 ug/g	67	50-140	57	50-140	0	0-40
466529	Benzo[b]fluoranthene	<0.05 ug/g	65	50-140	63	50-140	0	0-40
466529	Benzo[ghi]perylene	<0.05 ug/g	50	50-140	50	50-140	0	0-40
466529	Benzo[k]fluoranthene	<0.05 ug/g	61	50-140	74		0	0-40
466529	Chrysene	<0.05 ug/g	78	50-140	68	50-140	0	0-40
466529	Dibenz[a h]anthracene	<0.05 ug/g	81	50-140	57	50-140	0	0-40
466529	Fluoranthene	<0.05 ug/g	67	50-140	57	50-140	0	0-40
466529	Fluorene	<0.05 ug/g	55	50-140	53	50-140	0	0-40
466529	Indeno[1 2 3-cd]pyrene	<0.05 ug/g	93	50-140	67	50-140	0	0-40
466529	Naphthalene	<0.013 ug/g	62	50-140	60	50-140	0	0-40
466529	Phenanthrene	<0.05 ug/g	55	50-140	55	50-140	0	0-40
466529	Pyrene	<0.05 ug/g	67	50-140	52	50-140	0	0-40
466550	pH - CaCl2	5.25	99	90-110			0	
466565	PHC's F2	<2 ug/g	108	80-120	91	60-140	0	0-30
466565	PHC's F3	<20 ug/g	108	80-120	91	60-140	0	0-30
466565	PHC's F4	<20 ug/g	108	80-120	91	60-140	0	0-30
466565	Moisture-Humidite	<0.1 %	100	80-120			6	
466566	PHC's F2	<2 ug/g	84	80-120	81	60-140		0-30
466566	PHC's F3	<20 ug/g	84	80-120	81	60-140		0-30
466566	PHC's F4	<20 ug/g	84	80-120	81	60-140		0-30
466566	Moisture-Humidite	<0.1 %	100	80-120				
466578	1+2-methylnaphthalene							
466599	Tetrachloroethane, 1,1,1,2-	<0.05 ug/g	103	60-130	107	50-140	0	0-50
466599	Trichloroethane, 1,1,1-	<0.05 ug/g	100	60-130	111	50-140	0	0-50
466599	Tetrachloroethane, 1,1,2,2-	<0.05 ug/g	91	60-130	91	50-140	0	0-30
466599	Trichloroethane, 1,1,2-	<0.05 ug/g	89	60-130	115	50-140	0	0-50

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Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466599	Dichloroethane, 1,1-	<0.05 ug/g	108	60-130	112	50-140	0	0-50
466599	Dichloroethylene, 1,1-	<0.05 ug/g	114	60-130	87	50-140	0	0-50
466599	Dichlorobenzene, 1,2-	<0.05 ug/g	105	60-130	111	50-140	0	0-50
466599	Dichloroethane, 1,2-	<0.05 ug/g	114	60-130	114	50-140	0	0-50
466599	Dichloropropane, 1,2-	<0.05 ug/g	96	60-130	119	50-140	0	0-50
466599	Dichlorobenzene, 1,3-	<0.05 ug/g	96	60-130	112	50-140	0	0-50
466599	Dichlorobenzene, 1,4-	<0.05 ug/g	99	60-130	112	50-140	0	0-50
466599	Acetone	<0.50 ug/g	124	60-130	112	50-140	0	0-50
466599	Benzene	<0.0068	92	60-130	114	50-140	0	0-50
466599	Bromodichloromethane	<0.05 ug/g	94	60-130	110	50-140	0	0-50
466599	Bromoform	<0.05 ug/g	83	60-130	109	50-140	0	0-50
466599	Bromomethane	<0.05 ug/g	118	60-130	105	50-140	0	0-50
466599	Dichloroethylene, 1,2-cis-	<0.05 ug/g	92	60-130	115	50-140	0	0-50
466599	Dichloropropene, 1,3-cis-	<0.05 ug/g	85	60-130	115	50-140	0	0-50
466599	Carbon Tetrachloride	<0.05 ug/g	102	60-130	107	50-140	0	0-50
466599	Chloroform	<0.05 ug/g	99	60-130	115	50-140	0	0-50
466599	Dibromochloromethane	<0.05 ug/g	97	60-130	101	50-140	0	0-50
466599	Dichlorodifluoromethane	<0.05 ug/g	118	60-130	106	50-140	0	0-50
466599	Methylene Chloride	<0.05 ug/g	117	60-130	95	50-140	0	0-50
466599	Ethylbenzene	<0.018 ug/g	104	60-130	121	50-140	0	0-50
466599	Ethylene dibromide	<0.05 ug/g	86	60-130	113	50-140	0	0-50
466599	Hexane (n)	<0.05 ug/g	94	60-130	112	50-140	0	0-50
466599	Xylene, m/p-	<0.05 ug/g	114	60-130	112	50-140	0	0-50
466599	Methyl Ethyl Ketone	<0.50 ug/g	105	60-130	116	50-140	0	0-50
466599	Methyl Isobutyl Ketone	<0.50 ug/g	90	60-130	114	50-140	0	0-50
466599	Methyl tert-Butyl Ether (MTBE)	<0.05 ug/g	94	60-130	114	50-140	0	0-50
466599	Chlorobenzene	<0.05 ug/g	95	60-130	115	50-140	0	0-50
466599	Xylene, o-	<0.05 ug/g	103	60-130	118	50-140	0	0-50
466599	Styrene	<0.05 ug/g	100	60-130	117	50-140	0	0-50
466599	Dichloroethylene, 1,2-trans-	<0.05 ug/g	94	60-130	110	50-140	0	0-50
466599	Dichloropropene, 1,3-trans-	<0.05 ug/g	92	60-130	115	50-140	0	0-50
466599	Tetrachloroethylene	<0.05 ug/g	87	60-130	119	50-140	0	0-50
466599	Toluene	<0.08 ug/g	93	60-130	114	50-140	0	0-50

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Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466599	Trichloroethylene	<0.01 ug/g	88	60-130	115	50-140	0	0-50
466599	Trichlorofluoromethane	<0.05 ug/g	120	60-130	98	50-140	0	0-50
466599	Vinyl Chloride	<0.02 ug/g	110	60-130	92	50-140	0	0-50
466601	PHC's F1	<10 ug/g	104	80-120	96	60-140	0	0-30
466602	Xylene Mixture							
466603	Dichloropropene, 1,3-							
466604	PHC's F1-BTEX							
466619	Silver	<0.2 ug/g	72	70-130	98	70-130	0	0-20
466619	Arsenic	<1 ug/g	98	70-130	99	70-130	0	0-20
466619	Boron (total)	<5 ug/g	96	70-130	126	70-130	0	0-20
466619	Barium	<1 ug/g	102	70-130	172	70-130	5	0-20
466619	Beryllium	<1 ug/g	101	70-130	97	70-130	0	0-20
466619	Cadmium	<0.4 ug/g	105	70-130	107	70-130	0	0-20
466619	Cobalt	<1 ug/g	112	70-130	113	70-130	7	0-20
466619	Chromium Total	<1 ug/g	114	70-130	155	70-130	8	0-20
466619	Copper	<1 ug/g	110	70-130	111	70-130	13	0-20
466619	Mercury	<0.1 ug/g	90	70-130	93	70-130	0	0-20
466619	Molybdenum	<1 ug/g	99	70-130	106	70-130	0	0-20
466619	Nickel	<1 ug/g	109	70-130	118	70-130	7	0-20
466619	Lead	<1 ug/g	97	70-130	93	70-130	0	0-20
466619	Antimony	<1 ug/g	80	70-130	101	70-130	0	0-20
466619	Selenium	<0.5 ug/g	104	70-130	99	70-130	0	0-20
466619	Thallium	<1 ug/g	97	70-130	91	70-130	0	0-20
466619	Uranium	<0.5 ug/g	87	70-130	93	70-130	0	0-20
466619	Vanadium	<2 ug/g	111	70-130	154	70-130	4	0-20
466619	Zinc	<2 ug/g	106	70-130	121	70-130	4	0-20
466690	1+2-methylnaphthalene							
466695	Chromium VI	<0.02 ug/g	98	70-130	76	70-130	0	0-35
466721	pH - CaCl2		96	90-110			0	
466722	Silver	<0.2 ug/g	81	70-130	99	70-130	0	0-20
466722	Arsenic	<1 ug/g	102	70-130	89	70-130	18	0-20
466722	Boron (total)	<5 ug/g	102	70-130	110	70-130	0	0-20
466722	Barium	<1 ug/g	93	70-130		70-130	17	0-20

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Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466722	Beryllium	<1 ug/g	103	70-130	96	70-130	0	0-20
466722	Cadmium	<0.4 ug/g	110	70-130	96	70-130	15	0-20
466722	Cobalt	<1 ug/g	113	70-130	96	70-130	14	0-20
466722	Chromium Total	<1 ug/g	112	70-130	75	70-130	5	0-20
466722	Copper	<1 ug/g	113	70-130	570	70-130	23	0-20
466722	Mercury	<0.1 ug/g	90	70-130	97	70-130	0	0-20
466722	Molybdenum	<1 ug/g	112	70-130	87	70-130	15	0-20
466722	Nickel	<1 ug/g	110	70-130	27	70-130	12	0-20
466722	Lead	<1 ug/g	106	70-130		70-130	14	0-20
466722	Antimony	<1 ug/g	102	70-130	90	70-130	12	0-20
466722	Selenium	<0.5 ug/g	108	70-130	98	70-130	0	0-20
466722	Thallium	<1 ug/g	106	70-130	97	70-130	0	0-20
466722	Uranium	<0.5 ug/g	95	70-130	96	70-130	0	0-20
466722	Vanadium	<2 ug/g	110	70-130	108	70-130	13	0-20
466722	Zinc	<2 ug/g	111	70-130		70-130	11	0-20
466723	Boron (Hot Water Soluble)	<0.25 ug/g	104	70-130	114	60-140	0	0-30
466735	Methlynaphthalene, 1-	<0.05 ug/g	89	50-140	74	50-140	0	0-40
466735	Methlynaphthalene, 2-	<0.05 ug/g	67	50-140	52	50-140	0	0-40
466735	Acenaphthene	<0.05 ug/g	80	50-140	70	50-140	0	0-40
466735	Acenaphthylene	<0.05 ug/g	77	50-140	69	50-140	0	0-40
466735	Anthracene	<0.05 ug/g	81	50-140	71	50-140	0	0-40
466735	Benz[a]anthracene	<0.05 ug/g	80	50-140	82	50-140	0	0-40
466735	Benzo[a]pyrene	<0.05 ug/g	70	50-140	75	50-140	0	0-40
466735	Benzo[b]fluoranthene	<0.05 ug/g	77	50-140	76	50-140	0	0-40
466735	Benzo[ghi]perylene	<0.05 ug/g	50	50-140	59	50-140	0	0-40
466735	Benzo[k]fluoranthene	<0.05 ug/g	97	50-140	80		0	0-40
466735	Chrysene	<0.05 ug/g	81	50-140	76	50-140	0	0-40
466735	Dibenz[a h]anthracene	<0.05 ug/g	51	50-140	55	50-140	0	0-40
466735	Fluoranthene	<0.05 ug/g	82	50-140	66	50-140	0	0-40
466735	Fluorene	<0.05 ug/g	79	50-140	67	50-140	0	0-40
466735	Indeno[1 2 3-cd]pyrene	<0.05 ug/g	53	50-140	56	50-140	0	0-40
466735	Naphthalene	<0.013 ug/g	73	50-140	68	50-140	0	0-40
466735	Phenanthrene	<0.05 ug/g	79	50-140	74	50-140	0	0-40

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1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466735	Pyrene	<0.05 ug/g	85	50-140	88	50-140	0	0-40
466741	1+2-methylnaphthalene							
466754	Tetrachloroethane, 1,1,1,2-	<0.05 ug/g	103	60-130	107	50-140	0	0-50
466754	Trichloroethane, 1,1,1-	<0.05 ug/g	100	60-130	111	50-140	0	0-50
466754	Tetrachloroethane, 1,1,2,2-	<0.05 ug/g	91	60-130	91	50-140	0	0-30
466754	Trichloroethane, 1,1,2-	<0.05 ug/g	89	60-130	115	50-140	0	0-50
466754	Dichloroethane, 1,1-	<0.05 ug/g	108	60-130	112	50-140	0	0-50
466754	Dichloroethylene, 1,1-	<0.05 ug/g	114	60-130	87	50-140	0	0-50
466754	Dichlorobenzene, 1,2-	<0.05 ug/g	105	60-130	111	50-140	0	0-50
466754	Dichloroethane, 1,2-	<0.05 ug/g	114	60-130	114	50-140	0	0-50
466754	Dichloropropane, 1,2-	<0.05 ug/g	96	60-130	119	50-140	0	0-50
466754	Dichlorobenzene, 1,3-	<0.05 ug/g	96	60-130	112	50-140	0	0-50
466754	Dichlorobenzene, 1,4-	<0.05 ug/g	99	60-130	112	50-140	0	0-50
466754	Acetone	<0.50 ug/g	124	60-130	112	50-140	0	0-50
466754	Benzene	<0.0068	92	60-130	114	50-140	0	0-50
466754	Bromodichloromethane	<0.05 ug/g	94	60-130	110	50-140	0	0-50
466754	Bromoform	<0.05 ug/g	83	60-130	109	50-140	0	0-50
466754	Bromomethane	<0.05 ug/g	118	60-130	105	50-140	0	0-50
466754	Dichloroethylene, 1,2-cis-	<0.05 ug/g	92	60-130	115	50-140	0	0-50
466754	Dichloropropene, 1,3-cis-	<0.05 ug/g	85	60-130	115	50-140	0	0-50
466754	Carbon Tetrachloride	<0.05 ug/g	102	60-130	107	50-140	0	0-50
466754	Chloroform	<0.05 ug/g	99	60-130	115	50-140	0	0-50
466754	Dibromochloromethane	<0.05 ug/g	97	60-130	101	50-140	0	0-50
466754	Dichlorodifluoromethane	<0.05 ug/g	118	60-130	106	50-140	0	0-50
466754	Methylene Chloride	<0.05 ug/g	117	60-130	95	50-140	0	0-50
466754	Ethylbenzene	<0.018 ug/g	104	60-130	121	50-140	0	0-50
466754	Ethylene dibromide	<0.05 ug/g	86	60-130	113	50-140	0	0-50
466754	Hexane (n)	<0.05 ug/g	94	60-130	112	50-140	0	0-50
466754	Xylene, m/p-	<0.05 ug/g	114	60-130	112	50-140	0	0-50
466754	Methyl Ethyl Ketone	<0.50 ug/g	105	60-130	116	50-140	0	0-50
466754	Methyl Isobutyl Ketone	<0.50 ug/g	90	60-130	114	50-140	0	0-50
466754	Methyl tert-Butyl Ether (MTBE)	<0.05 ug/g	94	60-130	114	50-140	0	0-50
466754	Chlorobenzene	<0.05 ug/g	95	60-130	115	50-140	0	0-50

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Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466754	Xylene, o-	<0.05 ug/g	103	60-130	118	50-140	0	0-50
466754	Styrene	<0.05 ug/g	100	60-130	117	50-140	0	0-50
466754	Dichloroethylene, 1,2-trans-	<0.05 ug/g	94	60-130	110	50-140	0	0-50
466754	Dichloropropene, 1,3-trans-	<0.05 ug/g	92	60-130	115	50-140	0	0-50
466754	Tetrachloroethylene	<0.05 ug/g	87	60-130	119	50-140	0	0-50
466754	Toluene	<0.08 ug/g	93	60-130	114	50-140	0	0-50
466754	Trichloroethylene	<0.01 ug/g	88	60-130	115	50-140	0	0-50
466754	Trichlorofluoromethane	<0.05 ug/g	120	60-130	98	50-140	0	0-50
466754	Vinyl Chloride	<0.02 ug/g	110	60-130	92	50-140	0	0-50
466755	Tetrachloroethane, 1,1,1,2-	<0.05 ug/g	103	60-130	107	50-140	0	0-50
466755	Trichloroethane, 1,1,1-	<0.05 ug/g	100	60-130	111	50-140	0	0-50
466755	Tetrachloroethane, 1,1,2,2-	<0.05 ug/g	91	60-130	91	50-140	0	0-30
466755	Trichloroethane, 1,1,2-	<0.05 ug/g	89	60-130	115	50-140	0	0-50
466755	Dichloroethane, 1,1-	<0.05 ug/g	108	60-130	112	50-140	0	0-50
466755	Dichloroethylene, 1,1-	<0.05 ug/g	114	60-130	87	50-140	0	0-50
466755	Dichlorobenzene, 1,2-	<0.05 ug/g	105	60-130	111	50-140	0	0-50
466755	Dichloroethane, 1,2-	<0.05 ug/g	114	60-130	114	50-140	0	0-50
466755	Dichloropropane, 1,2-	<0.05 ug/g	96	60-130	119	50-140	0	0-50
466755	Dichlorobenzene, 1,3-	<0.05 ug/g	96	60-130	112	50-140	0	0-50
466755	Dichlorobenzene, 1,4-	<0.05 ug/g	99	60-130	112	50-140	0	0-50
466755	Acetone	<0.50 ug/g	124	60-130	112	50-140	0	0-50
466755	Benzene	<0.0068	92	60-130	114	50-140	0	0-50
466755	Bromodichloromethane	<0.05 ug/g	94	60-130	110	50-140	0	0-50
466755	Bromoform	<0.05 ug/g	83	60-130	109	50-140	0	0-50
466755	Bromomethane	<0.05 ug/g	118	60-130	105	50-140	0	0-50
466755	Dichloroethylene, 1,2-cis-	<0.05 ug/g	92	60-130	115	50-140	0	0-50
466755	Dichloropropene, 1,3-cis-	<0.05 ug/g	85	60-130	115	50-140	0	0-50
466755	Carbon Tetrachloride	<0.05 ug/g	102	60-130	107	50-140	0	0-50
466755	Chloroform	<0.05 ug/g	99	60-130	115	50-140	0	0-50
466755	Dibromochloromethane	<0.05 ug/g	97	60-130	101	50-140	0	0-50
466755	Dichlorodifluoromethane	<0.05 ug/g	118	60-130	106	50-140	0	0-50
466755	Methylene Chloride	<0.05 ug/g	117	60-130	95	50-140	0	0-50
466755	Ethylbenzene	<0.018 ug/g	104	60-130	121	50-140	0	0-50

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Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466755	Ethylene dibromide	<0.05 ug/g	86	60-130	113	50-140	0	0-50
466755	Hexane (n)	<0.05 ug/g	94	60-130	112	50-140	0	0-50
466755	Xylene, m/p-	<0.05 ug/g	114	60-130	112	50-140	0	0-50
466755	Methyl Ethyl Ketone	<0.50 ug/g	105	60-130	116	50-140	0	0-50
466755	Methyl Isobutyl Ketone	<0.50 ug/g	90	60-130	114	50-140	0	0-50
466755	Methyl tert-Butyl Ether (MTBE)	<0.05 ug/g	94	60-130	114	50-140	0	0-50
466755	Chlorobenzene	<0.05 ug/g	95	60-130	115	50-140	0	0-50
466755	Xylene, o-	<0.05 ug/g	103	60-130	118	50-140	0	0-50
466755	Styrene	<0.05 ug/g	100	60-130	117	50-140	0	0-50
466755	Dichloroethylene, 1,2-trans-	<0.05 ug/g	94	60-130	110	50-140	0	0-50
466755	Dichloropropene, 1,3-trans-	<0.05 ug/g	92	60-130	115	50-140	0	0-50
466755	Tetrachloroethylene	<0.05 ug/g	87	60-130	119	50-140	0	0-50
466755	Toluene	<0.08 ug/g	93	60-130	114	50-140	0	0-50
466755	Trichloroethylene	<0.01 ug/g	88	60-130	115	50-140	0	0-50
466755	Trichlorofluoromethane	<0.05 ug/g	120	60-130	98	50-140	0	0-50
466755	Vinyl Chloride	<0.02 ug/g	110	60-130	92	50-140	0	0-50
466764	PHC's F1	<10 ug/g	104	80-120	96	60-140	0	0-30
466766	Xylene Mixture							
466767	Dichloropropene, 1,3-							
466769	PHC's F1-BTEX							
466774	Electrical Conductivity	<0.05	99	90-110			1	0-10
466775	Cyanide (CN-)	<0.005 ug/g	93	75-125	96	70-130	0	0-20
466776	PHC's F2	<2 ug/g	85	80-120	86	60-140	0	0-30
466776	PHC's F3	<20 ug/g	85	80-120	86	60-140	0	0-30
466776	PHC's F4	<20 ug/g	85	80-120	86	60-140	0	0-30
466776	Moisture-Humidite	<0.1 %	100	80-120			16	
466779	PHC's F2	<2 ug/g	84	80-120	82	60-140	0	0-30
466779	PHC's F3	<20 ug/g	84	80-120	82	60-140	0	0-30
466779	PHC's F4	<20 ug/g	84	80-120	82	60-140	0	0-30
466779	Moisture-Humidite	<0.1 %	100	80-120			4	
466780	Sodium Adsorption Ratio	<0.01					4	
466784	Chromium VI	<0.2 ug/g	71	70-130	98	70-130	0	0-35
466787	Boron (Hot Water Soluble)	<0.25 ug/g	103	70-130	106	60-140	0	0-30

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Quality Assurance Summary

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466809	Chromium VI	<0.20 ug/g	100	70-130	89	70-130	0	0-35
466813	PHC's F2-Naph							
466816	PHC's F2-Naph							
466818	PHC's F3-PAH							

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Client: Blastek Eng. Group
1550 Laperriere Avenue
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K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466529	Methylnaphthalene, 1-	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Methylnaphthalene, 2-	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Acenaphthene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Acenaphthylene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Anthracene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Benz[a]anthracene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Benzo[a]pyrene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Benzo[b]fluoranthene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Benzo[ghi]perylene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Benzo[k]fluoranthene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Chrysene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Dibenz[a h]anthracene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Fluoranthene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Fluorene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Indeno[1 2 3-cd]pyrene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Naphthalene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Phenanthrene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466529	Pyrene	GC-MS	2024-10-02	2024-10-02	C_M	P 8270
466550	pH - CaCl2	pH Meter	2024-10-02	2024-10-02	M_B	AG Soil
466565	PHC's F2	GC/FID	2024-10-02	2024-10-02	H_S	CCME
466565	PHC's F3	GC/FID	2024-10-02	2024-10-02	H_S	CCME
466565	PHC's F4	GC/FID	2024-10-02	2024-10-02	H_S	CCME
466565	Moisture-Humidite	Oven	2024-10-02	2024-10-02	H_S	ASTM 2216
466566	PHC's F2	GC/FID	2024-10-02	2024-10-02	H_S	CCME
466566	PHC's F3	GC/FID	2024-10-02	2024-10-02	H_S	CCME
466566	PHC's F4	GC/FID	2024-10-02	2024-10-02	H_S	CCME
466566	Moisture-Humidite	Oven	2024-10-02	2024-10-02	H_S	ASTM 2216
466578	1+2-methylnaphthalene	GC-MS	2024-10-03	2024-10-03	C_M	P 8270
466599	Tetrachloroethane, 1,1,1,2-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Trichloroethane, 1,1,1-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Tetrachloroethane, 1,1,2,2-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Trichloroethane, 1,1,2-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B

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Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466599	Dichloroethane, 1,1-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichloroethylene, 1,1-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichlorobenzene, 1,2-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichloroethane, 1,2-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichloropropane, 1,2-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichlorobenzene, 1,3-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichlorobenzene, 1,4-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Acetone	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Benzene	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Bromodichloromethane	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Bromoform	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Bromomethane	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichloroethylene, 1,2-cis-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichloropropene, 1,3-cis-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Carbon Tetrachloride	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Chloroform	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dibromochloromethane	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichlorodifluoromethane	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Methylene Chloride	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Ethylbenzene	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Ethylene dibromide	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Hexane (n)	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Xylene, m/p-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Methyl Ethyl Ketone	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Methyl Isobutyl Ketone	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Methyl tert-Butyl Ether (MTBE)	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Chlorobenzene	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Xylene, o-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Styrene	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichloroethylene, 1,2-trans-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Dichloropropene, 1,3-trans-	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Tetrachloroethylene	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Toluene	GC-MS	2024-10-01	2024-10-03	SS	V 8260B

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466599	Trichloroethylene	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Trichlorofluoromethane	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466599	Vinyl Chloride	GC-MS	2024-10-01	2024-10-03	SS	V 8260B
466601	PHC's F1	GC/FID	2024-10-01	2024-10-03	SS	CCME
466602	Xylene Mixture	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466603	Dichloropropene, 1,3-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466604	PHC's F1-BTEX	GC/FID	2024-10-03	2024-10-03	SS	CCME
466619	Silver	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Arsenic	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Boron (total)	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Barium	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Beryllium	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Cadmium	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Cobalt	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Chromium Total	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Copper	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Mercury	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Molybdenum	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Nickel	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Lead	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Antimony	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Selenium	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Thallium	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Uranium	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Vanadium	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466619	Zinc	ICAPQ-MS	2024-10-03	2024-10-03	AaN	EPA 200.8/6020
466690	1+2-methylnaphthalene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466695	Chromium VI	Ion Chromatography	2024-10-04	2024-10-04	AET	SM3500-CR C,EPA 3060
466721	pH - CaCl2	pH Meter	2024-10-07	2024-10-07	M_B	AG Soil
466722	Silver	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Arsenic	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Boron (total)	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Barium	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020

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Manotick Main St.
COC #: 916869

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466722	Beryllium	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Cadmium	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Cobalt	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Chromium Total	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Copper	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Mercury	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Molybdenum	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Nickel	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Lead	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Antimony	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Selenium	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Thallium	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Uranium	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Vanadium	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466722	Zinc	ICAPQ-MS	2024-10-07	2024-10-07	AaN	EPA 200.8/6020
466723	Boron (Hot Water Soluble)	iCAP OES	2024-10-07	2024-10-07	Z_S	MOECC E3470
466735	Methylnaphthalene, 1-	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Methylnaphthalene, 2-	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Acenaphthene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Acenaphthylene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Anthracene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Benz[a]anthracene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Benzo[a]pyrene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Benzo[b]fluoranthene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Benzo[ghi]perylene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Benzo[k]fluoranthene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Chrysene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Dibenz[a h]anthracene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Fluoranthene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Fluorene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Indeno[1 2 3-cd]pyrene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Naphthalene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466735	Phenanthrene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466735	Pyrene	GC-MS	2024-10-07	2024-10-07	C_M	P 8270
466741	1+2-methylnaphthalene	GC-MS	2024-10-08	2024-10-08	C_M	P 8270
466754	Tetrachloroethane, 1,1,1,2-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Trichloroethane, 1,1,1-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Tetrachloroethane, 1,1,2,2-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Trichloroethane, 1,1,2-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloroethane, 1,1-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloroethylene, 1,1-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichlorobenzene, 1,2-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloroethane, 1,2-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloropropane, 1,2-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichlorobenzene, 1,3-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichlorobenzene, 1,4-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Acetone	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Benzene	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Bromodichloromethane	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Bromoform	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Bromomethane	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloroethylene, 1,2-cis-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloropropene, 1,3-cis-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Carbon Tetrachloride	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Chloroform	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dibromochloromethane	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichlorodifluoromethane	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Methylene Chloride	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Ethylbenzene	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Ethylene dibromide	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Hexane (n)	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Xylene, m/p-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Methyl Ethyl Ketone	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Methyl Isobutyl Ketone	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Methyl tert-Butyl Ether (MTBE)	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Chlorobenzene	GC-MS	2024-10-04	2024-10-04	SS	V 8260B

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466754	Xylene, o-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Styrene	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloroethylene, 1,2-trans-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Dichloropropene, 1,3-trans-	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Tetrachloroethylene	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Toluene	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Trichloroethylene	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Trichlorofluoromethane	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466754	Vinyl Chloride	GC-MS	2024-10-04	2024-10-04	SS	V 8260B
466755	Tetrachloroethane, 1,1,1,2-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Trichloroethane, 1,1,1-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Tetrachloroethane, 1,1,2,2-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Trichloroethane, 1,1,2-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloroethane, 1,1-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloroethylene, 1,1-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichlorobenzene, 1,2-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloroethane, 1,2-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloropropane, 1,2-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichlorobenzene, 1,3-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichlorobenzene, 1,4-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Acetone	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Benzene	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Bromodichloromethane	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Bromoform	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Bromomethane	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloroethylene, 1,2-cis-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloropropene, 1,3-cis-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Carbon Tetrachloride	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Chloroform	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dibromochloromethane	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichlorodifluoromethane	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Methylene Chloride	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Ethylbenzene	GC-MS	2024-10-03	2024-10-03	SS	V 8260B

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Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466755	Ethylene dibromide	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Hexane (n)	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Xylene, m/p-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Methyl Ethyl Ketone	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Methyl Isobutyl Ketone	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Methyl tert-Butyl Ether (MTBE)	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Chlorobenzene	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Xylene, o-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Styrene	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloroethylene, 1,2-trans-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Dichloropropene, 1,3-trans-	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Tetrachloroethylene	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Toluene	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Trichloroethylene	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Trichlorofluoromethane	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466755	Vinyl Chloride	GC-MS	2024-10-03	2024-10-03	SS	V 8260B
466764	PHC's F1	GC/FID	2024-10-04	2024-10-08	SS	CCME
466766	Xylene Mixture	GC-MS	2024-10-08	2024-10-08	SS	V 8260B
466767	Dichloropropene, 1,3-	GC-MS	2024-10-08	2024-10-08	SS	V 8260B
466769	PHC's F1-BTEX	GC/FID	2024-10-08	2024-10-08	SS	CCME
466774	Electrical Conductivity	Electrical Conductivity Meter	2024-10-08	2024-10-08	Z_S	Cond-Soil
466775	Cyanide (CN-)	Skalar CN Analyzer	2024-10-08	2024-10-08	Z_S	MOECC E3015
466776	PHC's F2	GC/FID	2024-10-08	2024-10-08	ACN	CCME
466776	PHC's F3	GC/FID	2024-10-08	2024-10-08	ACN	CCME
466776	PHC's F4	GC/FID	2024-10-08	2024-10-08	ACN	CCME
466776	Moisture-Humidite	Oven	2024-10-08	2024-10-08	ACN	ASTM 2216
466779	PHC's F2	GC/FID	2024-10-08	2024-10-08	ACN	CCME
466779	PHC's F3	GC/FID	2024-10-08	2024-10-08	ACN	CCME
466779	PHC's F4	GC/FID	2024-10-08	2024-10-08	ACN	CCME
466779	Moisture-Humidite	Oven	2024-10-08	2024-10-08	ACN	ASTM 2216
466780	Sodium Adsorption Ratio	iCAP OES	2024-10-08	2024-10-08	Z_S	Ag Soil
466784	Chromium VI	Ion Chromatography	2024-10-08	2024-10-08	AnK	SM3500-CR C,EPA 3060
466787	Boron (Hot Water Soluble)	iCAP OES	2024-10-08	2024-10-08	Z_S	MOECC E3470

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Certificate of Analysis

Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011336
Date Submitted: 2024-10-02
Date Reported: 2024-10-09
Project: B040048 - 5580
Manotick Main St.
COC #: 916869

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466809	Chromium VI	FAA	2024-10-09	2024-10-09	MW	M US EPA 3060A
466813	PHC's F2-Naph	GC/FID	2024-10-09	2024-10-09	PJ	CCME
466816	PHC's F2-Naph	GC/FID	2024-10-09	2024-10-09	PJ	CCME
466818	PHC's F3-PAH	GC/FID	2024-10-09	2024-10-09	PJ	CCME

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CWS for Petroleum Hydrocarbons in Soil - Tier 1**Notes:**

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:
 - nC6 and nC10 response factors within 30% of response factor for toluene;
 - nC10, nC16, and nC34 response factors within 10% of each other;
 - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
 - Linearity is within 15%.
7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

[illegible]

CLIENT INFORMATION

Company: Blastek
Contact: Marc Orfali
Address: SAME AS PROJECT
Telephone: AS PROJECT
Email: #1:
Email: #2:
Project: B040048-5580 Mandick Main St Quote #: 142334/192080

TURN-AROUND TIME (Business Days)

☐ 1 Day* (100%) ☐ 2 Day** (50%) ☐ 3-5 Days (25%) ☒ 5-7 Days (Standard)

Please contact Lab in advance to determine rush availability.

*For results reported after rush due date, surcharges will apply: before 12:00 - 100%, after 12:00 - 50%.

**For results reported after rush due date, surcharges will apply: before 12:00 - 50%, after 12:00 - 25%.

The optimal temperature conditions during transport should be less than 10°C. Sample(s) cannot be frozen, unless otherwise indicated or agreed upon with the Laboratory. Note that this COC is not to be used for drinking water samples. The COC must be complete upon submission of the samples, there will be a \$25 surcharge if required information is missing (required fields are shaded in grey).

Sample ID Date/Time Collected

BH24-01 SS1 SS2 Oct. 1

BH24-01 SS3 SS4

BH24-03 SS6

Sample Details

Field Filtered →

O.Reg.153 parameters

Sample Matrix	# of Containers	PHC F1 - F4	BTEX	VOCs	PAHs	PCBs	Metals + Inorganic	Metals only
S	4	✓	✓	✓	✓		✓	
S	4	1	1	1	1		1	
S	4	1	1	1	1		1	

RN#
(Lab Use Only)

17450100

61
62

INVOICE INFORMATION (SAME AS CLIENT INFORMATION: YES ☐ NO ☐)

Company:
Contact:
Address:
Telephone:
Fax:
Email: #1:
Email: #2:
PO #: B040048

REGULATION/GUIDELINE REQUIRED

☐ Sanitary Sewer, City:
☐ Storm Sewer, City:
☐ ODWSOG (Use DW CoC if analyzing drinking water)
☐ PWQO
☐ O.Reg 347
☐ Other:

☒ O. Reg 153

The sample results from this submission will form part of a formal Record of Site Condition (RSC) under O.Reg. 153/04. Analysis of full parameter list only
Yes ☐ No ☒

Table # 3 Coarse / Fine, Surface / Subsurface
Type: Com-Ind / Res-Park / Agri / GW / All Other / Sediment

☐ O. Reg 406 Excess Soils

Table # Full depth/Strat/Ceiling/mSPLP Leachate
Type: Com-Ind / Res-Park / Agri / All Other
Category: Surface / Subsurface

PRINT

Sampled By: Marc Orfali

Relinquished By: "

Received By: S.S.H. 88

SIGN

Marc Orfali

DATE/TIME

Oct. 1 8am

Oct. 1 5pm

Oct 1 10:50am

TEMP (°C)

19

COMMENTS:

CUSTODY SEAL: ☐ YES ☐ NO Ice packs submt ☐ Yes ☐ No

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011429
Date Submitted: 2024-10-03
Date Reported: 2024-10-10
Project: B040048 - 5580 Manotick Main St
COC #: 916918

Page 1 of 7

Dear Marc Orfali:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

APPROVAL:

Emma-Dawn Ferguson, Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise indicated.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at: <https://directory.cala.ca/>.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is licensed by the Ontario Ministry of the Environment, Conservation, and Parks (MECP) for specific tests in drinking water (license #2318). A copy of the license is available upon request.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by the Ontario Ministry of Agriculture, Food, and Rural Affairs for specific tests in agricultural soils.

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline values listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official provincial or federal guideline as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Eurofins_multisample(L)44.rpt

Certificate of Analysis

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011429
Date Submitted: 2024-10-03
Date Reported: 2024-10-10
Project: B040048 - 5580 Manotick Main St
COC #: 916918

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1745198 R347 2024-10-02 BH24-04 SS5 TCLP
Group	Analyte	MRL	Units	Guideline	
Anions	F	0.10	mg/L	LQC 150.0	0.17
General Chemistry	Cyanide (free)	0.05	mg/L	LQC 20.0	<0.05
Leachate	REG 558 Leach				y
	Zero Headspace Extraction				y
Mercury	Hg	0.001	mg/L	LQC 0.1	<0.001
Metals	Ag	0.01	mg/L	LQC 5	<0.01
	As	0.02	mg/L	LQC 2.5	<0.02
	B	0.1	mg/L	LQC 500.0	<0.1
	Ba	0.01	mg/L	LQC 100.0	0.91
	Cd	0.008	mg/L	LQC 0.5	<0.008
	Cr	0.05	mg/L	LQC 5.0	<0.05
	Pb	0.01	mg/L	LQC 5.0	<0.01
	Se	0.02	mg/L	LQC 1.0	<0.02
	U	0.01	mg/L	LQC 10.0	<0.01
Moisture	Moisture-Humidite	0.1	%		8.6
Others	NO2 + NO3 as N	1.0	mg/L	LQC 1000	<1.0
PAH	1-methylnaphthalene	0.1	ug/L		0.8
	2-methylnaphthalene	0.1	ug/L		1.0
	Acenaphthene	0.1	ug/L		0.7
	Acenaphthylene	0.1	ug/L		0.2
	Anthracene	0.1	ug/L		0.3
	Benzo(a)anthracene	0.1	ug/L		<0.1
	Benzo(a)pyrene	0.01	ug/L	LQC 1.0	<0.01
	Benzo(b)fluoranthene	0.05	ug/L		<0.05
	Benzo(g,h,i)perylene	0.1	ug/L		<0.1

Guideline = REG 558

*** = Guideline Exceedence**

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Date Submitted: 2024-10-03
Date Reported: 2024-10-10
Project: B040048 - 5580 Manotick Main St
COC #: 916918

					Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1745198 R347 2024-10-02 BH24-04 SS5 TCLP
Group	Analyte	MRL	Units	Guideline	
PAH	Benzo(k)fluoranthene	0.05	ug/L		<0.05
	Chrysene	0.05	ug/L		<0.05
	Dibenzo(a,h)anthracene	0.1	ug/L		<0.1
	Fluoranthene	0.1	ug/L		0.3
	Fluorene	0.1	ug/L		1.0
	Indeno(1,2,3-c,d)pyrene	0.1	ug/L		<0.1
	Naphthalene	0.1	ug/L		2.9
	Phenanthrene	0.1	ug/L		1.9
VOCs Surrogates	Pyrene	0.1	ug/L		0.2
	1,2-dichloroethane-d4	0	%		101
	4-bromofluorobenzene	0	%		87
Volatiles	Toluene-d8	0	%		116
	1,1-dichloroethylene	0.5	ug/L	LQC 1400	<0.5
	1,2-dichlorobenzene	0.4	ug/L	LQC 20000	<0.4
	1,2-dichloroethane	0.5	ug/L	LQC 500	<0.5
	1,4-dichlorobenzene	0.4	ug/L	LQC 500	<0.4
	Benzene	0.5	ug/L	LQC 500	<0.5
	Carbon Tetrachloride	0.2	ug/L	LQC 500	<0.2
	Chloroform	0.5	ug/L	LQC 10000	<0.5
	Dichloromethane	4.0	ug/L	LQC 5000	<4.0
	Methyl Ethyl Ketone (MEK)	2	ug/L	LQC 200000	<2
	Monochlorobenzene	0.5	ug/L	LQC 8000	<0.5
	Tetrachloroethylene	0.3	ug/L	LQC 3000	<0.3
	Trichloroethylene	0.3	ug/L	LQC 5000	<0.3
	Vinyl Chloride	0.2	ug/L	LQC 200	<0.2

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Certificate of Analysis

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011429
Date Submitted: 2024-10-03
Date Reported: 2024-10-10
Project: B040048 - 5580 Manotick Main St
COC #: 916918

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 465534 Analysis/Extraction Date 2024-10-09 Analyst C M Method P 8270			
Methlynaphthalene, 1-	<0.1 ug/L	76	50-140
Methlynaphthalene, 2-	<0.1 ug/L	72	50-140
Acenaphthene	<0.1 ug/L	76	50-140
Acenaphthylene	<0.1 ug/L	77	50-140
Anthracene	<0.1 ug/L	79	50-140
Benz[a]anthracene	<0.1 ug/L	74	50-140
Benzo[a]pyrene	<0.01 ug/L	92	50-140
Benzo[b]fluoranthene	<0.05 ug/L	61	50-140
Benzo[ghi]perylene	<0.1 ug/L	85	50-140
Benzo[k]fluoranthene	<0.05 ug/L	75	50-140
Chrysene	<0.05 ug/L	81	50-140
Dibenz[a h]anthracene	<0.1 ug/L	86	50-140
Fluoranthene	<0.1 ug/L	85	50-140
Fluorene	<0.1 ug/L	71	50-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	85	50-140
Naphthalene	<0.1 ug/L	72	50-140

Guideline = REG 558

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Report Number: 3011429
Date Submitted: 2024-10-03
Date Reported: 2024-10-10
Project: B040048 - 5580 Manotick Main St
COC #: 916918

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Phenanthrene	<0.1 ug/L	77	50-140
Pyrene	<0.1 ug/L	86	50-140
Run No 466751 Analysis/Extraction Date 2024-10-08 Analyst M B Method ASTM 2216			
Moisture-Humidite			80-120
Run No 466752 Analysis/Extraction Date 2024-10-08 Analyst M_B Method EPA 1311/O. Reg 347			
REG 558 Leach			
Zero Headspace Extraction			
Run No 466802 Analysis/Extraction Date 2024-10-08 Analyst AsA Method SM2320,2510,4500H/F			
F	<0.10 mg/L	98	90-110
Run No 466823 Analysis/Extraction Date 2024-10-09 Analyst ZhL Method EPA 8260			
Dichloroethylene, 1,1-	<0.5 ug/L	100	60-130
Dichlorobenzene, 1,2-	<0.4 ug/L	95	60-130
Dichloroethane, 1,2-	<0.5 ug/L	105	60-130
Dichlorobenzene, 1,4-	<0.4 ug/L	93	60-130
Benzene	<0.5 ug/L	96	60-130

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COC #: 916918

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Carbon Tetrachloride	<0.2 ug/L	100	60-130
Chloroform	<0.5 ug/L	102	60-130
Methylene Chloride	<4.0 ug/L	106	60-130
Methyl Ethyl Ketone	<2 ug/L	97	60-130
Chlorobenzene	<0.5 ug/L	94	60-130
Tetrachloroethylene	<0.3 ug/L	97	60-130
Trichloroethylene	<0.3 ug/L	91	60-130
Vinyl Chloride	<0.2 ug/L	97	60-130
Run No 466836 Analysis/Extraction Date 2024-10-09 Analyst SD Method EPA 200.8			
Silver	<0.01 mg/L	100	70-130
Arsenic	<0.02 mg/L	85	70-130
Boron (total)	<0.1 mg/L	91	70-130
Barium	<0.01 mg/L	83	70-130
Cadmium	<0.008 mg/L	89	70-130
Chromium Total	<0.05 mg/L	97	70-130
Lead	<0.01 mg/L	88	70-130
Selenium	<0.02 mg/L	91	70-130

Guideline = REG 558

* = Guideline Exceedence

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Certificate of Analysis

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011429
Date Submitted: 2024-10-03
Date Reported: 2024-10-10
Project: B040048 - 5580 Manotick Main St
COC #: 916918

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Uranium	<0.01 mg/L	77	70-130
Run No 466839 Analysis/Extraction Date 2024-10-09 Analyst SuM Method M SM3112B-3500B			
Mercury	<0.001 mg/L	105	76-123
Run No 466851 Analysis/Extraction Date 2024-10-09 Analyst SKH Method C SM4500-NO3-F			
NO2 + NO3 as N	<1.0 mg/L	99	80-120
Run No 466916 Analysis/Extraction Date 2024-10-10 Analyst Z S Method SM4500-CNC/MOE E3015			
Cyanide (CN-)	<0.05 mg/L	90	75-125

Guideline = REG 558

* = Guideline Exceedence

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1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
Invoice to: Blastek Engineering Group
PO#: B040048

Report Number: 3011577
Date Submitted: 2024-10-09
Date Reported: 2024-10-17
Project: B040048 - 5580
Manotick Main St.
COC #: 917002
Temperature (C): 8
Custody Seal:

Page 1 of 18

Dear Marc Orfali:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Sample Comment Summary

Sample ID: 1745894 BH24-02 GW For all samples in this report, the metals spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

Report Comments:

Emma-Dawn Ferguson, Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at <https://directory.cala.ca/>

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

EETC Reg 153 Version 19.rpt



Client: Blastek Eng. Group
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PO#: B040048
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Report Number: 3011577
Date Submitted: 2024-10-09
Date Reported: 2024-10-17
Project: B040048 - 5580
Manotick Main St.
COC #: 917002

O.Reg 153-T3-Non-Pot GW-Coarse

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria
Volatiles				
BH24-04 GW	Chloroform	11.7	ug/L	STD 2.4

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Guideline = O.Reg 153-T3-Non-Pot GW-Coarse

Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1745895 GW153 2024-10-08 BH24-03 GW	1745896 GW153 2024-10-08 BH24-04 GW
PHC's F1	467178	20	ug/L	STD 750		<20	<20
PHC's F1-BTEX	467181	20	ug/L			<20	<20
PHC's F2	467153	20	ug/L	STD 150		<20	
	467195	20	ug/L	STD 150			<20
PHC's F2-Naph	467196	20	ug/L				<20
PHC's F3	467153	50	ug/L	STD 500		<50	
	467195	50	ug/L	STD 500			<50
PHC's F3-PAH	467197	50	ug/L				<50
PHC's F4	467153	50	ug/L	STD 500		<50	
	467195	50	ug/L	STD 500			<50

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1745894 GW153 2024-10-08 BH24-02 GW	1745896 GW153 2024-10-08 BH24-04 GW	1746192 GW153 - 2024-10-09 BH24-04 GW2
Antimony	466960	0.5	ug/L	STD 20000		<0.5	0.7	0.6
Arsenic	466960	1	ug/L	STD 1900		<1	<1	<1
Barium	466960	10	ug/L	STD 29000		30	20	20
Beryllium	466960	0.5	ug/L	STD 67		<0.5	<0.5	<0.5
Boron (total)	466960	10	ug/L	STD 45000		60	40	30
Cadmium	466960	0.1	ug/L	STD 2.7		<0.1	<0.1	<0.1
Chromium Total	466960	1	ug/L	STD 810		<1	<1	<1
Cobalt	466960	0.2	ug/L	STD 66		1.9	0.6	0.5
Copper	466960	1	ug/L	STD 87		3	3	2

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Certificate of Analysis

Environment Testing

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Report Number: 3011577
Date Submitted: 2024-10-09
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Manotick Main St.
COC #: 917002

Guideline = O.Reg 153-T3-Non-Pot GW-Coarse

Metals

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1745894 GW153	1745896 GW153	1746192 GW153
Guideline					BH24-02 GW	BH24-04 GW	BH24-04 GW2
Analyte	Batch No	MRL	Units	Guideline			
Lead	466960	1	ug/L	STD 25	<1	<1	<1
Mercury	467022	0.1	ug/L	STD 0.29		<0.1	<0.1
Molybdenum	466960	5	ug/L	STD 9200	28	22	23
Nickel	466960	5	ug/L	STD 490	<5	<5	<5
Selenium	466960	1	ug/L	STD 63	<1	<1	<1
Silver	466960	0.1	ug/L	STD 1.5	<0.1	<0.1	<0.1
Sodium	467010	1000	ug/L	STD 2300000	64000	36000	36000
Thallium	466960	0.1	ug/L	STD 510	<0.1	<0.1	<0.1
Uranium	466960	1	ug/L	STD 420	1	3	3
Vanadium	466960	1	ug/L	STD 250	<1	<1	<1
Zinc	466960	10	ug/L	STD 1100	<10	<10	<10

Others

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1745896 GW153	1746192 GW153
Guideline					BH24-04 GW	BH24-04 GW2
Analyte	Batch No	MRL	Units	Guideline		
Chromium VI	467006	1	ug/L	STD 140	1	7

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Manotick Main St.
COC #: 917002

Guideline = O.Reg 153-T3-Non-Pot GW-Coarse

PAH

Lab I.D. 1745896
Sample Matrix GW153
Sample Type
Sample Date 2024-10-08
Sampling Time
Sample I.D. BH24-04
Guideline GW

Analyte	Batch No	MRL	Units	Guideline	
1+2-methylnaphthalene	467168	0.1	ug/L	STD 1800	<0.1
Acenaphthene	465534	0.1	ug/L	STD 600	<0.1
Acenaphthylene	465534	0.1	ug/L	STD 1.8	<0.1
Anthracene	465534	0.1	ug/L	STD 2.4	<0.1
Benz[a]anthracene	465534	0.1	ug/L	STD 4.7	<0.1
Benzo[a]pyrene	465534	0.01	ug/L	STD 0.81	<0.01
Benzo[b]fluoranthene	465534	0.05	ug/L	STD 0.75	<0.05
Benzo[ghi]perylene	465534	0.1	ug/L	STD 0.2	<0.1
Benzo[k]fluoranthene	465534	0.05	ug/L	STD 0.4	<0.05
Chrysene	465534	0.05	ug/L	STD 1	<0.05
Dibenz[a h]anthracene	465534	0.1	ug/L	STD 0.52	<0.1
Fluoranthene	465534	0.1	ug/L	STD 130	<0.1
Fluorene	465534	0.1	ug/L	STD 400	<0.1
Indeno[1 2 3-cd]pyrene	465534	0.1	ug/L	STD 0.2	<0.1
Methylnaphthalene, 1-	465534	0.1	ug/L	STD 1800	<0.1
Methylnaphthalene, 2-	465534	0.1	ug/L	STD 1800	<0.1
Naphthalene	465534	0.1	ug/L	STD 1400	<0.1
Phenanthrene	465534	0.1	ug/L	STD 580	<0.1
Pyrene	465534	0.1	ug/L	STD 68	<0.1

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Certificate of Analysis

Environment Testing

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Manotick Main St.
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Guideline = O.Reg 153-T3-Non-Pot GW-Coarse

Volatiles

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1745894 GW153 2024-10-08 BH24-02 GW	1745895 GW153 2024-10-08 BH24-03 GW	1745896 GW153 2024-10-08 BH24-04 GW
Analyte	Batch No	MRL	Units	Guideline				
1,3,5-trimethylbenzene	467183	0.3	ug/L			<0.3		
Acetone	467183	5	ug/L	STD 130000		<5	<5	<5
Benzene	467183	0.5	ug/L	STD 44		<0.5	<0.5	<0.5
Bromodichloromethane	467183	0.3	ug/L	STD 85000		<0.3	<0.3	0.7
Bromoform	467183	0.4	ug/L	STD 380		<0.4	<0.4	<0.4
Bromomethane	467183	0.5	ug/L	STD 5.6		<0.5	<0.5	<0.5
Carbon Tetrachloride	467183	0.2	ug/L	STD 0.79		<0.2	<0.2	<0.2
Chlorobenzene	467183	0.5	ug/L	STD 630		<0.5	<0.5	<0.5
Chloroethane	467183	0.5	ug/L			<0.5		
Chloroform	467183	0.5	ug/L	STD 2.4		<0.5	<0.5	11.7*
Dibromochloromethane	467183	0.3	ug/L	STD 82000		<0.3	<0.3	<0.3
Dichlorobenzene, 1,2-	467183	0.4	ug/L	STD 4600		<0.4	<0.4	<0.4
Dichlorobenzene, 1,3-	467183	0.4	ug/L	STD 9600		<0.4	<0.4	<0.4
Dichlorobenzene, 1,4-	467183	0.4	ug/L	STD 8		<0.4	<0.4	<0.4
Dichlorodifluoromethane	467183	0.5	ug/L	STD 4400		<0.5	<0.5	<0.5
Dichloroethane, 1,1-	467183	0.4	ug/L	STD 320		<0.4	<0.4	<0.4
Dichloroethane, 1,2-	467183	0.5	ug/L	STD 1.6		<0.5	<0.5	<0.5
Dichloroethylene, 1,1-	467183	0.5	ug/L	STD 1.6		<0.5	<0.5	<0.5
Dichloroethylene, 1,2-cis-	467183	0.4	ug/L	STD 1.6		<0.4	<0.4	<0.4
Dichloroethylene, 1,2-trans-	467183	0.4	ug/L	STD 1.6		<0.4	<0.4	<0.4
Dichloropropane, 1,2-	467183	0.5	ug/L	STD 16		<0.5	<0.5	<0.5
Dichloropropene, 1,3-	467188	0.5	ug/L	STD 5.2		<0.5	<0.5	<0.5
Dichloropropene, 1,3-cis-	467183	0.5	ug/L			<0.5	<0.5	<0.5

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Guideline = O.Reg 153-T3-Non-Pot GW-Coarse

Volatiles

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1745894 GW153 BH24-02 GW	1745895 GW153 BH24-03 GW	1745896 GW153 BH24-04 GW
Analyte	Batch No	MRL	Units	Guideline				
Dichloropropene,1,3-trans-	467183	0.5	ug/L			<0.5	<0.5	<0.5
Ethylbenzene	467183	0.5	ug/L	STD 2300		<0.5	<0.5	<0.5
Ethylene dibromide	467183	0.2	ug/L	STD 0.25		<0.2	<0.2	<0.2
Hexane (n)	467183	5	ug/L	STD 51		<5	<5	<5
Methyl Ethyl Ketone	467183	2	ug/L	STD 470000		<2	<2	<2
Methyl Isobutyl Ketone	467183	5	ug/L	STD 140000		<5	<5	<5
Methyl tert-Butyl Ether (MTBE)	467183	2	ug/L	STD 190		<2	<2	<2
Methylene Chloride	467183	4.0	ug/L	STD 610		<4.0	<4.0	<4.0
Styrene	467183	0.5	ug/L	STD 1300		<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	467183	0.5	ug/L	STD 3.3		<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	467183	0.5	ug/L	STD 3.2		<0.5	<0.5	<0.5
Tetrachloroethylene	467183	0.3	ug/L	STD 1.6		<0.3	<0.3	<0.3
Toluene	467183	0.4	ug/L	STD 18000		<0.4	<0.4	<0.4
Trichloroethane, 1,1,1,-	467183	0.4	ug/L	STD 640		<0.4	<0.4	<0.4
Trichloroethane, 1,1,2,-	467183	0.4	ug/L	STD 4.7		<0.4	<0.4	<0.4
Trichloroethylene	467183	0.3	ug/L	STD 1.6		<0.3	<0.3	<0.3
Trichlorofluoromethane	467183	0.5	ug/L	STD 2500		<0.5	<0.5	<0.5
Vinyl Chloride	467183	0.2	ug/L	STD 0.5		<0.2	<0.2	<0.2
Xylene Mixture	467187	0.5	ug/L	STD 4200		<0.5	<0.5	<0.5
Xylene, m/p-	467183	0.4	ug/L			<0.4	<0.4	<0.4
Xylene, o-	467183	0.4	ug/L			<0.4	<0.4	<0.4

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Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011577
Date Submitted: 2024-10-09
Date Reported: 2024-10-17
Project: B040048 - 5580
Manotick Main St.
COC #: 917002

Guideline = O.Reg 153-T3-Non-Pot GW-Coarse

Inorganics

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.
Analyte	Batch No	MRL	Units	Guideline	1745896 GW153 2024-10-08 BH24-04 GW
Chloride	46700	1000	ug/L	STD 2300000	15000
Conductivity	467057	5	uS/cm		316
Cyanide (CN-)	467058	5	ug/L	STD 66	<5
pH	467057	1.00			8.04

PHC Surrogate

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	
Analyte	Batch No	MRL	Units	Guideline	1745895 GW153 2024-10-08 BH24-03 GW	1745896 GW153 2024-10-08 BH24-04 GW
Alpha-androstrane	467153	0	%		94	
	467195	0	%			102

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VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.		
Analyte	Batch No	MRL	Units	Guideline	BH24-02 GW	BH24-03 GW	BH24-04 GW
1,2-dichloroethane-d4	467183	0	%		94	98	102
4-bromofluorobenzene	467183	0	%		74	79	73
Toluene-d8	467183	0	%		94	109	104

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Manotick Main St.
COC #: 917002

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
465534	Methlynaphthalene, 1-	<0.1 ug/L	76	50-140		50-140		0-30
465534	Methlynaphthalene, 2-	<0.1 ug/L	72	50-140		50-140		0-30
465534	Acenaphthene	<0.1 ug/L	76	50-140		50-140		0-30
465534	Acenaphthylene	<0.1 ug/L	77	50-140		50-140		0-30
465534	Anthracene	<0.1 ug/L	79	50-140		50-140		0-30
465534	Benz[a]anthracene	<0.1 ug/L	74	50-140		50-140		0-30
465534	Benzo[a]pyrene	<0.01 ug/L	92	50-140		50-140		0-30
465534	Benzo[b]fluoranthene	<0.05 ug/L	61	50-140		50-140		0-30
465534	Benzo[ghi]perylene	<0.1 ug/L	85	50-140		50-140		0-30
465534	Benzo[k]fluoranthene	<0.05 ug/L	75	50-140		50-140		0-30
465534	Chrysene	<0.05 ug/L	81	50-140		50-140		0-30
465534	Dibenz[a h]anthracene	<0.1 ug/L	86	50-140		50-140		0-30
465534	Fluoranthene	<0.1 ug/L	85	50-140		50-140		0-30
465534	Fluorene	<0.1 ug/L	71	50-140		50-140		0-30
465534	Indeno[1 2 3-cd]pyrene	<0.1 ug/L	85	50-140		50-140		0-30
465534	Naphthalene	<0.1 ug/L	72	50-140		50-140		0-30
465534	Phenanthrene	<0.1 ug/L	77	50-140		50-140		0-30
465534	Pyrene	<0.1 ug/L	86	50-140		50-140		0-30
466960	Silver	<0.1 ug/L	92	80-120	31	70-130	0	0-20
466960	Arsenic	<1 ug/L	100	80-120	100	70-130	0	0-20
466960	Boron (total)	<10 ug/L	101	80-120	94	80-120	1	0-20
466960	Barium	<10 ug/L	92	80-120	91	70-130	0	0-20
466960	Beryllium	<0.5 ug/L	106	80-120	99	70-130	0	0-20
466960	Cadmium	<0.1 ug/L	97	80-120	92	70-130	0	0-20
466960	Cobalt	<0.2 ug/L	95	80-120	87	70-130	0	0-20
466960	Chromium Total	<1 ug/L	98	80-120	91	70-130	0	0-20
466960	Copper	<1 ug/L	98	80-120	82	70-130	0	0-20
466960	Molybdenum	<5 ug/L	85	80-120	86	70-130	0	0-20
466960	Nickel	<5 ug/L	96	80-120	84	70-130	0	0-20
466960	Lead	<1 ug/L	97	80-120	78	70-130	0	0-20
466960	Antimony	<0.5 ug/L	82	80-120	83	70-130	0	0-20
466960	Selenium	<1 ug/L	99	80-120	96	70-130	0	0-20

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Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011577
Date Submitted: 2024-10-09
Date Reported: 2024-10-17
Project: B040048 - 5580
Manotick Main St.
COC #: 917002

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
466960	Thallium	<0.1 ug/L	95	80-120	78	70-130	0	0-20
466960	Uranium	<1 ug/L	93	80-120	78	70-130	0	0-20
466960	Vanadium	<1 ug/L	93	80-120	92	70-130	0	0-20
466960	Zinc	<10 ug/L	99	80-120	82	70-130	0	0-20
46700	Chloride	<1000 ug/L	99	90-110	109	80-120	0	0-20
467006	Chromium VI	<1 ug/L	108	80-120	111	70-130	0	0-20
467010	Sodium	<1000 ug/L	106	82-118		80-120	1	0-20
467022	Mercury	<0.1 ug/L	96	76-123	102	70-130	0	0-20
467057	Conductivity	<5 uS/cm	99	90-110			0	0-5
467057	pH		99	90-110			0	0-5
467058	Cyanide (CN-)	<5 ug/L	91	75-125	103	80-120	0	0-20
467153	PHC's F2	<20 ug/L	86	60-140		60-140		0-30
467153	PHC's F3	<50 ug/L	86	60-140		60-140		0-30
467153	PHC's F4	<50 ug/L	86	60-140		60-140		0-30
467168	1+2-methylnaphthalene							
467178	PHC's F1	<20 ug/L	82	60-140	99	60-140	0	0-30
467181	PHC's F1-BTEX							
467183	Tetrachloroethane, 1,1,1,2-	<0.5 ug/L	91	60-130	109	50-140	0	0-30
467183	Trichloroethane, 1,1,1-	<0.4 ug/L	101	60-130	113	50-140	0	0-30
467183	Tetrachloroethane, 1,1,2,2-	<0.5 ug/L	92	60-130	110	50-140	0	0-30
467183	Trichloroethane, 1,1,2-	<0.4 ug/L	94	60-130	107	50-140	0	0-30
467183	Dichloroethane, 1,1-	<0.4 ug/L	99	60-130	119	50-140	0	0-30
467183	Dichloroethylene, 1,1-	<0.5 ug/L	100	60-130	112	50-140	0	0-30
467183	Dichlorobenzene, 1,2-	<0.4 ug/L	95	60-130	102	50-140	0	0-30
467183	Dichloroethane, 1,2-	<0.5 ug/L	105	60-130	124	50-140	0	0-30
467183	Dichloropropane, 1,2-	<0.5 ug/L	91	60-130	120	50-140	0	0-30
467183	1,3,5-trimethylbenzene	<0.3 ug/L	92	60-130	104	50-140	0	0-30
467183	Dichlorobenzene, 1,3-	<0.4 ug/L	93	60-130	101	50-140	0	0-30
467183	Dichlorobenzene, 1,4-	<0.4 ug/L	93	60-130	101	50-140	0	0-30
467183	Acetone	<5 ug/L	99	60-130	92	50-140	0	0-30
467183	Benzene	<0.5 ug/L	96	60-130	120	50-140	0	0-30
467183	Bromodichloromethane	<0.3 ug/L	94	60-130	121	50-140	0	0-30
467183	Bromoform	<0.4 ug/L	86	60-130	101	50-140	0	0-30

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K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011577
Date Submitted: 2024-10-09
Date Reported: 2024-10-17
Project: B040048 - 5580
Manotick Main St.
COC #: 917002

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467183	Bromomethane	<0.5 ug/L	107	60-130	112	50-140	0	0-30
467183	Dichloroethylene, 1,2-cis-	<0.4 ug/L	92	60-130	120	50-140	0	0-30
467183	Dichloropropene, 1,3-cis-	<0.5 ug/L	92	60-130	112	50-140	0	0-30
467183	Carbon Tetrachloride	<0.2 ug/L	100	60-130	113	50-140	0	0-30
467183	Chloroethane	<0.5 ug/L	104	60-130	113	50-140	0	0-30
467183	Chloroform	<0.5 ug/L	102	60-130	119	50-140	0	0-30
467183	Dibromochloromethane	<0.3 ug/L	93	60-130	103	50-140	0	0-30
467183	Dichlorodifluoromethane	<0.5 ug/L	91	60-130	101	50-140	0	0-30
467183	Methylene Chloride	<4.0 ug/L	106	60-130	122	50-140	0	0-30
467183	Ethylbenzene	<0.5 ug/L	92	60-130	112	50-140	0	0-30
467183	Ethylene dibromide	<0.2 ug/L	92	60-130	100	50-140	0	0-30
467183	Hexane (n)	<5 ug/L	91	60-130	109	50-140	0	0-30
467183	Xylene, m/p-	<0.4 ug/L	98	60-130	112	50-140	0	0-30
467183	Methyl Ethyl Ketone	<2 ug/L	97	60-130	121	50-140	0	0-30
467183	Methyl Isobutyl Ketone	<5 ug/L	97	60-130	107	50-140	0	0-30
467183	Methyl tert-Butyl Ether (MTBE)	<2 ug/L	93	60-130	119	50-140	0	0-30
467183	Chlorobenzene	<0.5 ug/L	94	60-130	109	50-140	0	0-30
467183	Xylene, o-	<0.4 ug/L	92	60-130	113	50-140	0	0-30
467183	Styrene	<0.5 ug/L	95	60-130	111	50-140	0	0-30
467183	Dichloroethylene, 1,2-trans-	<0.4 ug/L	95	60-130	118	50-140	0	0-30
467183	Dichloropropene, 1,3-trans-	<0.5 ug/L	93	60-130	111	50-140	0	0-30
467183	Tetrachloroethylene	<0.3 ug/L	97	60-130	112	50-140	0	0-30
467183	Toluene	<0.4 ug/L	94	60-130	126	50-140	0	0-30
467183	Trichloroethylene	<0.3 ug/L	91	60-130	112	50-140	0	0-30
467183	Trichlorofluoromethane	<0.5 ug/L	92	60-130	105	50-140	0	0-30
467183	Vinyl Chloride	<0.2 ug/L	97	60-130	111	50-140	0	0-30
467187	Xylene Mixture							
467188	Dichloropropene, 1,3-							
467195	PHC's F2	<20 ug/L	115	60-140		60-140		0-30
467195	PHC's F3	<50 ug/L	115	60-140		60-140		0-30
467195	PHC's F4	<50 ug/L	115	60-140		60-140		0-30
467196	PHC's F2-Naphth							
467197	PHC's F3-PAH							

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Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011577
Date Submitted: 2024-10-09
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Manotick Main St.
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Manotick Main St.
COC #: 917002

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
465534	Methlynaphthalene, 1-	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Methlynaphthalene, 2-	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Acenaphthene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Acenaphthylene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Anthracene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Benz[a]anthracene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Benzo[a]pyrene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Benzo[b]fluoranthene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Benzo[ghi]perylene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Benzo[k]fluoranthene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Chrysene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Dibenz[a h]anthracene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Fluoranthene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Fluorene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Indeno[1 2 3-cd]pyrene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Naphthalene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Phenanthrene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
465534	Pyrene	GC-MS	2024-10-16	2024-10-16	C_M	P 8270
466960	Silver	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Arsenic	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Boron (total)	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Barium	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Beryllium	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Cadmium	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Cobalt	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Chromium Total	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Copper	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Molybdenum	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Nickel	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Lead	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Antimony	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Selenium	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8

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Project: B040048 - 5580
Manotick Main St.
COC #: 917002

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
466960	Thallium	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Uranium	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Vanadium	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
466960	Zinc	ICAPQ-MS	2024-10-11	2024-10-11	AaN	EPA 200.8
46700	Chloride	IC	2024-10-11	2024-10-15	IP	SM 4110
467006	Chromium VI	Ion Chromatography	2024-10-11	2024-10-15	IP	SM3500-CR C
467010	Sodium	ICP-OES	2024-10-15	2024-10-15	Z_S	M SM3120B-3500C
467022	Mercury	CV AA	2024-10-15	2024-10-15	SuM	M SM3112B-3500B
467057	Conductivity	Auto Titrator	2024-10-15	2024-10-15	AsA	SM2320,2510,4500H/F
467057	pH	Auto Titrator	2024-10-15	2024-10-15	AsA	SM2320,2510,4500H/F
467058	Cyanide (CN-)	Skalar CN Analyzer	2024-10-16	2024-10-16	Z_S	SM4500-CNC/MOE E3015
467153	PHC's F2	GC/FID	2024-10-16	2024-10-17	D_T	CCME O.Reg 153/04
467153	PHC's F3	GC/FID	2024-10-16	2024-10-17	D_T	CCME O.Reg 153/04
467153	PHC's F4	GC/FID	2024-10-16	2024-10-17	D_T	CCME O.Reg 153/04
467168	1+2-methylnaphthalene	GC-MS	2024-10-17	2024-10-17	C_M	P 8270
467178	PHC's F1	GC/FID	2024-10-15	2024-10-17	ZhL	CCME O.Reg 153/04
467181	PHC's F1-BTEX	GC/FID	2024-10-17	2024-10-17	ZhL	CCME O.Reg 153/04
467183	Tetrachloroethane, 1,1,1,2-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Trichloroethane, 1,1,1-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Tetrachloroethane, 1,1,2,2-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Trichloroethane, 1,1,2-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloroethane, 1,1-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloroethylene, 1,1-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichlorobenzene, 1,2-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloroethane, 1,2-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloropropane, 1,2-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	1,3,5-trimethylbenzene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichlorobenzene, 1,3-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichlorobenzene, 1,4-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Acetone	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Benzene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Bromodichloromethane	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Bromoform	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467183	Bromomethane	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloroethylene, 1,2-cis-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloropropene, 1,3-cis-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Carbon Tetrachloride	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Chloroethane	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Chloroform	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dibromochloromethane	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichlorodifluoromethane	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Methylene Chloride	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Ethylbenzene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Ethylene dibromide	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Hexane (n)	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Xylene, m/p-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Methyl Ethyl Ketone	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Methyl Isobutyl Ketone	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Methyl tert-Butyl Ether (MTBE)	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Chlorobenzene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Xylene, o-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Styrene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloroethylene, 1,2-trans-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Dichloropropene, 1,3-trans-	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Tetrachloroethylene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Toluene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Trichloroethylene	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Trichlorofluoromethane	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467183	Vinyl Chloride	GC-MS	2024-10-11	2024-10-16	ZhL	EPA 8260
467187	Xylene Mixture	GC-MS	2024-10-17	2024-10-17	ZhL	EPA 8260
467188	Dichloropropene, 1,3-	GC-MS	2024-10-17	2024-10-17	ZhL	EPA 8260
467195	PHC's F2	GC/FID	2024-10-16	2024-10-17	D_T	CCME O.Reg 153/04
467195	PHC's F3	GC/FID	2024-10-16	2024-10-17	D_T	CCME O.Reg 153/04
467195	PHC's F4	GC/FID	2024-10-16	2024-10-17	D_T	CCME O.Reg 153/04
467196	PHC's F2-Napth	GC/FID	2024-10-17	2024-10-17	D_T	CCME O.Reg 153/04
467197	PHC's F3-PAH	GC/FID	2024-10-17	2024-10-17	D_T	CCME O.Reg 153/04

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Environment Testing

Client: Blastek Eng. Group
1550 Laperriere Avenue
Ottawa, ON
K1Z 7T2
Attention: Mr Marc Orfali
PO#: B040048
Invoice to: Blastek Engineering Group

Report Number: 3011577
Date Submitted: 2024-10-09
Date Reported: 2024-10-17
Project: B040048 - 5580
Manotick Main St.
COC #: 917002

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CWS for Petroleum Hydrocarbons in Soil - Tier 1**Notes:**

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:
 - nC6 and nC10 response factors within 30% of response factor for toluene;
 - nC10, nC16, and nC34 response factors within 10% of each other;
 - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
 - Linearity is within 15%.
7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

[illegible]