Ottawa Carleton District School Board
1224 Stittsville Main Street
Stittsville, Ontario
K2S 0E2

Phase II Environmental Site Assessment
820 Miikana Road
Ottawa, Ontario

ER1004

May 30th, 2022

CM3 Environmental Inc.
5710 Akins Road Ottawa, Ontario K2S 1B8

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1 INTRODUCTION

CM3 Environmental Inc. (CM3) was retained by the Ottawa Carleton District School Board (OCDSB) to complete a Phase II Environmental Site Assessment (ESA) at 820 Miikana Road, Ottawa, Ontario (site or subject property).

CM3 completed a Phase I ESA on the subject property in April 2022. Details of the assessment can be found in CM3's report "*Phase I Environmental Site Assessment, 820 Miikana Road, Ottawa, Ontario*" dated April 13th, 2022.

The findings of the Phase I ESA identified one Area of Potential Environmental Concern (APEC) on the subject property due to historic and current imported fill piles on-site. The contaminants of concern included VOCs (including BTEX), PHCs F1-F4 fractions, metals, PAHs and pH

The purpose of the Phase II ESA was to identify contaminants of concern (if present) in soil, and to a lesser degree, groundwater. If contaminant concentrations in soil were found to be above the applicable Ministry of the Environment and Climate Change (MECP) standards, groundwater characterization would be required. The Phase II ESA was undertaken for due diligence purposes and for a City of Ottawa Site Plan Control Application and was not completed in support of the filing of a record of site condition (RSC).

In preparation for the planned on-site development, CM3 was also retained to conduct soil sampling for excess soil under Ontario Regulation (O.Reg.) 406/19. The purpose of the soil testing was to determine the soil quality with respect to O.Reg 406/19 site condition standards (SCS) and provide recommendations for the management of excess soil.

1.1 Site Description

The civic address of the subject property is 820 Miikana Road. The current site land use designation is minor institutional. The subject property is currently vacant with no buildings on-site. The site location is provided as **Figure 1**.

The subject property is located on the south side of Miikana Road in Ottawa, Ontario. The total area of the subject property is approximately 25,450 meters squared (m^2) and is bound by Miikana Road to the north, Quest Private and residential homes to the east, residential homes to the south, and Kelly Farm Drive to the west. The properties surrounding the site primarily consist of new or currently under construction residential homes. Past land use was agricultural/residential. The ground cover on-site primarily consists of soil and intermittent vegetation. The site was likely used for staging and stockpiling fill materials during the development of the surrounding areas beginning in 2017.

1.2 Applicable Site Condition Standards

The results of the chemical analyses were compared to the MECP *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act,* under Ontario Regulation 153/04. The laboratory analytical results were also compared to the MECP Rules for Soil Management and Excess Soil Quality Standards, 2020. The following site conditions were used in the selection of the appropriate site condition standards:

- Environmentally sensitive areas were not located on site or in the immediate vicinity;
- The site was not considered a shallow soil property (i.e., bedrock greater than 2 metres below grade);
- The site was not located within 30 m of a water body;
- Groundwater was not used as a potable water source in the area;
- Land use was considered Institutional; and
- Surrounding land use is considered residential.

For the purposes of the Phase II ESA, the Table 3 Full Depth Background Site Condition Standards in a Non-Potable Ground Water Condition were selected for the evaluation of the analytical results, based on the above.

For the purposes of excess soil management, the soil results were evaluated using the Table 2.1 Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition, Volume Independent SCS for residential/parkland/institutional land use.

2 BACKGROUND INFORMATION

2.1 Physical Setting

2.1.1 Topography and Drainage

The subject property slopes gently toward the north-west and sits at an elevation of approximately 93.88 m above sea level (m asl). The areas surrounding the subject property also have a gentle slope to the north-west. Surface drainage at the site is likely controlled by surface coverings (soil and vegetation) and site grading. It is likely that most of the surface drainage is by overland flow to stormwater catch basins located on Miikana Road.

2.1.2 Geology

The geology of the subject property was interpreted from a geotechnical report by Golder Associates dated January 2017 and entitled “Geotechnical Investigation, Proposed Residential Development, Remer and Idone Lands, Ottawa, Ontario. (Report Number: 13-1121-0083 (1046)”. The report identified the geology of the subject property to consist of peat overlying sands and silts and then overlying boulder glacial till. The bedrock geology of the site was provided in the Environmental Risk Information Services Physical Setting Report (ERIS PSR) and was described as dolostone and sandstone of the Beekmantown group.

2.1.3 Hydrogeology

The regional groundwater flow direction was inferred based on the topography at the subject property and surrounding area and the presence of wetlands/watercourses. The inferred regional groundwater flow direction was north-northwest. The site groundwater flow direction could not be determined based on the available information.

2.2 Past Investigations

The following Geotechnical investigation report was available for review:

1. Golder Associates, January 2017, Geotechnical Investigation, Proposed Residential Development, Remer and Idone Lands, Ottawa, Ontario. (Report Number: 13-1121-0083(1046).

The geotechnical investigation was conducted for Leitrim South Holdings Inc. and 4840 Bank St. Ltd. The purpose of the investigation was to determine subsurface soil, bedrock, and groundwater conditions for the proposed residential development on the Remer and Idone lands in Ottawa, Ontario.

This Phase II ESA report is part of a Phase I and II ESA for the subject property completed by CM3 Environmental Inc. The Phase I ESA was completed in April of 2022 and identified one area of potential environmental concern (APEC) based on one on-site potentially contaminating activity (PCA) related to the importation of fill material of unknown quality. The APEC encompassed the entire site (approximately 24,450 m^2) but focused mainly of the existing fill piles. The contaminants of concern included volatile organic compounds (VOCs), petroleum hydrocarbons in the F1 to F4 fractions (PHCs), polycyclic aromatic hydrocarbons (PAHs), metals, and pH.

3 SCOPE OF THE INVESTIGATION

3.1 Overview of Site Investigation

CM3 completed the Phase II ESA following the requirements of the Canadian Standards Association (CSA) Standard Z769-00 (R2008) and in general accordance with Ontario Regulation (O. Reg.) 153/04. The objective of the Phase II ESA was to identify environmental impacts to soil associated with the APEC as well as assess the soil quality with respect to O.Reg 406/19. The scope of work included:

- CM3 obtained private and public underground locates for the work areas (excludes buried plastic water or sewer pipes).
- An excavator was used to advance nine test pits on-site. Test pits were advanced to a maximum depth of 1.78 m below ground level. CM3 was on-site to supervise the excavation, collect soil samples, and make note of observations made in the field.
- All soil samples were analyzed in the field for combustible vapour analyses using an approved device (i.e., RKI Eagle Multi Gas Detector). Based on combustible vapour concentrations and/or field observations, soil samples were selected for laboratory analysis.
- Nine soil samples were analyzed for VOCs (including BTEX), PHCs (F1 to F4 fractions), and metals.
- Four soil samples were analyzed for PAHs
- Nine soil samples were analyzed for pH.
- A Phase II ESA summary report.

The above scope of work was prepared based on CM3's understanding of the objective and information provided by the Ottawa Carleton District School Board.

4 INVESTIGATION METHODOLOGY

4.1 General

The Phase II ESA site work was completed on May 16th, 2022. The investigation included the excavation of nine test pits. Test pits were advanced for the collection of soil samples for soil logging, field screening of contamination, and possible laboratory analysis.

4.2 Test Pit Excavation

The test pit soil investigation included the excavation of nine test pits. The excavation was completed using a 420 F2 IT backhoe owned and operated by Glenn Wright Excavating. Test pits were completed from grade to a maximum depth of 1.78 m bg. The open excavations were backfilled immediately after sampling for safety. Test pit locations were selected based on observations obtained during the initial site reconnaissance and review of historical aerial photographs of the site.

4.3 Soil Sampling

Soil samples were collected by hand from each test pit using a dedicated pair of new nitrile gloves for each location. Soil samples were logged at the time of recovery for grain size, colour, moisture content, and visual or olfactory evidence of impacts. Each soil sample was split for combustible vapour analysis and possible laboratory analysis. At the time of recovery, each sample was placed into the appropriate laboratory supplied sample containers following MECP protocols for the required analyses and a polyethylene bag for relative combustible organic vapour analysis. The samples were placed into an iced chilled cooler pending submission to the laboratory for analysis. The bagged samples were used for field screening of relative combustible vapours.

4.4 Field Screening Measurements

The bagged soil samples were allowed to equilibrate to ambient temperature prior to combustible vapour measurements. The vapour concentrations were measured and recorded from the bag sample headspace using an RKI Eagle combustible vapour meter calibrated to hexane and operated in methane elimination mode. The intake probe of the vapour meter was inserted into the plastic bag for the reading and the highest vapour reading from each sample was recorded in parts per million (ppm). A minimum of one soil sample from each test pit location was selected for laboratory analysis based on field observations and the results of the field screening.

4.5 Analytical Testing

All soil samples were submitted to Paracel Laboratories Ltd. (Paracel) of Ottawa, Ontario for analysis. The following analysis was completed on the respective soil samples:

- S1 (TP-1-S5): PHCs (F1-F4), VOCs, metals, pH;
- S2 (TP-2-S3): PHCs (F1-F4), VOCs, metals, pH, PAHs;

- S3 (TP-3-S1): PHCs (F1-F4), VOCs, metals, pH;
- S4 (TP-4-S2): PHCs (F1-F4), VOCs, metals, pH;
- S5 (TP-5-S2): PHCs (F1-F4), VOCs, metals, pH, PAHs;
- S6 (TP-6-S2): PHCs (F1-F4), VOCs, metals, pH;
- S7 (TP-7-S1): PHCs (F1-F4), VOCs, metals, pH, PAHs;
- S8 (TP-8-S4): PHCs (F1-F4), VOCs, metals, pH, PAHs;
- S9 (TP-9-S2): PHCs (F1-F4), VOCs, metals, pH.

5 REVIEW AND EVALUATION

5.1 Geology

The site stratigraphy was determined based on the test pit excavations. The stratigraphy primarily consisted of gravelly sand overlying sandy, silty clay. Some cobbles, boulders, and construction debris such as asphalt, metal, wood, and plastic were present at some of the test pits. The site stratigraphy is provided on the test pit logs, **Appendix A**. Bedrock logging was not completed as part of this investigation, based on the geotechnical investigation report (Golder Associates, 2017), bedrock in the region is present from 2 m to 7 m bg.

5.2 Ground Water and Flow Direction

Groundwater was not encountered during the excavation of the test pits. Based on the geotechnical investigation report (Golder Associates, 2017) groundwater in the region is present from nearly 0 m bg to 4.5 m bg. The inferred regional groundwater flow direction is north-northwest. The site groundwater flow direction could not be determined with the available information.

5.3 Soil Field Screening

A total of 34 soil samples were collected from the test pit excavations TP-1 through TP-9 for field screening and combustible vapour analysis. Soil vapour concentrations were relatively low overall and measured between 0 ppm and 120 ppm. The test pit locations are provided on **Figure 3**. Vapour concentrations are included on the borehole logs, **Appendix A**.

5.4 Soil Quality

Nine soil samples were submitted for contaminants of concern identified in the Phase I ESA and based on O.Reg 406/19. The soil sample analytical results are summarized in **Table 1** and **Table 2**. The test pit soil sample locations and soil quality are provided on **Figure 3**. The analytical certificates of analysis are provided in **Appendix B**.

pH

Nine soil samples were analyzed for pH. The pH values ranged from 7.16 to 7.58; therefore, all soil samples analyzed were in an acceptable pH range for surface and subsurface soils.

PAHs

Four soils samples (S2 (TP-2-S3), S5 (TP-5-S2), S7 (TP-7-S1), and S8 (TP-8-S4)) were submitted for PAH analysis. Laboratory analysis indicated that all samples analyzed had non-detectable concentrations of PAHs.

VOCs and PHCs F1-F4 Fractions

Nine soils samples were submitted for VOCs (including BTEX) and PHCs (F1-F4 fractions) analysis. Laboratory analysis indicated that all samples analyzed either had non-detectable concentrations of VOCs and PHCs or concentrations below the MECP Table 3 and Table 2.1 standards.

Metals

Nine soil samples were submitted for metals analysis. Laboratory analysis indicated that all soil samples analyzed had either non-detectable concentrations of metals or concentrations below the MECP Table 3 and Table 2.1 standards.

5.5 Groundwater Quality

Due to the nature of the PCA resulting in the one APEC on-site (the importation of fill materials of unknown quality), ground water impacts were not anticipated unless soil contaminant concentrations (if present) were found to be above the applicable standards. The soil samples analyzed for this Phase II ESA (discussed in section 5.4 above) are below the MECP Table 3 and Table 2.1 Standards, therefore, it is unlikely that the groundwater on-site would contain contaminant concentrations above the applicable groundwater standards.

6 EXESS SOIL MANAGMENT

6.1 Soil Volume and Quality

The estimated volume of soil to be removed from the site is unknown at the time this report was written. Stockpiles are present at the north corner (TP-9), west side (TP-8), and centrally (TP-6, TP-7) on-site. The site of the future building is located along the north-west side of the property (TP-1, TP-2, TP-3). Gravel sitting at a higher elevation than the rest of the site is present at the south-east side (TP-4, TP-5). Based on the soil sampling and analysis complete to this point, the stockpile, surface, and subsurface soil on-site meets the O.Reg 406/19 Table 2.1 Generic Full Depth Excess Soil in a Potable Groundwater Condition, Volume Independent SCS for residential/parkland/institutional land use.

6.2 Receiving Sites for Final Placement

The results of the soil testing show that the soil could remain on-site if it can be used for landscaping, re-grading, etc. If the soil is to be disposed of, the soil would be suitable for use as Table 2.1 soil as per O.Reg 406/19.

6.3 Additional Requirements

Before removing excess soil from the project area in 2023, the project leader must meet the following requirements to be in compliance with O.Reg 406/19:

1. Preparation of an assessment of past uses (Phase I ESA complete – no further action);
2. Preparation and implementation of a sampling and analysis plan (Phase II complete – may require additional sampling to meet O.Reg. 406/19 prior to January 1, 2023);
3. Preparation of a soil characterization report (Phase II complete – may require additional reporting based on Item 2 above);
4. Preparation of an excess soil destination assessment report (receiving site);
5. Development and implementation of a tracking system.

7 SUMMARY AND CONCLUSIONS

CM3 Environmental Inc. (CM3) was retained by the Ottawa Carleton District School Board (OCDSB) to complete a Phase II Environmental Site Assessment (ESA) at 820 Miikana Road, Ottawa, Ontario. The purpose of the Phase II ESA was to identify contaminants of concern (if present) in soil, and to a lesser degree, groundwater. The Phase II ESA was undertaken for due diligence purposes and for a City of Ottawa Site Plan Control Application and was not completed in support of the filing of a Record of Site Condition (RSC).

In preparation for the planned on-site development, CM3 was also retained to conduct soil sampling for excess soil under Ontario Regulation (O.Reg.) 406/19. The purpose of the soil testing was to determine the soil quality with respect to O.Reg 406/19 site condition standards (SCS) and provide recommendations for the management of excess soil.

The Phase II ESA included the advancement of nine test pits to assess the soil conditions at the site. The results of the Phase II ESA are summarized as follows:

Site Characterization

- The soil at the site primarily consisted of a gravely sand over sandy, silty clays with some cobbles, boulders, and construction debris (asphalt, metal, plastic wood).
- Groundwater was not encountered during the test pit excavations.

Soil Quality

- Nine soil samples were analyzed for pH and found to be within an acceptable range.
- Four soil samples were analyzed for PAHs and concentrations were below the method detection limit (i.e. not detected) and therefor meet the MECP Table 3 and Table 2.1 standards.
- Nine soil samples were analyzed for VOCs and PHCs (F1 to F4) fractions and were found to be below the method detection limit or below MECP Table 3 and Table 2.1 standards.
- Nine soil samples were analyzed for metals and were found to be below the method detection limit or below MECP Table 3 and Table 2.1 standards.

Groundwater Quality

Due to the cause of environmental concern at the subject property being the importation of fill materials of unknown quality, groundwater impacts were not anticipated unless soil was found to be above the applicable MECP standards. Because the soils analysed for this Phase II ESA were found to be below the applicable standards, groundwater impacts are not considered a concern.

8 RECOMMENDATIONS

Based on the above, no further actions are required to address the findings of the Phase II ESA.

Additional soil analysis and reporting may be required to be in compliance with O.Reg 406/19 should excavation continue into 2023.

9 LIMITATIONS

This report has been prepared and the work described in this report has been undertaken by CM3 Environmental Inc. (CM3) for THE OTTAWA CARLETON DISTRICT SCHOOL BOARD. It is intended for the sole and exclusive use of THE OTTAWA CARLETON DISTRICT SCHOOL BOARD and their authorized agents for the purpose(s) set out in this report. Any use of, reliance on, or decision made based on this report by any person other than THE OTTAWA CARLETON DISTRICT SCHOOL BOARD for any purpose, or by THE OTTAWA CARLETON DISTRICT SCHOOL BOARD for a purpose other than the purpose(s) set out in this report, is the sole responsibility of such person, or THE OTTAWA CARLETON DISTRICT SCHOOL BOARD. CM3 and THE OTTAWA CARLETON DISTRICT SCHOOL BOARD make no representation or warranty to any other person with regard to this report and the work referred to in this report and they accept no duty of care to any other person or any liability or responsibility whatsoever for any losses, expense, damages, fines, penalties or other harm that may be suffered or incurred by any other person as a result of the use of, reliance on, any decision made or any action taken based on this report or the work referred to in this report.

Nothing in this report is intended to constitute or provide a legal opinion. In addition, revisions to the regulatory standards referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary.

The work undertaken by CM3 for this report and any conclusions or recommendations made in this report reflect CM3's judgement based on the site conditions observed at the time of the site inspection on the date(s) set out in this report, on information available at the time of preparation of this report, on the interpretation of data collected from the field investigation and on the results of laboratory analyses, which were limited to the quantification in select samples of those substances specifically identified in the report. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Substances other than those addressed by the investigation described in this report may exist within the site; substances addressed by the investigation may exist in areas of the site not investigated and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken. CM3 expresses no warranty with respect to the accuracy of the analytical results by the laboratory. Actual concentrations of the substances identified in the samples submitted may vary according to the extraction and testing procedures used.

As the evaluation and conclusions reported herein do not preclude the existence of other chemical compounds and/or that variations of conditions within the site may be possible, this report should be used for informational purposes only and should absolutely not be construed as a comprehensive hydrogeological or chemical characterization of the site. If site conditions change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.

Other than by THE OTTAWA CARLETON DISTRICT SCHOOL BOARD as set out herein, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of CM3.

We trust that the above is satisfactory for your purposes at this time. Please feel free to contact the undersigned if you have any questions.

Yours sincerely,

CM3 Environmental Inc.

Prepared by

Ethan Risk, EIT
Environmental Engineering Intern

Reviewed by

Marc MacDonald, P.Eng., QP, EP
Principal

LICENSED PROFESSIONAL ENGINEER
M. R. MACDONALD
90542754
May 30, 2022
PROVINCE OF ONTARIO

FIGURES

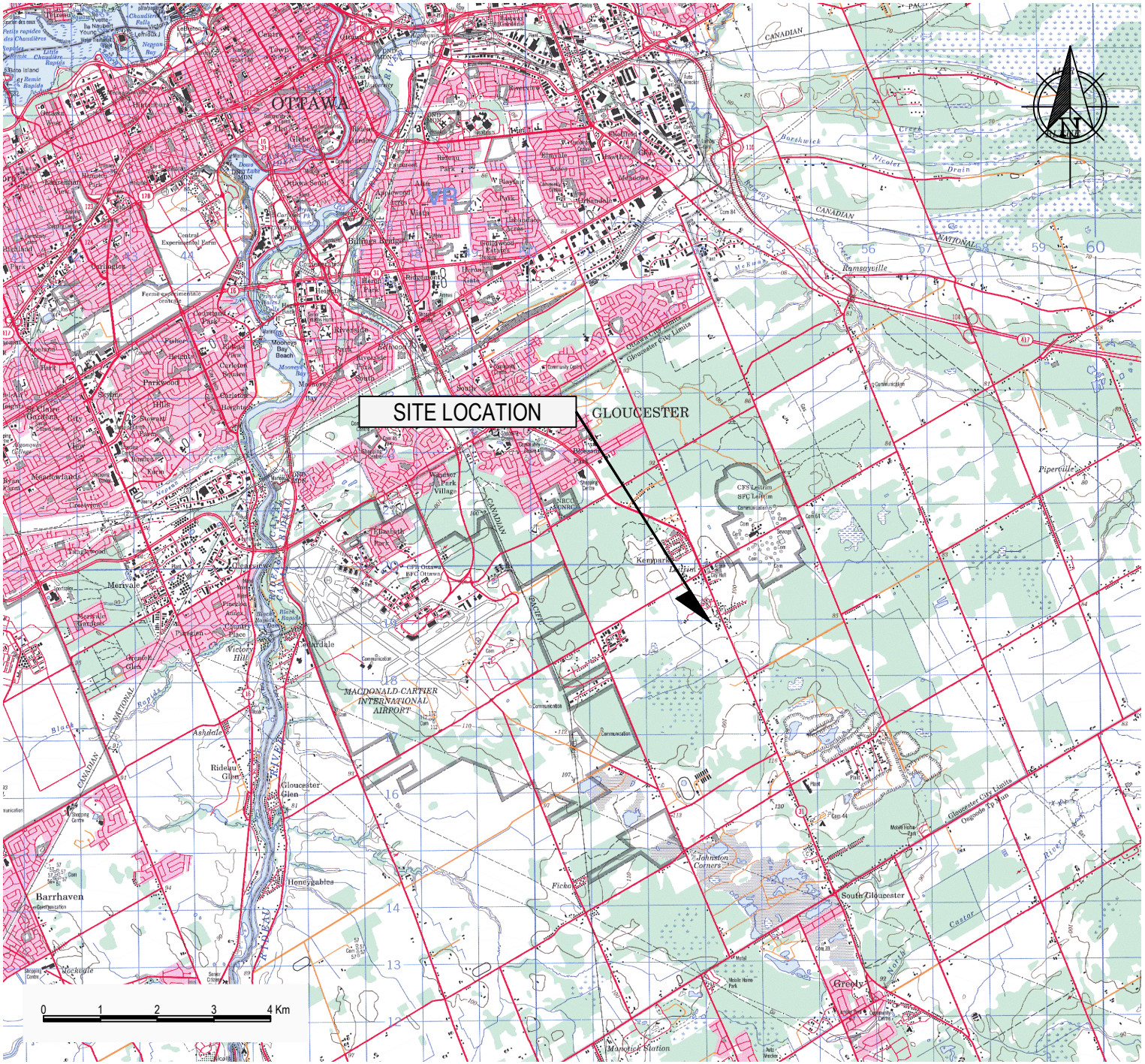
Phase II Environmental Site Assessment

Ottawa Carleton District School Board

820 Miikana Road,

Ottawa, Ontario

ER1004



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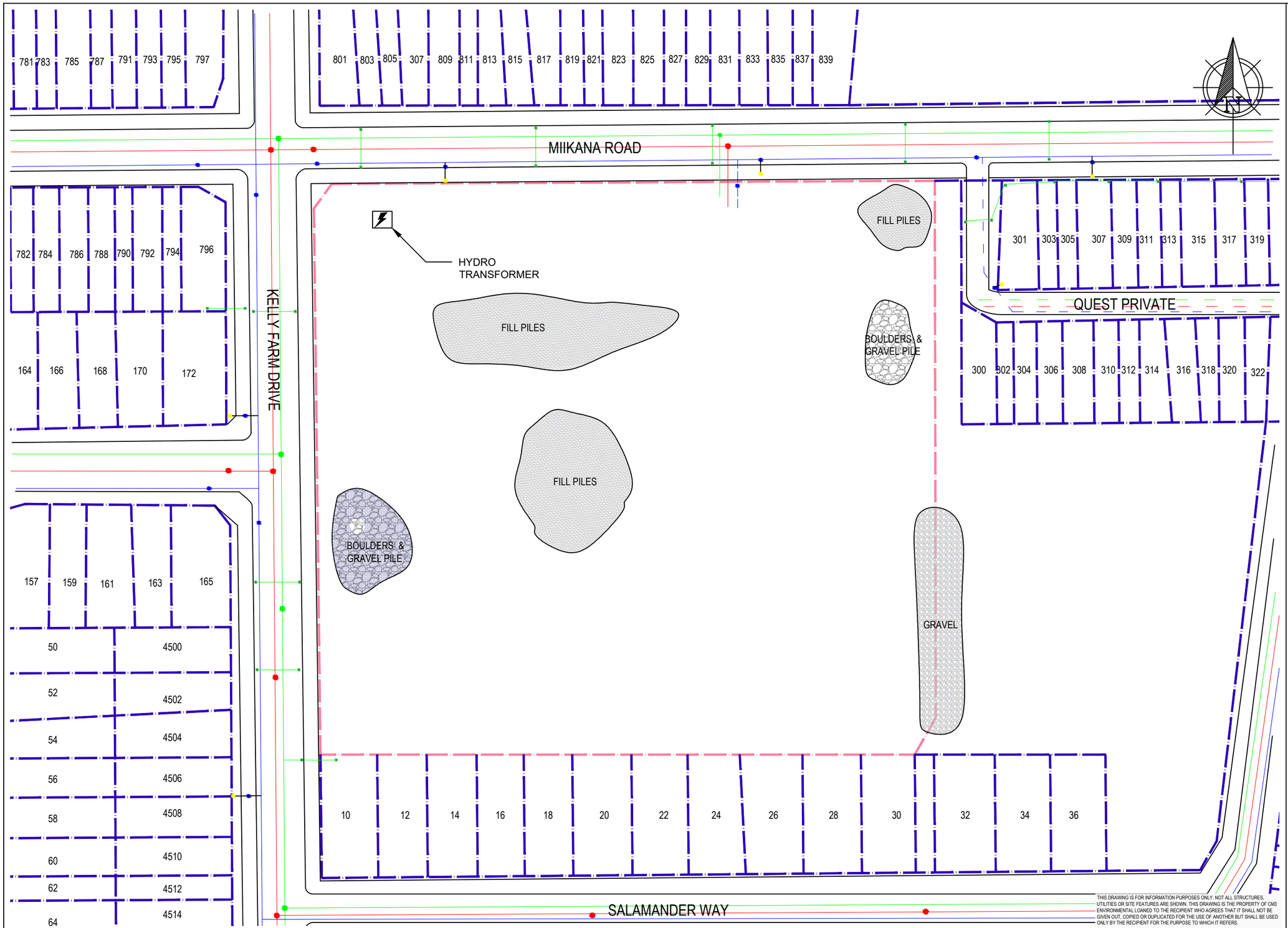
OTTAWA-CARLETON
DISTRICT SCHOOL BOARD

PHASE II ENVIRONMENTAL SITE ASSESSMENT

820 MIIKANA ROAD, OTTAWA, ONTARIO

SITE LOCATION

Project: ER1004	Drawn By: KS
Date: MAY 2022	Reviewed By: ER
Scale: AS SHOWN	Figure: 1



LEGEND

- PROPERTY BOUNDARY INSIDE THE PHASE I STUDY AREA
- SUBJECT SITE

BURIED UTILITIES:

- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- WATER MAIN PRIVATE
- STORM INLET
- STORM MANHOLE
- SANITARY MANHOLE
- WATER VALVE
- FIRE HYDRANT

Scale 1:1000

0 10 20 30 40 m

(Approx. When plotted 11x17)

CM3 ENVIRONMENTAL
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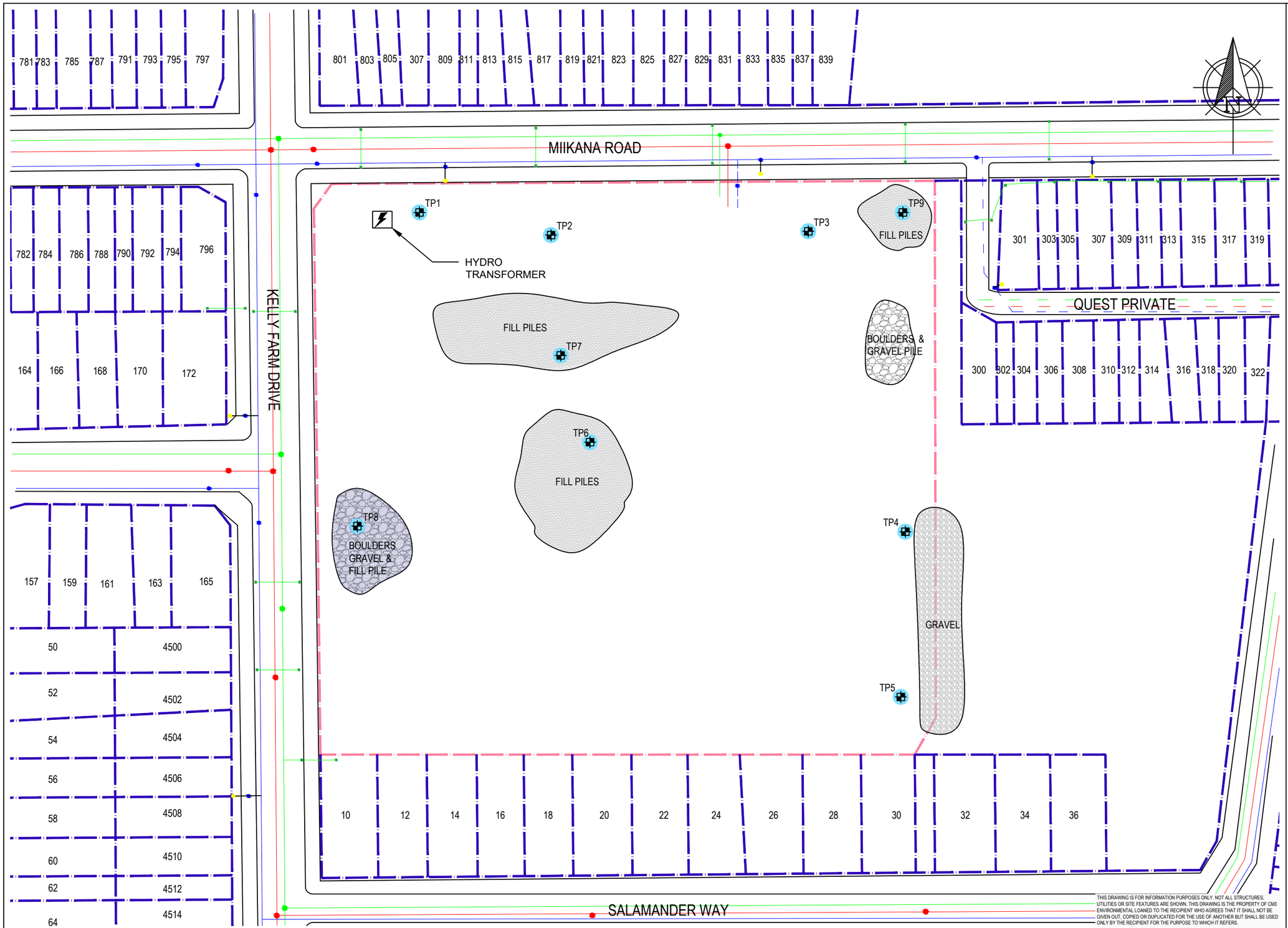
OTTAWA-CARLETON DISTRICT SCHOOL BOARD

PHASE II ENVIRONMENTAL SITE ASSESSMENT

820 MIIKANA ROAD, OTTAWA, ONTARIO

SITE PLAN

Project:	Drawn By:
ER1004	KS
Date:	Reviewed By:
MAY 2022	ER
Scale:	Figure:
1:1000	2



LEGEND

PROPERTY BOUNDARY INSIDE THE PHASE I STUDY AREA

SUBJECT SITE

BURIED UTILITIES:

- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- WATER MAIN PRIVATE
- STORM INLET
- STORM MANHOLE
- SANITARY MANHOLE
- WATER VALVE
- FIRE HYDRANT

SOIL SAMPLES ANALYSED FOR CONTAMINANTS OF CONCERN (COCs) VOCs, PHCs F1-F4, PAHs & METALS*:

- COCs NOT DETECTED
- COCs < MECP TABLE 3 SCS
- COCs > MECP TABLE 3 SCS

* - REFER TO TABLE 2 FOR SAMPLING DATES AND FULL RESULTS

Scale 1:1000

0 10 20 30 40 m

(Approx. When plotted 11x17)

CM3 ENVIRONMENTAL
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OTTAWA-CARLETON DISTRICT SCHOOL BOARD

PHASE II ENVIRONMENTAL SITE ASSESSMENT

820 MIIKANA ROAD, OTTAWA, ONTARIO

TEST PIT LOCATIONS AND SOIL QUALITY

Project: ER1004	Drawn By: KS
Date: MAY 2022	Reviewed By: ER
Scale: 1:1000	Figure: 3

TABLES

Phase II Environmental Site Assessment

Ottawa Carleton District School Board

820 Miikana Road,

Ottawa, Ontario

ER1004

TABLE 1: Summary of Soil Analytical Results O.Reg 153/04

Test Pit Excavations and Soil Testing
820 Miikana Road, Ottawa, Ontario
ER1004

Parameter	Sample ID >	MDL	MECP Table 3 SCS	S1 (TP-1-S5)	S2 (TP-2-S3)	S3 (TP-3-S1)	S4 (TP-4-S2)	S5 (TP-5-S2)	S6 (TP-6-S2)	S7 (TP-7-S1)	S8 (TP-8-S4)	S9 (TP-9-S2)
	Depth (m bg) >			1.22-1.78	0.3-0.69	0-0.3	0.3-0.76	0.46-0.71	0.51 - 0.86	Stockpile Core	1.10-1.47	Stockpile Core
	HSVL (ppm) >			120	40	15	10	10	15	15	25	15
	Sample Date >			16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22
General Inorganics												
pH		0.05	NV	7.19	7.30	7.16	7.58	7.45	7.36	7.47	7.25	7.41
Metals												
Antimony		1	**7.5**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Arsenic		1	**18**	3.4	2.1	5.7	3.2	4.5	4.7	2.0	3.6	6.4
Barium		1	**390**	60.2	53.1	73.6	25.0	33.3	42.1	48.8	87.5	211
Beryllium		0.5	**4**	ND (0.5)	ND (0.5)	0.7	ND (0.5)	0.5	0.6	ND (0.5)	0.5	ND (0.5)
Boron		5	**120**	ND (5.0)	ND (5.0)	5.5	5.3	7.2	6.2	ND (5.0)	ND (5.0)	5.6
Cadmium		0.5	**1.2**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chromium		5	**160**	19.1	15.3	25.0	11.7	15.6	17.1	14.5	22.5	15.6
Cobalt		1	**22**	5.8	5.2	9.2	5.7	10.1	8.0	4.4	7.4	9.2
Copper		5	**140**	17.7	12.7	14.4	16.2	30.7	24.9	12.9	17.5	13.8
Lead		1	**120**	6.5	3.0	12.6	6.3	10.1	11.1	2.9	6.6	14.1
Molybdenum		1	**6.9**	ND (1.0)	ND (1.0)	1.2	1.8	1.0	1.4	ND (1.0)	ND (1.0)	5.6
Nickel		5	**100**	14.1	9.8	18.9	11.8	20.6	17.6	8.8	15.3	18.4
Selenium		1	**2.4**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Silver		0.3	**20**	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)
Thallium		1	**1**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Uranium		1	**23**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium		10	**86**	32.0	28.5	38.4	20.7	20.5	24.4	28.3	34.6	22.3
Zinc		20	**340**	23.5	ND (20.0)	55.8	ND (20.0)	42.6	40.1	ND (20.0)	33.5	25.9
Volatiles												
Acetone		0.5	**16**	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzene		0.02	**0.21**	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Bromodichloromethane		0.05	**13**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Bromoform		0.05	**0.27**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Bromomethane		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Carbon Tetrachloride		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Chlorobenzene		0.05	**2.4**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Chloroform		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Dibromochloromethane		0.05	**9.4**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Dichlorodifluoromethane		0.05	**16**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichlorobenzene		0.05	**3.4**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,3-Dichlorobenzene		0.05	**4.8**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,4-Dichlorobenzene		0.05	**0.083**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1-Dichloroethane		0.05	**3.5**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichloroethane		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1-Dichloroethylene		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
cis-1,2-Dichloroethylene		0.05	**3.4**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
trans-1,2-Dichloroethylene		0.05	**0.084**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichloropropane		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
cis-1,3-Dichloropropylene		0.05	**NV**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
trans-1,3-Dichloropropylene		0.05	**NV**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,3-Dichloropropene, total		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Ethylbenzene		0.05	**2**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Ethylene dibromide (dibromoethane, 1,2-)		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hexane		0.05	**2.8**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Methyl Ethyl Ketone (2-Butanone)		0.5	**16**	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methyl Isobutyl Ketone		0.5	**1.7**	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methyl tert-butyl ether		0.05	**0.75**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Methylene Chloride		0.05	**0.1**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Styrene		0.05	**0.7**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,1,2-Tetrachloroethane		0.05	**0.058**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,2,2-Tetrachloroethane		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Tetrachloroethylene		0.05	**0.28**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene		0.05	**2.3**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	0.15
1,1,1-Trichloroethane		0.05	**0.38**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,2-Trichloroethane		0.05	**0.05**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Trichloroethylene		0.05	**0.061**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Trichlorofluoromethane		0.05	**4**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Vinyl Chloride		0.02	**0.02**	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
m/p-Xylene		0.05	**NV**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene		0.05	**NV**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total		0.05	**3.1**	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hydrocarbons												
F1 PHCs (C6-C10)		7	**55**	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)
F2 PHCs (C10-C16)		4	**98**	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
F3 PHCs (C16-C34)		8	**300**	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	52
F4 PHCs (C34-C50)		6	**2800**	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	77
Semi-Volatiles												
Acenaphthene		0.02	**7.9**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Acenaphthylene		0.02	**0.15**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Anthracene		0.02	**0.67**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[a]anthracene		0.02	**0.5**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[a]pyrene		0.02	**0.3**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[b]fluoranthene		0.02	**0.78**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[g,h,i]perylene		0.02	**6.6**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[k]fluoranthene		0.02	**0.78**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Chrysene		0.02	**7**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Dibenzo[a,h]anthracene		0.02	**0.1**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Fluoranthene		0.02	**0.69**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Fluorene		0.02	**62**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Indeno[1,2,3-cd]pyrene		0.02	**0.38**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
1-Methylnaphthalene		0.02	**0.99**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
2-Methylnaphthalene		0.02	**0.99**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Methylnaphthalene (1&2)		0.04	**0.99**	N/A	ND (0.04)	N/A	N/A	ND (0.04)	N/A	ND (0.04)	ND (0.04)	N/A
Naphthalene		0.01	**0.6**	N/A	ND (0.01)	N/A	N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	N/A
Phenanthrene		0.02	**6.2**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Pyrene		0.02	**78**	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A

Notes:

mg/kg - all concentrations provided in parts per million (milligrams per kilogram)
MDL - reported analytical method detection limit
HSVL - headspace vapour level (combustible vapour meter, calibrated to hexane)
m bg - metres below grade
ppm - parts per million
NV - no standard listed
"<" or "ND ( )" - less than detection limits indicated (refer to laboratory report)
NA - not applicable
MECP Table 3 SCS - Ontario Ministry of Environment, Conservation and Parks (MECP) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. April, 2011.
Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, institutional land use, coarse textured soil.
Bold / Italic - indicates concentration above applicable MECP Table 3 SCS
0.5 - MDL above applicable MECP Table 3 SCS (refer to laboratory reports)

TABLE 2: Summary of Soil Analytical Results O.Reg 406/19

Test Pit Excavations and Soil Testing
820 Miikana Road, Ottawa, Ontario
ER1004

Parameter / Sample ID >	MDL	MECP Table 2.1 SCS	S1 (TP-1-S5)	S2 (TP-2-S3)	S3 (TP-3-S1)	S4 (TP-4-S2)	S5 (TP-5-S2)	S6 (TP-6-S2)	S7 (TP-7-S1)	S8 (TP-8-S4)	S9 (TP-9-S2)
Depth (m bg) >			1.22-1.78	0.3-0.69	0-0.3	0.3-0.76	0.46-0.71	0.51 - 0.86	Stockpile Core	1.10-1.47	Stockpile Core
HSVL (ppm) >			120	40	15	10	10	15	15	25	15
Sample Date >			16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22	16-May-22
General Inorganics											
pH	0.05	NV	7.19	7.30	7.16	7.58	7.45	7.36	7.47	7.25	7.41
Metals											
Antimony	1	7.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Arsenic	1	18	3.4	2.1	5.7	3.2	4.5	4.7	2.0	3.6	6.4
Barium	1	390	60.2	53.1	73.6	25.0	33.3	42.1	48.8	87.5	211
Beryllium	0.5	4	ND (0.5)	ND (0.5)	0.7	ND (0.5)	0.5	0.6	ND (0.5)	0.5	ND (0.5)
Boron	5	120	ND (5.0)	ND (5.0)	5.5	5.3	7.2	6.2	ND (5.0)	ND (5.0)	5.6
Cadmium	0.5	1.2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chromium	5	160	19.1	15.3	25.0	11.7	15.6	17.1	14.5	22.5	15.6
Cobalt	1	22	5.8	5.2	9.2	5.7	10.1	8.0	4.4	7.4	9.2
Copper	5	140	17.7	12.7	14.4	16.2	30.7	24.9	12.9	17.5	13.8
Lead	1	120	6.5	3.0	12.6	6.3	10.1	11.1	2.9	6.6	14.1
Molybdenum	1	6.9	ND (1.0)	ND (1.0)	1.2	1.6	1.0	1.4	ND (1.0)	ND (1.0)	5.6
Nickel	5	100	14.1	9.8	18.9	11.8	20.6	17.6	8.8	15.3	18.4
Selenium	1	2.4	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Silver	0.3	20	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)
Thallium	1	1	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Uranium	1	23	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium	10	86	32.0	28.5	38.4	20.7	20.5	24.4	28.3	34.6	22.3
Zinc	20	340	23.5	ND (20.0)	55.8	ND (20.0)	42.6	40.1	ND (20.0)	33.5	25.9
Volatiles											
Acetone	0.5	0.5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzene	0.02	0.02	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Bromodichloromethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Bromoform	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Bromomethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Carbon Tetrachloride	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Chlorobenzene	0.05	0.083	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Chloroform	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Dibromochloromethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Dichlorodifluoromethane	0.05	1.5	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichlorobenzene	0.05	3.4	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,3-Dichlorobenzene	0.05	0.26	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,4-Dichlorobenzene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1-Dichloroethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichloroethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1-Dichloroethylene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
cis-1,2-Dichloroethylene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
trans-1,2-Dichloroethylene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichloropropane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
cis-1,3-Dichloropropylene	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
trans-1,3-Dichloropropylene	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,3-Dichloropropene, total	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Ethylbenzene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Ethylene dibromide (dibromoethane, 1,2-)	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hexane	0.05	2.5	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Methyl Ethyl Ketone (2-Butanone)	0.5	0.5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methyl Isobutyl Ketone	0.5	0.5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methyl tert-butyl ether	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Methylene Chloride	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Styrene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,1,2-Tetrachloroethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,2,2-Tetrachloroethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Tetrachloroethylene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	0.05	0.2	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	0.15
1,1,1-Trichloroethane	0.05	0.11	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,2-Trichloroethane	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Trichloroethylene	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Trichlorofluoromethane	0.05	0.25	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Vinyl Chloride	0.02	0.02	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
m/p-Xylene	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	0.05	0.091	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hydrocarbons											
F1 PHCs (C6-C10)	7	25	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)
F2 PHCs (C10-C16)	4	10	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
F3 PHCs (C16-C34)	8	240	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	52
F4 PHCs (C34-C50)	6	2800	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	77
Semi-Volatiles											
Acenaphthene	0.02	2.5	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Acenaphthylene	0.02	0.093	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Anthracene	0.02	0.16	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[a]anthracene	0.02	0.5	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[a]pyrene	0.02	0.31	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[b]fluoranthene	0.02	3.2	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[g,h,i]perylene	0.02	6.6	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Benzo[k]fluoranthene	0.02	3.1	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Chrysene	0.02	7	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Dibenzo[a,h]anthracene	0.02	0.57	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Fluoranthene	0.02	0.69	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Fluorene	0.02	6.8	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Indeno[1,2,3-cd]pyrene	0.02	0.38	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
1-Methylnaphthalene	0.02	0.59	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
2-Methylnaphthalene	0.02	0.59	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Methylnaphthalene (1&2)	0.04	0.59	N/A	ND (0.04)	N/A	N/A	ND (0.04)	N/A	ND (0.04)	ND (0.04)	N/A
Naphthalene	0.01	0.2	N/A	ND (0.01)	N/A	N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	N/A
Phenanthrene	0.02	6.2	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Pyrene	0.02	28	N/A	ND (0.02)	N/A	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A

Notes:
mg/kg - all concentrations provided in parts per million (milligrams per kilogram)
MDL - reported analytical method detection limit
HSVL - headspace vapour level (combustible vapour meter, calibrated to hexane)
m bg - metres below grade
ppm - parts per million
NV - no standard listed
"<" or "ND ( )" - less than detection limits indicated (refer to laboratory report)
NA - not applicable
MECP TABLE 2.1 - Ontario Ministry of Environment, Conservation and Parks (MECP) Soil, O.Reg 406/19 On-Site and Excess Soil Management Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition Residential/ Parkland/ Institutional Property Use
Bold / Italic - indicates concentration above applicable MECP TABLE 2.1
0.5 - MDL above applicable MECP TABLE 2.1 (refer to laboratory reports)

APPENDIX A

TEST PIT LOGS

Phase II Environmental Site Assessment

Ottawa Carleton District School Board

820 Miikana Road,

Ottawa, Ontario

ER1004

TESTPIT LOG

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

CM^3 JOB NO: ER1004

TESTPIT NO: TP-1

GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
		S1			**SAND and GRAVEL** trace cobbles to 0.46 m, moist, brown	15.0				
		S2			trace fibrous organics at 0.50 m , moist, brown	5.0				
		S3			**SAND** trace fibrous organics, moist, brown	0.0				
1.0		S4			**SAND and CLAY** grey/brown clay, low-plasticity, moist, brown, grey,	0.0				1.0
		S5				120.0				
					End of testpit at 1.78 m					

FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv) — 10 | 100 | 1000

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

CM3LOG BH_MW ER1004 820 MIIKANA ROAD (TEST PITS).GPJ CM3 TEMPLATE V6.0.GDT 5/27/22

CM³ JOB NO: ER1004

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

TESTPIT LOG

TESTPIT NO: TP-2

GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
		S1			**Gravelly SAND** Trace fibrous organics to 0.3 m, brown, dry	10 / 100 / 1000				
		S2			**SAND and CLAY** Low-plasticity, some silt at 1.0 m, grey/brown, moist	5.0				
		S3				40.0				
1.0		S4			**Silty CLAY** Low-plasticity, bouldery at 1.42 m, grey/brown, moist	15.0				1.0
					End of testpit at 1.42 m					

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

CM3LOG BH_MW ER1004 820 MIIKANA ROAD (TEST PITS).GPJ CM3 TEMPLATE V6.0.GDT 5/27/22

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

TESTPIT LOG

TESTPIT NO: TP-3

GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

CM^3 JOB NO: ER1004

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
						10 100 1000				
		S1			**SAND** some gravel, brown, moist	15.0				
		S2			**Sandy GRAVEL** bouldery at 1.14 m, brown, moist	5.0				
1.0		S3								1.0
					End of testpit at 1.14 m					

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

CM3LOG BH_MW ER1004 820 MIIKANA ROAD (TEST PITS).GPJ CM3 TEMPLATE V6.0.GDT 5/27/22

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

TESTPIT LOG

TESTPIT NO: TP-4

GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

CM^3 JOB NO: ER1004

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
		S1			**SAND and CLAY** some cobbles, brown, dry	5.0				
		S2			**SAND and CLAY** some silt, some cobbles, trace brick debris, brown, dry					
		S3								
1.0		S4								1.0
					End of testpit at 1.14 m					

ORGANIC VAPOUR LEVEL (ppmv): 10 | 100 | 1000

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

TESTPIT LOG

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

CM^3 JOB NO: ER1004

TESTPIT NO: TP-5

GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
		S1			**SAND and GRAVEL** brown, dry	10 100 1000 5.0				
		S2			**SAND and GRAVEL** some clay starting at 0.46 m, brown, dry	5.0				
1.0		S3								1.0
		S4				0.0				
					End of testpit at 1.42 m					

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

CM3LOG BH_MW ER1004 820 MIIKANA ROAD (TEST PITS).GPJ CM3 TEMPLATE V6.0.GDT 5/27/22

TESTPIT LOG

CM³ JOB NO: ER1004

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

TESTPIT NO: TP-6
GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
		S1			**SAND and GRAVEL** trace construction debris (plastic, wood), brown, dry	10 100 1000				
		S2			**Gravelly SAND** some clay, trace fibrous organics at 0.70 m, grey/brown, dry	15.0				
1.0		S3			**SAND and CLAY** trace organic soil, low-plasticity, grey/brown, moist	0.0				1.0
		S4			**Silty CLAY** with organic soil, low-plasticity, brown, moist	15.0				
					End of testpit at 1.60 m					

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

TESTPIT LOG

TESTPIT NO: TP-7

GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

CM^3 JOB NO: ER1004

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
					SAND some silty clay, trace gravel, trace cobbles, brown, dry	10 / 100 / 1000				
		S2				15.0				
1.0		S3			**ORGANIC and CLAY** dark organic soil and clay, some sand, low-plasticity, layer of 3/4" gravel at 0.86 m, grey/brown, moist	5.0				1.0
		S4			**SAND and CLAY** stratified sand and clay, grey/brown, moist	0.0				
					End of testpit at 1.32 m					

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

CM3LOG BH_MW ER1004 820 MIIKANA ROAD (TEST PITS).GPJ CM3 TEMPLATE V6.0.GDT 5/27/22

TESTPIT LOG

CLIENT: **Ottawa Carleton District School Board**
PROJECT: **Phase II ESA**
820 Miikana Road
Ottawa, Ontario
820 Miikana Road

CM^3 JOB NO: ER1004

TESTPIT NO: TP-8

GROUND ELEVATION: *Not Surveyed*
TOP ELEVATION: *NA*

DEPTH (m)	SAMPLE TYPE	SAMPLE ID	SPT COUNT	SOIL TYPE	SOIL DESCRIPTION	FIELD TEST DATA: ORGANIC VAPOUR LEVEL (ppmv)	TESTPIT COMPLETION	WATER LEVEL	WELL COMPLETION NOTES	DEPTH (m)
		S1			**Silty CLAY** some sand, some gravel, light brown, dry	15.0				
		S2								
1.0		S3			**silty CLAY** some sand, light brown, dry	20.0				1.0
		S4			**CLAY** some sand, low-plasticity, grey/brown, moist	25.0				
					End of testpit at 1.47 m					

ORGANIC VAPOUR LEVEL (ppmv): 10 | 100 | 1000

DRILL DATE: May 16, 2022
DRILLED BY: Glenn Wright Excavating
DRILLING METHOD: Caterpillar 420F2 IT Backhoe
BOREHOLE DIAMETER: m (OD)
LOGGED BY: ER
CHECKED BY: MM

NOTES: GRAB SAMPLE

CM3LOG BH_MW ER1004 820 MIIKANA ROAD (TEST PITS).GPJ CM3 TEMPLATE V6.0.GDT 5/27/22

APPENDIX B

LABORATORY REPORT

Phase II Environmental Site Assessment

Ottawa Carleton District School Board

820 Miikana Road,

Ottawa, Ontario

ER1004

PARACEL LABORATORIES LTD.

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Certificate of Analysis

CM3 Environmental Inc.

5710 Akins Road
Ottawa, ON K2S 1B8
Attn: Ethan Risk

Client PO: 820 Miikana Road
Project: ER1004
Custody: 66543

Report Date: 24-May-2022
Order Date: 16-May-2022

Order #: 2221222

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2221222-01	S1
2221222-02	S2
2221222-03	S3
2221222-04	S4
2221222-05	S5
2221222-06	S6
2221222-07	S7
2221222-08	S8
2221222-09	S9

Approved By:

Dale Robertson, BSc
Laboratory Director

Certificate of Analysis

Client: CM3 Environmental Inc.

Client PO: 820 Miikana Road

Report Date: 24-May-2022

Order Date: 16-May-2022

Project Description: ER1004

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	17-May-22	19-May-22
PHC F1	CWS Tier 1 - P&T GC-FID	19-May-22	20-May-22
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	18-May-22	20-May-22
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	19-May-22	19-May-22
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	17-May-22	20-May-22
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	19-May-22	20-May-22
Solids, %	Gravimetric, calculation	19-May-22	19-May-22

Certificate of Analysis

Client: CM3 Environmental Inc.

Client PO: 820 Miikana Road

Report Date: 24-May-2022

Order Date: 16-May-2022

Project Description: ER1004

	Client ID:	S1	S2	S3	S4
	Sample Date:	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00
	Sample ID:	2221222-01	2221222-02	2221222-03	2221222-04
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	81.0	84.0	89.5	92.7
General Inorganics					
pH	0.05 pH Units	7.19	7.30	7.16	7.58
Metals					
Antimony	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Arsenic	1.0 ug/g dry	3.4	2.1	5.7	3.2
Barium	1.0 ug/g dry	60.2	53.1	73.6	25.0
Beryllium	0.5 ug/g dry	<0.5	<0.5	0.7	<0.5
Boron	5.0 ug/g dry	<5.0	<5.0	5.5	5.3
Cadmium	0.5 ug/g dry	<0.5	<0.5	<0.5	<0.5
Chromium	5.0 ug/g dry	19.1	15.3	25.0	11.7
Cobalt	1.0 ug/g dry	5.8	5.2	9.2	5.7
Copper	5.0 ug/g dry	17.7	12.7	14.4	16.2
Lead	1.0 ug/g dry	6.5	3.0	12.6	6.3
Molybdenum	1.0 ug/g dry	<1.0	<1.0	1.2	1.6
Nickel	5.0 ug/g dry	14.1	9.8	18.9	11.8
Selenium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Silver	0.3 ug/g dry	<0.3	<0.3	<0.3	<0.3
Thallium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Uranium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Vanadium	10.0 ug/g dry	32.0	28.5	38.4	20.7
Zinc	20.0 ug/g dry	23.5	<20.0	55.8	<20.0
Volatiles					
Acetone	0.50 ug/g dry	<0.50	<0.50	<0.50	<0.50
Benzene	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Bromoform	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Chloroform	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05

Certificate of Analysis

Report Date: 24-May-2022

Client: CM3 Environmental Inc.

Order Date: 16-May-2022

Client PO: 820 Miikana Road

Project Description: ER1004

	Client ID:	S1	S2	S3	S4
	Sample Date:	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00
	Sample ID:	2221222-01	2221222-02	2221222-03	2221222-04
	MDL/Units	Soil	Soil	Soil	Soil
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,2-Dichloropropane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1,2-)	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Hexane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Styrene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Trichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Vinyl chloride	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
4-Bromofluorobenzene	Surrogate	106%	111%	104%	104%
Dibromofluoromethane	Surrogate	99.4%	94.1%	93.2%	92.6%
Toluene-d8	Surrogate	107%	105%	104%	101%
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	<7	<7	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	<4	<4	<4	<4

Certificate of Analysis

Client: CM3 Environmental Inc.

Client PO: 820 Miikana Road

Report Date: 24-May-2022

Order Date: 16-May-2022

Project Description: ER1004

	Client ID:	S1	S2	S3	S4
	Sample Date:	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00
	Sample ID:	2221222-01	2221222-02	2221222-03	2221222-04
	MDL/Units	Soil	Soil	Soil	Soil
F3 PHCs (C16-C34)	8 ug/g dry	<8	<8	<8	<8
F4 PHCs (C34-C50)	6 ug/g dry	<6	<6	<6	<6
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	-	<0.02	-	-
Acenaphthylene	0.02 ug/g dry	-	<0.02	-	-
Anthracene	0.02 ug/g dry	-	<0.02	-	-
Benzo [a] anthracene	0.02 ug/g dry	-	<0.02	-	-
Benzo [a] pyrene	0.02 ug/g dry	-	<0.02	-	-
Benzo [b] fluoranthene	0.02 ug/g dry	-	<0.02	-	-
Benzo [g,h,i] perylene	0.02 ug/g dry	-	<0.02	-	-
Benzo [k] fluoranthene	0.02 ug/g dry	-	<0.02	-	-
Chrysene	0.02 ug/g dry	-	<0.02	-	-
Dibenzo [a,h] anthracene	0.02 ug/g dry	-	<0.02	-	-
Fluoranthene	0.02 ug/g dry	-	<0.02	-	-
Fluorene	0.02 ug/g dry	-	<0.02	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	-	<0.02	-	-
1-Methylnaphthalene	0.02 ug/g dry	-	<0.02	-	-
2-Methylnaphthalene	0.02 ug/g dry	-	<0.02	-	-
Methylnaphthalene (1&2)	0.04 ug/g dry	-	<0.04	-	-
Naphthalene	0.01 ug/g dry	-	<0.01	-	-
Phenanthrene	0.02 ug/g dry	-	<0.02	-	-
Pyrene	0.02 ug/g dry	-	<0.02	-	-
2-Fluorobiphenyl	Surrogate	-	101%	-	-
Terphenyl-d14	Surrogate	-	102%	-	-

Certificate of Analysis

Client: CM3 Environmental Inc.

Client PO: 820 Miikana Road

Report Date: 24-May-2022

Order Date: 16-May-2022

Project Description: ER1004

	Client ID:	S5	S6	S7	S8
	Sample Date:	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00
	Sample ID:	2221222-05	2221222-06	2221222-07	2221222-08
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	90.2	84.8	88.1	85.2
General Inorganics					
pH	0.05 pH Units	7.45	7.36	7.47	7.25
Metals					
Antimony	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Arsenic	1.0 ug/g dry	4.5	4.7	2.0	3.6
Barium	1.0 ug/g dry	33.3	42.1	48.8	87.5
Beryllium	0.5 ug/g dry	0.5	0.6	<0.5	0.5
Boron	5.0 ug/g dry	7.2	6.2	<5.0	<5.0
Cadmium	0.5 ug/g dry	<0.5	<0.5	<0.5	<0.5
Chromium	5.0 ug/g dry	15.6	17.1	14.5	22.5
Cobalt	1.0 ug/g dry	10.1	8.0	4.4	7.4
Copper	5.0 ug/g dry	30.7	24.9	12.9	17.5
Lead	1.0 ug/g dry	10.1	11.1	2.9	6.6
Molybdenum	1.0 ug/g dry	1.0	1.4	<1.0	<1.0
Nickel	5.0 ug/g dry	20.6	17.6	8.8	15.3
Selenium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Silver	0.3 ug/g dry	<0.3	<0.3	<0.3	<0.3
Thallium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Uranium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Vanadium	10.0 ug/g dry	20.5	24.4	28.3	34.6
Zinc	20.0 ug/g dry	42.6	40.1	<20.0	33.5
Volatiles					
Acetone	0.50 ug/g dry	<0.50	<0.50	<0.50	<0.50
Benzene	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Bromoform	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Chloroform	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05

Certificate of Analysis

Report Date: 24-May-2022

Client: CM3 Environmental Inc.

Order Date: 16-May-2022

Client PO: 820 Miikana Road

Project Description: ER1004

	Client ID:	S5	S6	S7	S8
	Sample Date:	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00
	Sample ID:	2221222-05	2221222-06	2221222-07	2221222-08
	MDL/Units	Soil	Soil	Soil	Soil
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,2-Dichloropropane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Hexane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Styrene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Trichloroethylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Vinyl chloride	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
4-Bromofluorobenzene	Surrogate	107%	108%	105%	107%
Dibromofluoromethane	Surrogate	95.3%	95.0%	98.2%	95.2%
Toluene-d8	Surrogate	100%	104%	103%	104%
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	<7	<7	<7	<7

Certificate of Analysis

Report Date: 24-May-2022

Client: CM3 Environmental Inc.

Order Date: 16-May-2022

Client PO: 820 Miikana Road

Project Description: ER1004

	Client ID:	S5	S6	S7	S8
	Sample Date:	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00	16-May-22 09:00
	Sample ID:	2221222-05	2221222-06	2221222-07	2221222-08
	MDL/Units	Soil	Soil	Soil	Soil
F2 PHCs (C10-C16)	4 ug/g dry	<4	<4	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	<8	<8	<8	<8
F4 PHCs (C34-C50)	6 ug/g dry	<6	<6	<6	<6
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Acenaphthylene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Anthracene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Benzo [a] anthracene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Benzo [a] pyrene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Benzo [b] fluoranthene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Benzo [g,h,i] perylene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Benzo [k] fluoranthene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Chrysene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Dibenzo [a,h] anthracene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Fluoranthene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Fluorene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
1-Methylnaphthalene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
2-Methylnaphthalene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Methylnaphthalene (1&2)	0.04 ug/g dry	<0.04	-	<0.04	<0.04
Naphthalene	0.01 ug/g dry	<0.01	-	<0.01	<0.01
Phenanthrene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Pyrene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
2-Fluorobiphenyl	Surrogate	85.2%	-	118%	107%
Terphenyl-d14	Surrogate	99.1%	-	123%	118%

Certificate of Analysis

Client: CM3 Environmental Inc.

Client PO: 820 Miikana Road

Report Date: 24-May-2022

Order Date: 16-May-2022

Project Description: ER1004

	Client ID:	S9	-	-	-
	Sample Date:	16-May-22 09:00	-	-	-
	Sample ID:	2221222-09	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	93.7	-	-	-
General Inorganics					
pH	0.05 pH Units	7.41	-	-	-
Metals					
Antimony	1.0 ug/g dry	<1.0	-	-	-
Arsenic	1.0 ug/g dry	6.4	-	-	-
Barium	1.0 ug/g dry	211	-	-	-
Beryllium	0.5 ug/g dry	<0.5	-	-	-
Boron	5.0 ug/g dry	5.6	-	-	-
Cadmium	0.5 ug/g dry	<0.5	-	-	-
Chromium	5.0 ug/g dry	15.6	-	-	-
Cobalt	1.0 ug/g dry	9.2	-	-	-
Copper	5.0 ug/g dry	13.8	-	-	-
Lead	1.0 ug/g dry	14.1	-	-	-
Molybdenum	1.0 ug/g dry	5.6	-	-	-
Nickel	5.0 ug/g dry	18.4	-	-	-
Selenium	1.0 ug/g dry	<1.0	-	-	-
Silver	0.3 ug/g dry	<0.3	-	-	-
Thallium	1.0 ug/g dry	<1.0	-	-	-
Uranium	1.0 ug/g dry	<1.0	-	-	-
Vanadium	10.0 ug/g dry	22.3	-	-	-
Zinc	20.0 ug/g dry	25.9	-	-	-
Volatiles					
Acetone	0.50 ug/g dry	<0.50	-	-	-
Benzene	0.02 ug/g dry	<0.02	-	-	-
Bromodichloromethane	0.05 ug/g dry	<0.05	-	-	-
Bromoform	0.05 ug/g dry	<0.05	-	-	-
Bromomethane	0.05 ug/g dry	<0.05	-	-	-
Carbon Tetrachloride	0.05 ug/g dry	<0.05	-	-	-
Chlorobenzene	0.05 ug/g dry	<0.05	-	-	-
Chloroform	0.05 ug/g dry	<0.05	-	-	-
Dibromochloromethane	0.05 ug/g dry	<0.05	-	-	-
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-

Certificate of Analysis

Client: CM3 Environmental Inc.

Client PO: 820 Miikana Road

Report Date: 24-May-2022

Order Date: 16-May-2022

Project Description: ER1004

	Client ID:	S9	-	-	-
	Sample Date:	16-May-22 09:00	-	-	-
	Sample ID:	2221222-09	-	-	-
	MDL/Units	Soil	-	-	-
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,1-Dichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichloropropane	0.05 ug/g dry	<0.05	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	-	-
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	-	-	-
Ethylbenzene	0.05 ug/g dry	<0.05	-	-	-
Ethylene dibromide (dibromoethane, 1	0.05 ug/g dry	<0.05	-	-	-
Hexane	0.05 ug/g dry	<0.05	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	-	-	-
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	-	-	-
Methylene Chloride	0.05 ug/g dry	<0.05	-	-	-
Styrene	0.05 ug/g dry	<0.05	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	-	-
Tetrachloroethylene	0.05 ug/g dry	<0.05	-	-	-
Toluene	0.05 ug/g dry	0.15	-	-	-
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	-	-	-
Trichloroethylene	0.05 ug/g dry	<0.05	-	-	-
Trichlorofluoromethane	0.05 ug/g dry	<0.05	-	-	-
Vinyl chloride	0.02 ug/g dry	<0.02	-	-	-
m,p-Xylenes	0.05 ug/g dry	<0.05	-	-	-
o-Xylene	0.05 ug/g dry	<0.05	-	-	-
Xylenes, total	0.05 ug/g dry	<0.05	-	-	-
4-Bromofluorobenzene	Surrogate	108%	-	-	-
Dibromofluoromethane	Surrogate	91.8%	-	-	-
Toluene-d8	Surrogate	99.4%	-	-	-
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	<7	-	-	-

Certificate of Analysis

Client: CM3 Environmental Inc.

Client PO: 820 Miikana Road

Report Date: 24-May-2022

Order Date: 16-May-2022

Project Description: ER1004

	Client ID:	S9	-	-	-
	Sample Date:	16-May-22 09:00	-	-	-
	Sample ID:	2221222-09	-	-	-
	MDL/Units	Soil	-	-	-
F2 PHCs (C10-C16)	4 ug/g dry	<4	-	-	-
F3 PHCs (C16-C34)	8 ug/g dry	52	-	-	-
F4 PHCs (C34-C50)	6 ug/g dry	77	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g						
F2 PHCs (C10-C16)	ND	4	ug/g						
F3 PHCs (C16-C34)	ND	8	ug/g						
F4 PHCs (C34-C50)	ND	6	ug/g						
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	0.5	ug/g						
Boron	ND	5.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	5.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	5.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	5.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.3	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	10.0	ug/g						
Zinc	ND	20.0	ug/g						
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g						
Acenaphthylene	ND	0.02	ug/g						
Anthracene	ND	0.02	ug/g						
Benzo [a] anthracene	ND	0.02	ug/g						
Benzo [a] pyrene	ND	0.02	ug/g						
Benzo [b] fluoranthene	ND	0.02	ug/g						
Benzo [g,h,i] perylene	ND	0.02	ug/g						
Benzo [k] fluoranthene	ND	0.02	ug/g						
Chrysene	ND	0.02	ug/g						
Dibenzo [a,h] anthracene	ND	0.02	ug/g						
Fluoranthene	ND	0.02	ug/g						
Fluorene	ND	0.02	ug/g						
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g						
1-Methylnaphthalene	ND	0.02	ug/g						
2-Methylnaphthalene	ND	0.02	ug/g						
Methylnaphthalene (1&2)	ND	0.04	ug/g						
Naphthalene	ND	0.01	ug/g						
Phenanthrene	ND	0.02	ug/g						
Pyrene	ND	0.02	ug/g						
Surrogate: 2-Fluorobiphenyl	*1.50*		*ug/g*		*112*	*50-140*			
Surrogate: Terphenyl-d14	*1.49*		*ug/g*		*112*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*9.59*		*ug/g*		*120*	*50-140*			
Surrogate: Dibromofluoromethane	*7.68*		*ug/g*		*96.0*	*50-140*			
Surrogate: Toluene-d8	*7.91*		*ug/g*		*98.8*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
pH	7.05	0.05	pH Units	7.09			0.6	2.3	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
Metals									
Antimony	ND	1.0	ug/g	1.3			NC	30	
Arsenic	3.3	1.0	ug/g	3.4			1.8	30	
Barium	55.7	1.0	ug/g	58.2			4.4	30	
Beryllium	0.6	0.5	ug/g	0.6			3.0	30	
Boron	ND	5.0	ug/g	6.2			NC	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium	15.4	5.0	ug/g	16.1			4.8	30	
Cobalt	5.4	1.0	ug/g	5.8			7.2	30	
Copper	9.8	5.0	ug/g	10.3			4.6	30	
Lead	9.9	1.0	ug/g	10.4			5.0	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	10.4	5.0	ug/g	10.8			3.5	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	24.0	10.0	ug/g	25.5			5.9	30	
Zinc	38.6	20.0	ug/g	40.6			5.2	30	
Physical Characteristics									
% Solids	79.9	0.1	% by Wt.	80.9			1.3	25	
Semi-Volatiles									
Acenaphthene	0.042	0.02	ug/g	0.061			36.3	40	
Acenaphthylene	ND	0.02	ug/g	0.023			NC	40	
Anthracene	0.084	0.02	ug/g	0.134			NC	40	
Benzo [a] anthracene	0.331	0.02	ug/g	0.368			10.7	40	
Benzo [a] pyrene	0.363	0.02	ug/g	0.409			12.0	40	
Benzo [b] fluoranthene	0.368	0.02	ug/g	0.399			8.0	40	
Benzo [g,h,i] perylene	0.197	0.02	ug/g	0.229			15.1	40	
Benzo [k] fluoranthene	0.215	0.02	ug/g	0.199			7.9	40	
Chrysene	0.356	0.02	ug/g	0.411			14.3	40	
Dibenzo [a,h] anthracene	0.051	0.02	ug/g	0.060			16.2	40	
Fluoranthene	0.774	0.02	ug/g	0.922			17.5	40	
Fluorene	0.055	0.02	ug/g	0.092			NC	40	
Indeno [1,2,3-cd] pyrene	0.178	0.02	ug/g	0.211			17.1	40	
1-Methylnaphthalene	ND	0.02	ug/g	0.033			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g	0.038			NC	40	
Naphthalene	0.033	0.01	ug/g	0.069			NC	40	
Phenanthrene	0.651	0.02	ug/g	0.805			21.1	40	
Pyrene	0.589	0.02	ug/g	0.703			17.6	40	
Surrogate: 2-Fluorobiphenyl	*1.74*		*ug/g*		*123*	*50-140*			
Surrogate: Terphenyl-d14	*1.88*		*ug/g*		*133*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*8.78*		*ug/g*		*102*	*50-140*			
Surrogate: Dibromofluoromethane	*8.05*		*ug/g*		*93.2*	*50-140*			
Surrogate: Toluene-d8	*8.88*		*ug/g*		*103*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	162	7	ug/g	ND	81.0	80-120			
F2 PHCs (C10-C16)	102	4	ug/g	ND	103	60-140			
F3 PHCs (C16-C34)	283	8	ug/g	ND	117	60-140			
F4 PHCs (C34-C50)	178	6	ug/g	ND	116	60-140			
Metals									
Antimony	40.9	1.0	ug/g	ND	80.7	70-130			
Arsenic	48.4	1.0	ug/g	1.4	94.2	70-130			
Barium	72.0	1.0	ug/g	23.3	97.3	70-130			
Beryllium	49.0	0.5	ug/g	ND	97.5	70-130			
Boron	49.5	5.0	ug/g	ND	94.1	70-130			
Cadmium	47.8	0.5	ug/g	ND	95.5	70-130			
Chromium	56.5	5.0	ug/g	6.4	100	70-130			
Cobalt	50.5	1.0	ug/g	2.3	96.4	70-130			
Copper	50.4	5.0	ug/g	ND	92.7	70-130			
Lead	47.5	1.0	ug/g	4.2	86.6	70-130			
Molybdenum	47.9	1.0	ug/g	ND	95.4	70-130			
Nickel	51.8	5.0	ug/g	ND	94.9	70-130			
Selenium	46.1	1.0	ug/g	ND	91.8	70-130			
Silver	42.9	0.3	ug/g	ND	85.8	70-130			
Thallium	47.4	1.0	ug/g	ND	94.6	70-130			
Uranium	44.3	1.0	ug/g	ND	88.2	70-130			
Vanadium	59.8	10.0	ug/g	10.2	99.3	70-130			
Zinc	61.2	20.0	ug/g	ND	90.0	70-130			
Semi-Volatiles									
Acenaphthene	0.317	0.02	ug/g	0.061	145	50-140			QM-06
Acenaphthylene	0.254	0.02	ug/g	0.023	131	50-140			
Anthracene	0.368	0.02	ug/g	0.134	132	50-140			
Benzo [a] anthracene	0.558	0.02	ug/g	0.368	107	50-140			
Benzo [a] pyrene	0.622	0.02	ug/g	0.409	120	50-140			
Benzo [b] fluoranthene	0.575	0.02	ug/g	0.399	99.5	50-140			
Benzo [g,h,i] perylene	0.444	0.02	ug/g	0.229	122	50-140			
Benzo [k] fluoranthene	0.405	0.02	ug/g	0.199	117	50-140			
Chrysene	0.703	0.02	ug/g	0.411	165	50-140			QM-06
Dibenzo [a,h] anthracene	0.287	0.02	ug/g	0.060	128	50-140			
Fluoranthene	1.06	0.02	ug/g	0.922	77.0	50-140			
Fluorene	0.332	0.02	ug/g	0.092	136	50-140			
Indeno [1,2,3-cd] pyrene	0.442	0.02	ug/g	0.211	130	50-140			
1-Methylnaphthalene	0.270	0.02	ug/g	0.033	134	50-140			
2-Methylnaphthalene	0.300	0.02	ug/g	0.038	149	50-140			QM-06
Naphthalene	0.291	0.01	ug/g	0.069	126	50-140			
Phenanthrene	0.837	0.02	ug/g	0.805	18.4	50-140			QM-06
Pyrene	0.828	0.02	ug/g	0.703	71.0	50-140			
Surrogate: 2-Fluorobiphenyl	*1.73*		*ug/g*		*122*	*50-140*			
Surrogate: Terphenyl-d14	*1.80*		*ug/g*		*127*	*50-140*			
Volatiles									
Acetone	12.8	0.50	ug/g	ND	128	50-140			
Benzene	3.91	0.02	ug/g	ND	97.7	60-130			
Bromodichloromethane	3.72	0.05	ug/g	ND	92.9	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Bromoform	4.03	0.05	ug/g	ND	101	60-130			
Bromomethane	4.14	0.05	ug/g	ND	103	50-140			
Carbon Tetrachloride	4.48	0.05	ug/g	ND	112	60-130			
Chlorobenzene	3.28	0.05	ug/g	ND	81.9	60-130			
Chloroform	4.27	0.05	ug/g	ND	107	60-130			
Dibromochloromethane	3.60	0.05	ug/g	ND	89.9	60-130			
Dichlorodifluoromethane	4.00	0.05	ug/g	ND	100	50-140			
1,2-Dichlorobenzene	4.73	0.05	ug/g	ND	118	60-130			
1,3-Dichlorobenzene	4.60	0.05	ug/g	ND	115	60-130			
1,4-Dichlorobenzene	4.06	0.05	ug/g	ND	102	60-130			
1,1-Dichloroethane	3.35	0.05	ug/g	ND	83.7	60-130			
1,2-Dichloroethane	3.61	0.05	ug/g	ND	90.2	60-130			
1,1-Dichloroethylene	4.88	0.05	ug/g	ND	122	60-130			
cis-1,2-Dichloroethylene	4.05	0.05	ug/g	ND	101	60-130			
trans-1,2-Dichloroethylene	4.91	0.05	ug/g	ND	123	60-130			
1,2-Dichloropropane	3.57	0.05	ug/g	ND	89.1	60-130			
cis-1,3-Dichloropropylene	4.55	0.05	ug/g	ND	114	60-130			
trans-1,3-Dichloropropylene	4.87	0.05	ug/g	ND	122	60-130			
Ethylbenzene	3.61	0.05	ug/g	ND	90.2	60-130			
Ethylene dibromide (dibromoethane, 1,2-	3.35	0.05	ug/g	ND	83.6	60-130			
Hexane	4.64	0.05	ug/g	ND	116	60-130			
Methyl Ethyl Ketone (2-Butanone)	9.59	0.50	ug/g	ND	95.9	50-140			
Methyl Isobutyl Ketone	8.55	0.50	ug/g	ND	85.5	50-140			
Methyl tert-butyl ether	11.0	0.05	ug/g	ND	110	50-140			
Methylene Chloride	3.24	0.05	ug/g	ND	81.0	60-130			
Styrene	3.25	0.05	ug/g	ND	81.3	60-130			
1,1,1,2-Tetrachloroethane	3.70	0.05	ug/g	ND	92.6	60-130			
1,1,2,2-Tetrachloroethane	4.00	0.05	ug/g	ND	100	60-130			
Tetrachloroethylene	3.99	0.05	ug/g	ND	99.7	60-130			
Toluene	4.88	0.05	ug/g	ND	122	60-130			
1,1,1-Trichloroethane	3.23	0.05	ug/g	ND	80.9	60-130			
1,1,2-Trichloroethane	3.86	0.05	ug/g	ND	96.6	60-130			
Trichloroethylene	3.24	0.05	ug/g	ND	81.1	60-130			
Trichlorofluoromethane	3.77	0.05	ug/g	ND	94.2	50-140			
Vinyl chloride	3.92	0.02	ug/g	ND	97.9	50-140			
m,p-Xylenes	6.49	0.05	ug/g	ND	81.1	60-130			
o-Xylene	4.85	0.05	ug/g	ND	121	60-130			
Surrogate: 4-Bromofluorobenzene	*8.73*		*ug/g*		*109*	*50-140*			
Surrogate: Dibromofluoromethane	*7.19*		*ug/g*		*89.9*	*50-140*			
Surrogate: Toluene-d8	*6.54*		*ug/g*		*81.7*	*50-140*			

Qualifier Notes:

QC Qualifiers :

QM-06 : Due to noted non-homogeneity of the QC sample matrix, the spike recoveries were out side the accepted range. Batch data accepted based on other QC.

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.
NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.

PARACEL LABORATORIES LTD.

Paracel ID: 2221222

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2221222	№ 66043

Client Name: CM3	Project Ref: 820 Miikana Road	Page 1 of 1
Contact Name: Ethan Risk	Quote #: 22-023 OCDSB	Turnaround Time
Address: 5710 Akins Road, Ottawa	PO #: ER1004	☐ 1 day ☐ 3 day
	E-mail: ethan marc@cm3environmental.com	☐ 2 day ☑ Regular
Telephone: 613-304-5410		Date Required:

☑ REG 153/04 ☐ REG 406/19	Other Regulation	Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)	Required Analysis
☑ Table 1 ☐ Res/Park ☐ Med/Fine	☐ REG 558 ☐ PWQO		PHCs F1-F4 + BTEX
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ CCME ☐ MISA		VOCs
☐ Table 3 ☐ Agri/Other	☐ SU - Sani ☐ SU - Storm		Metals by ICP
☐ Table ___	Mun:		pH
For RSC: ☐ Yes ☐ No	☐ Other:		PAHs

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time
1	S1	S	Ø	2	May 16/22	9 AM
2	S2	↓	↓	↓	↓	↓
3	S3					
4	S4					
5	S5					
6	S6					
7	S7					
8	S8					
9	S9	↓	↓	↓	↓	↓
10						

Comments:

Method of Delivery: Walk-in

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab:	Verified By: Melissa Farrell
Relinquished By (Print): Ethan Risk	Date/Time: 05/16/22 3:40pm	Date/Time: May 17/22 2:14p	Date/Time: May 17/22 15:24
Date/Time: May 16/22 3:21pm	Temperature: 21.1 °C	Temperature: 8.7 °C	pH Verified: ☐ By: