1199 NEWMARKET HOLDINGS INC.
ENVIRONMENTAL SITE ASSESSMENT – PHASE II

Property located at 1195 Newmarket Street in Ottawa

O/Ref.: 13246

ORTAM groupe

RBQ : 8353-4917-04

Prepared by :

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Reviewed and approved by:

Bruce Malka, Eng.

Geo-environment Director

FEBRUARY 2020

RBQ : 8353-4917-04

Montreal, July 28, 2021

CROMWELL MANAGEMENT INC.
C/o Mr. Stanley Zipkin
A-3488 Chemin de la Côte-des-Neiges
Montreal (Quebec)
H3H 2M6

Object: **ENVIRONMENTAL SITE ASSESSMENT – PHASE II**
Commercial property
Property located at 1195 Newmarket Street in Ottawa

O/Ref: 13246

Mr. Zipkin,

We are pleased to present you our report for the Environmental Site Assessment – Phase II study that was carried out on the above-mentioned property.

The ESA – Phase II study was achieved in accordance with the Ministry of the Environment and Climate Change (MOECC) and the Canadian Standards Association (CSA) as stated in the document CSA Z-769-00 titled "Phase II Environmental Site Assessment". The study contains a description of the field work completed, a Site location plan, a survey location plan, our field observations and work methodology, a summary of field results, as well as our recommendations and conclusions concerning the contamination status of the Property. We thank you for giving us the opportunity to serve you and hope to engage into future collaborations.

We thank you for giving us the opportunity to serve you and hope to engage into future collaborations.

Trusting everything is to your complete satisfaction, we remain yours truly.

GROUPE ORTAM Inc.

Bruce Malka, Eng.
Geo-environment Director

5675, Royalmount Avenue, Suite 200 Mont-Royal (Québec) Canada H4P 1K3
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SUMMARY

Mr. Stanley Zipkin of the company 1199 NEWMARKET HOLDINGS INC. mandated GROUPE ORTAM INC. (ORTAM) to complete an Environmental Site Assessment (ESA) – Phase II study, on the property located at 1195 Newmarket Street in Ottawa, Ontario (hereafter identified as the "Site" or the "Property").

This ESA – Phase II is based on environmental concerns identified during the study Environmental Site Assessment (ESA) – Phase I completed by GROUPE SOLROC (Ref: 24420) in July 2015. The Phase I study included the mention of several previous Environmental Studies conducted from 1985 to 2012. The Phase I study recommended the completion of a Phase II based on the following concerns:

- Presence of a former railway spur line to the north-east of the site and the East side of the former building.
- Presence of stains around the two (2) above-ground storage tanks associated with a pump island on the north-west corner of the former building.
- Following the Environmental Site Remediation – Phase IV completed by GROUPE SOLROC (Ref: 20693) in October 2012, since the remediation work could only be done partially at the time, there resides potentially more contamination under the south-west corner of the former building.

The ESA - Phase II site work included the completion of thirteen (13) environmental boreholes (BH1 to BH13) carried out on July 16th, 2019. A total of sixty-three (63) soil samples and six (6) duplicates were collected during the field work. Fourteen (14) soil samples were submitted for chemical analysis for the following parameters: Petroleum Hydrocarbons (PH F2-F4) and/or Petroleum Hydrocarbons (PH F1-BTEX) and/or Polycyclic Aromatic Hydrocarbons (PAHs) and/or Heavy Metals (HM – 13 metals) and/or phenols.

THE ENVIRONMENTAL QUALITY OF THE SOILS ENCOUNTERED IN THE SURVEYS* BH1 AND BH5 *DOES NOT RESPECT THE MOECC TABLE 3 FULL DEPTH GENERIC SITE CONDITION STANDARDS IN A NON-POTABLE GROUND WATER CONDITION, MEDIUM TO FINE TEXTURED SOILS FOR COMMERCIAL/INDUSTRIAL PROPERTY USE.

THEREFORE, ORTAM RECOMMENDS THAT IT IS NECESSARY TO CONDUCT AN ENVIRONMENTAL SITE REMEDIATION (ESR) – PHASE IV.

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APPENDICES

1.0 INTRODUCTION

1.1 Mandate

Mr. Stanley Zipkin of the company 1199 NEWMARKET HOLDINGS INC. mandated GROUPE ORTAM INC. (ORTAM) to complete an Environmental Site Assessment (ESA) – Phase II study, on the property located at 1195 Newmarket Street in Ottawa, Ontario (hereafter identified as the "Site" or the "Property").

1.2 Context

This ESA – Phase II is based on environmental concerns identified during the study Environmental Site Assessment (ESA) – Phase I completed by GROUPE SOLROC (Ref: 24420) in July 2015. The Phase I study included the mention of several previous Environmental Studies conducted from 1985 to 2012. The Phase I study recommended the completion of a Phase II based on the following concerns:

- Presence of a former railway spur line to the north-east of the site and the East side of the former building.
- Presence of stains around the two (2) above-ground storage tanks associated with a pump island on the north-west corner of the former building.
- Following the Environmental Site Remediation – Phase IV completed by GROUPE SOLROC (Ref: 20693) in October 2012, since the remediation work could only be done partially at the time, there resides potentially more contamination under the south-west corner of the former building.

Therefore, an ESA Phase II was recommended.

1.3 Objective

The objective of this Environmental Site Assessment (ESA) – Phase II was to verify if the soils of the property were impacted by the activities conducted on the site.

The sieve analysis indicated that the soils on the Site are classified as medium to fine grain size. Therefore, the results were compared to the criteria of the MOECC Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, medium to fine textured soils for Commercial and Industrial property use.

1.4 Conditions and limitations

Note that the following Environmental Site Assessment (ESA) – Phase II report is intended for the exclusive use of MR. STANLEY ZIPKIN OF 1199 NEWMARKET HOLDINGS INC. and cannot be used by a third party without written authorization of ORTAM. The conditions and limitations of this study are described in **APPENDIX 1**.

2.0 SITE DESCRIPTION

2.1 Location of the Site

The property is located on the North side of Newmarket Street. The former building was designated by the civic address 1195 Newmarket Street and was designated by the Property Identifier Number 042630267 (LT) and the Legal Description by the East Half of the lot 26 Concession 2 of the official cadastre of Ontario, City of Ottawa. The property is surrounded by Newmarket Street to the South, a Canadian Pacific (CP) Railway track to the North and East and by Liverpool Court to the West.

The geographical coordinates of the Site are 45° 24' 41.90" North, 75° 37' 15.40" West.

According to the City of Ottawa, the building is zoned commercial and industrial and has a commercial use.

2.2 Building and Land

The property is of an irregular configuration and the lots cover a surface area of 26 000.00 square metres (m^2). The Site, built in approx. 1960 (according to the City of Ottawa), is of commercial use and included a former building of one (1) storey and no basement. The building was used for the storage of furniture movers and private goods.

The building covered approximately 10% of the total surface area of the lots. The rest of the property (about 70%) is mainly unpaved and gravelled. A grass area is still present at the southeast corner of the property. The sewer and aqueduct networks of the Municipality serve the building.

Groundwater is not used for drinking. No feeding well was present on the property under study and no surface or ground water channeling installation for human consumption is listed in a radius of one (1) kilometer at the city of Ottawa.

Plan # 13246-1 in **APPENDIX 2** presents the general location of the Site.

3.0 FIELD PROCEDURES

3.1 Underground infrastructure survey

Prior to drilling, ORTAM proceeded to the identification of underground conduits through the services of INFO-EXCAVATION. In July 2019, a request was sent to locate the underground services (electricity, gas, telephone, optic fibers, etc.). The underground services located on the property did not impact the location of the soundings. The locations of the boreholes were confirmed to not be to close of any private utilities by a licensed private locator from GROUPE ORTAM using a Ground Penetrating Radar (GPR) scan.

3.2 Soundings

The field work included the completion of thirteen (13) environmental boreholes (BH1 to BH13). These surveys reached depths varying between 1.70 m and 3.00 m. The work was carried out on July 16th, 2019 using a GeoProbe 420M from the company RNB, under the constant supervision of ORTAM.

Table 1: Location and objective of the soundings

SOUNDING	LOCATION	OBJECTIVE
BH1 to BH3	Along the eastern limit of the Property.	To verify the environmental quality of the soils where a former railway spur line was located.
BH4	North-west of the former building.	To verify the environmental quality of the soils near the former two (2) above-ground storage tanks associated with a pump island were located.
BH5 to BH13	Around the previously conducted soil remediation located on the South-west corner of the former building.	To confirm or infirm if there is contamination still present around the previously done Environmental Site Remediation excavation.

3.3 Sampling Procedures

All procedures (soil sampling, transportation and conservation of taken soil samples) were carried out in accordance with the directives presented in the following documents produced by the “Ministry of the Environment of Ontario (MOE)” (for more details, see section 7).

Each sample was the subject of a detailed description that was carried out on the premises, on the basis of visual examination. The description includes the texture, the color of the soils, the presence of olfactory and visual signs of contamination, and the presence of materials other than soils.

For the soils where no trace of contamination was detected, the composite sampling method was used. However, the soils that showed evidence of contamination and/or soils that are analysed for their content in volatile compounds (VOCs) were subjected to discrete (grab) sampling at specific location.

Soil samples were placed immediately in sterilized glass containers of 250 ml and they were flipped over in order to minimize the evacuation of all volatile compounds. For the volatile compounds analysis (VOCs), the soil samples were collected with a disposable single use Terra Core collector and placed in a 40 ML vial containing 10 ML of methanol.

3.4 Chemical Analyses and Laboratory Quality Control

The selected samples were analyzed by the laboratory EUROFINS IN OTTAWA, ONTARIO. This laboratory is fully accredited by the MOE for the analytical parameters requested.

A quality control program was applied to verify the analytical results. The program includes the analysis of control samples made in the field. Furthermore, the staff of the GROUPE ORTAM reviewed the results of the internal quality control of the laboratory subcontractor. Quality control in the field consists of taking simultaneous and homogeneous soil samples (duplicates). Duplicates respect a minimum ratio of 10% of all the samples taken in the field.

4.0 SUMMARY OF FIELD RESULTS

4.1 Soil Description

Fill Material

The fill material encountered during the surveys conducted is generally composed of sand, silt, gravel and crushed stones with presence of debris in BH1, BH2 and BH3.

Natural Soil

The natural soil encountered in the surveys conducted is generally composed of a silty sand/sand and was encountered around 1.50 m of depth.

Bedrock

The bedrock was not encountered in any of the surveys conducted.

The survey reports are presented in **APPENDIX 3**.

4.2 Groundwater conditions

Groundwater was not encountered in any of the surveys.

4.3 Organoleptic indications

Organoleptic indications of contamination were observed in the boreholes BH5 (samples 1607-BH5-SS1B, 1607-BH5-SS2A and 1607-BH5-SS2B) and BH7 (sample 1607-BH7-SS3A).
Construction debris were observed in the boreholes BH1 (sample 1607-BH1-SS1A), BH2 (sample 1607-BH2-SS1A) BH3 (sample 1607-BH3-SS1A).

4.4 Chemical Analyses

4.4.1 Soils

A total of sixty-three (63) soil samples and six (6) duplicates were collected during the field work. Fourteen (14) soil samples and one (1) duplicate were submitted for chemical analysis.

The analytical program was carried out following the concerns identified in the Environmental Site Assessment (ESA) - Phase I completed on the property by GROUPE SOLROC (Ref: 24420). Thus, the selected soil samples were analyzed to determine their concentrations in the following parameters:

- Polycyclic Aromatic Hydrocarbons (PAHs);
- Heavy Metals (HM);
- Petroleum Hydrocarbons (PH F2-F4);
- Petroleum Hydrocarbons (PH F1-BTEX)
- Phenols

Soil samples were compared with limit values of the MOECC Table 3 standards of the MOE (Ministry of the Environment of Ontario) not to exceed for medium to fine textured soils for a commercial/industrial site**.**

For its part, the laboratory has applied its internal program quality by analyzing laboratory blanks, certified reference standards, and internal duplicates.

The certificates issued by the analytical laboratory EUROFINS are provided in **APPENDIX 4.**

5.0 INTERPRETATION AND RESULTS

5.1 Chemical Analysis Results – SOILS

The results of chemical analyses in Polycyclic Aromatic Hydrocarbons (PAHs), and/or Heavy Metals (HM) (13 metals) and/or Petroleum Hydrocarbons (PH F2-F4) and/or Petroleum Hydrocarbons (PH F1-BTEX) and/or Phenols and/or Sieve Analysis for the soil samples are presented in the following table:

Table 2: Chemical Analysis Results

SAMPLE	DEPTH (in metres)	DATE	CHEMICAL ANALYSIS RESULTS				
			F2-F4	F1-BTEX	HEAVY METALS	PAH	PHENOLS
1607-BH1-SS1A	0.00 – 0.40	16/07/2019	-	-	**>MOECC Table 3**	<MOECC Table 3	-
1607-BH2-SS1A	0.00 – 0.40	16/07/2019	-	-	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3
1607-BH3-SS1A	0.00 – 0.40	16/07/2019	-	-	<MOECC Table 3	<MOECC Table 3	-
1607-BH4-SS2B	1.50 – 1.90	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH5-SS1B	0.00 – 0.60	16/07/2019	<MOECC Table 3	-	-	<MOECC Table 3	-
1607-BH5-SS2B	1.60 – 2.00	16/07/2019	**>MOECC Table 3**	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH6-SS2B	1.60 – 2.00	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH7-SS3A	2.00 - 2.40	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH8-SS3B	2.60 – 3.00	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH9-SS2B	1.60 – 2.00	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH10-SS2B	1.40 – 2.00	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH11-SS3B	2.50 – 3.00	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH12-SS2B	1.50 – 1.70	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-
1607-BH13-SS3B	2.50 – 3.00	16/07/2019	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	<MOECC Table 3	-

The results of the fourteen (14) soil samples collected and selected for analysis are described as follows:

- The soil samples 1607-BH1-SS1A revealed concentrations **above** the MOECC Table 3 standards for Heavy Metals (HM).

- The soil samples 1607-BH5-SS2B revealed concentrations **above** the MOECC Table 3 standards for Petroleum Hydrocarbons (PH F2-F4).

- All other samples analyzed for Petroleum Hydrocarbons (PH F2-F4) and / or Petroleum Hydrocarbons (PH F1-BTEX) and / or Polycyclic Aromatic Hydrocarbons (PAHs) and / or Heavy Metals (HM) (13 metals) and/or Phenols and/or Sieve Analysis revealed concentrations **below** the MOECC Table 3 standards.

As noted in Section 4.4, the value in the MOECC Table 3 standards of the MOE is the value not to exceed for medium to fine textured soils for a commercial/industrial site**.**

6.0 CONCLUSION

The field work included the completion of thirteen (13) environmental boreholes (BH1 to BH13). These surveys reached varying depths between 1.70 m and 3.00 m. The work was carried out on July 16th, 2019.

The conclusions of this Environmental Site Assessment (ESA) – Phase II study are summarized as follows:

THE ENVIRONMENTAL QUALITY OF THE SOILS ENCOUNTERED IN THE SURVEYS* BH1 AND BH5 *DOES NOT RESPECT THE MOECC TABLE 3 FULL DEPTH GENERIC SITE CONDITION STANDARDS IN A NON-POTABLE GROUND WATER CONDITION, MEDIUM TO FINE TEXTURED SOILS FOR COMMERCIAL/INDUSTRIAL PROPERTY USE.

THEREFORE, ORTAM RECOMMENDS THAT IT IS NECESSARY TO CONDUCT AN ENVIRONMENTAL SITE REMEDIATION (ESR) – PHASE IV.

The conclusions of this Environmental Site Assessment – Phase II study rely on and are limited to the soil sample results tested by ORTAM for specific parameters at the time of the present study only and sent to the accredited laboratory EUROFINS IN OTTAWA, ONTARIO. Thus, the scope of this report is limited accordingly.

We thank you for giving us the opportunity to serve you and hope to engage into future collaborations.

Trusting everything is to your complete satisfaction, please accept our best wishes.

7.0 REFERENCES

- CENTRE D'EXPERTISE EN ANALYSE ENVIRONNEMENTALE DU QUÉBEC. Modes de conservation pour l'échantillonnage des eaux souterraines, DR-09-09, ministère du Développement durable, de l'Environnement et des Parcs, 2012, 7 p.
- MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS DU QUÉBEC, juillet 2008, Guide d'échantillonnage à des fins d'analyses environnementales : Cahier 1 – Généralités, Centre d'expertise en analyse environnementale du Québec, 58 p., 3 APPENDIX.
- MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS DU QUÉBEC, 2011. Guide d'échantillonnage à des fins d'analyses environnementales : cahier 3 – Échantillonnage des eaux souterraines, Centre d'expertise en analyse environnementale du Québec, 60 p., 1 APPENDIX.
- MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS DU QUÉBEC, Guide d'échantillonnage à des fins d'analyses environnementales : Cahier 5 – Échantillonnage des sols, Québec, Centre d'expertise en analyse environnementale du Québec, Édition courante.
- MINISTÈRE DU DÉVELOPPEMENT DURABLE ET DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES, 2016, Guide d'intervention, Protection des sols et réhabilitation des terrains contaminés;
- NORMES CSA, 2010, Guide des méthodes de conservation et d'analyses des échantillons d'eau et des sols.

APPENDICES

APPENDIX 1

- Conditions and limitations

CONDITIONS AND LIMITATIONS

This report is intended solely for the Client for whom it was prepared. Its contents reflect our best judgment considering the information available to ORTAM at the time of preparation. This report must be considered in its entirety only; no portion of this report may be used as a separate entity. Any use made of this report or decisions made based on its contents by a third party is/are the responsibility of such third parties.

The environmental interpretation of the analytical results presented in this report and ensuing conclusions are based on data collected during the work carried out within the scope of the present mandate. The interpretations and conclusions in this report refer - to environmental standards, policies and regulations that were applicable and in effect at the time of the study.

The soil contamination levels were determined according to the chemical analysis results for a limited number of samples. The nature and extent contamination between the sampling points can vary in terms of the conditions encountered at the locations where the analyzed samples were taken.

The selection of parameters analyzed is based on our understanding of the Site history and the contaminants suspected to the present. This selection also considers budgetary constraints and turnaround times. The decision to not analyze for a certain parameter does not rule out the possibility that this parameter exists at a concentration above naturally occurring levels or detection limits.

Considering the heterogeneous nature of environmental contamination phenomena, the conclusions given in this study should only refer to the locations investigated. The general conclusions regarding the entire Site are for information purposes and are probability based. They do not indicate in any way the absence or presence of contaminant concentrations in locations other than those investigated.

The contamination levels described in this report should only be considered valid at the time of sampling, as these levels may vary due to activities that subsequently occur on the Site under study or adjoining properties.

It is important to note that the present report was prepared solely within the context of an environmental characterization study. Therefore, it can in no way be used for geotechnical purposes (i.e., establishing foundation conditions such as allowable bearing capacity, foundation type etc.) or work requiring geotechnical parameters.

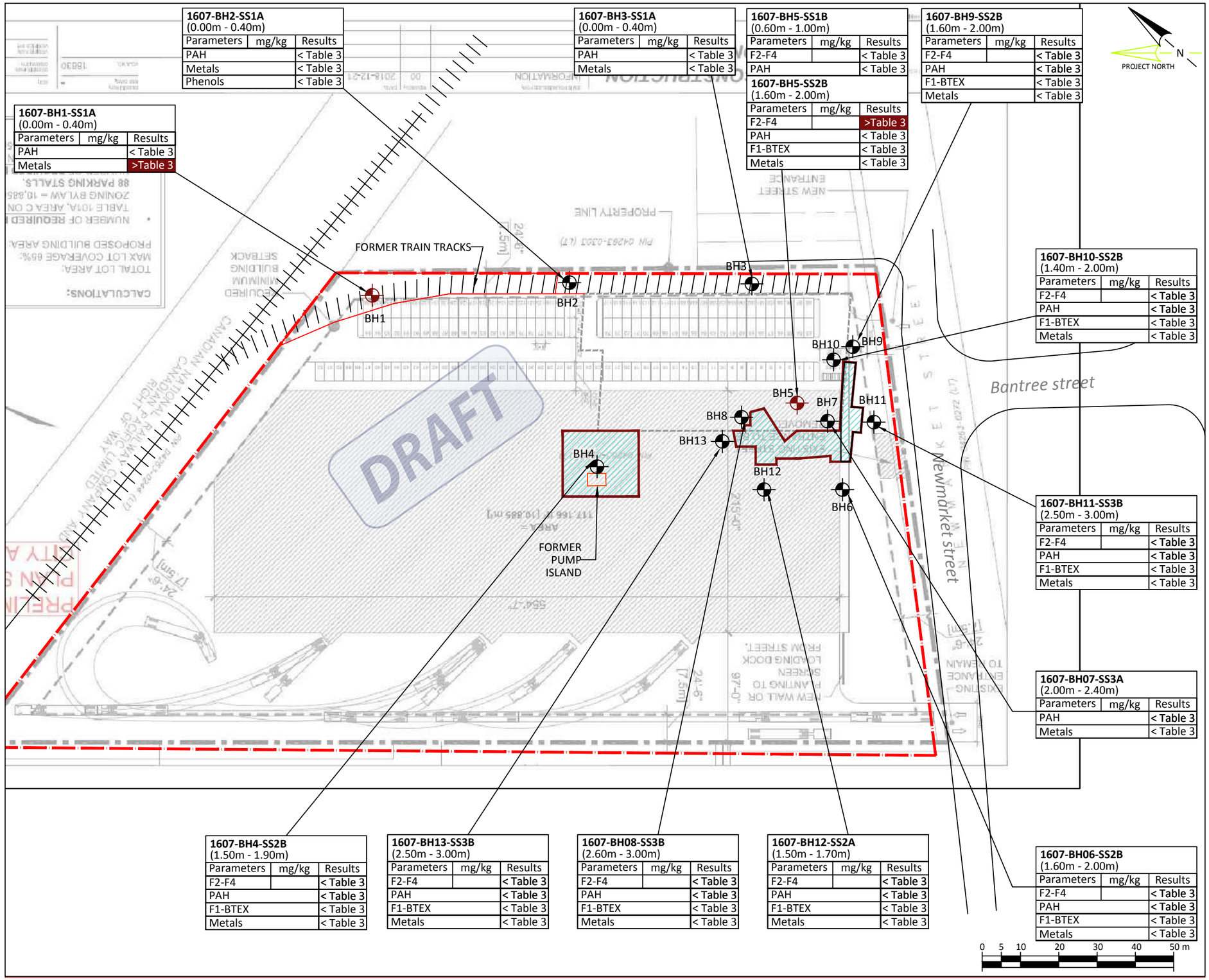
APPENDIX 2

- General site location
- Survey location and results of chemical analysis

GENERAL SITE LOCATION

EXHAUSTIVE ENVIRONMENTAL SITE ASSESSMENT – PHASE III
O/Ref.: 13246

Source: Google Map
Figure: 1



1607-BH2-SS1A
(0.00m - 0.40m)

Parameters	mg/kg	Results
PAH		< Table 3
Metals		< Table 3
Phenols		< Table 3

1607-BH1-SS1A
(0.00m - 0.40m)

Parameters	mg/kg	Results
PAH		< Table 3
Metals		>Table 3

1607-BH3-SS1A
(0.00m - 0.40m)

Parameters	mg/kg	Results
PAH		< Table 3
Metals		< Table 3

1607-BH5-SS1B
(0.60m - 1.00m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3

1607-BH5-SS2B
(1.60m - 2.00m)

Parameters	mg/kg	Results
F2-F4		>Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH9-SS2B
(1.60m - 2.00m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH10-SS2B
(1.40m - 2.00m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH11-SS3B
(2.50m - 3.00m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH07-SS3A
(2.00m - 2.40m)

Parameters	mg/kg	Results
PAH		< Table 3
Metals		< Table 3

1607-BH06-SS2B
(1.60m - 2.00m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH4-SS2B
(1.50m - 1.90m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH13-SS3B
(2.50m - 3.00m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH08-SS3B
(2.60m - 3.00m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

1607-BH12-SS2A
(1.50m - 1.70m)

Parameters	mg/kg	Results
F2-F4		< Table 3
PAH		< Table 3
F1-BTEX		< Table 3
Metals		< Table 3

Photo by Google map

Legend

- Property limit
- Former building
- Former ESR conducted by SOLROC GROUPE in October, 2012
- Boreholes conducted by ORTAM on July 16th, 2019
  Symbol color refer to the contamination levels in the table "Results of chemicals analysis"

Sources

- This plan was completed based on the certificate of location provided by the client

Results*: MOECC Table 3
Full depth generic site condition standards in a non-portable ground-water condition, fine to medium textured soils for residential, parkland/institutional property use under Part XV:I of the Environmental Protection Act

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Project

ENVIRONMENTAL SITE ASSESSMENT - PHASE II
1199 Newmarket St, Ottawa, On

Client

1199 Newmarket Holdings Inc.

Prepared :	J-S.Benoit	O/Ref.:	13246
Drawing :	H.Sun	File name :	13246-1
Verified :	J-S.Benoit	Date :	07-19-2019
Accepted :	B.Malka	Scale :	1 : 1000

Drawing title

SURVEY LOCATION AND RESULTS OF CHEMICALS ANALYSIS

Figure

2

APPENDIX 3

- Survey reports

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH1**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Sand, crushed stones, debris (charcoal). Brown, dry.	SS1A	100	●				PAH	HM
1					DUP1		●					
	0.40			Silty sand, some gravel. Brown, dry.								
2					SS1B		●					
3												
	1			Silty sand, some gravel. Brown, dry.	SS2A	100	●					
4												
	1.50			**Natural soil:** Silty sand. Brown, slightly humid.								
5					SS2B		●					
6												
	2			Silty sand. Brown, slightly humid.								
7					SS3A	90	●					
8												
	2.60			Silty sand, trace of clay, round gravel. Gray, slightly humid.								
9					SS3B		●					
	3			End of borehole at 3.0 m of depth.								
10												

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No.	**BH2**
Reference plan	13246-1
Date	16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules
Silt et clay	less than 0.075 mm
Sand	0.075 to 4.75 mm
Gravel	4.75 to 75 mm
Cobble	75 to 200 mm
Block	bigger than 200 mm

Terminology	Proportion
Traces	1 to 10 %
A little bit of	10 to 20 %
Adjective (ex.: sandy)	20 to 35 %
and (ex.: sand, gravel)	bigger than 35 %

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Gravel sand, debris (charcoal). Brown, dry.	SS1A	100	•				PAH HM Phenols	
1					DUP2		•					
	0.40			Silty sand, crushed stones. Brown, dry.								
2					SS1B		•					
3												
	1			Silty sand, crushed stones. Brown, dry.	SS2A	100	•					
4												
5												
	1.60			**Natural soil:** Silty sand. Brown, slightly humid.	SS2B		•					
6												
	2			Silty sand. Brown, slightly humid.								
7					SS3A	90	•					
8												
	2.60			Silty sand, trace of clay, round gravel. Gray, slightly humid.	SS3B		•					
9												
	3			End of borehole at 3.0 m of depth.								
10												

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH3**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Gravely sand, debris (charcoal). Brown, dry.	SS1A	100	•				PAH HM	
1	0.40			Sand, some silt, gravel. Brown, dry.	SS1B		•					
2												
3	1			Sand, some silt, gravel. Brown, dry.	SS2A	90	•					
4	1.40			**Natural soil:** Silty sand, round gravel. Dark brown, slightly humid.	SS2B		•					
5												
6	2			Refusal at 2.0 m of depth.								
7												
8												
9												
10	3											

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No.	**BH4**
Reference plan	13246-1
Date	16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Gravely sand, crushed stones. Brown, dry.	SS1A	90	•					
	0.50			Silty sand. Brown, slightly humid.	SS1B		•					
	1			Silty sand. Brown, slightly humid.	SS2A	70	•					
	1.50			**Natural soil:** Silty sand, round gravel. Gray, slightly humid.	SS2B		•				F2-F4 PAH F1-BTEX HM	
	1.90			Refusal at 1.9 m of depth.								
	2											
	3											

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH5**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Sand. Brown, dry.	SS1A	70	●					
	0.60			Sand, crushed stones. Brown, slightly humid.	SS1B			●			F2-F4 PAH	
	1			Sand, crushed stones. Brown, slightly humid.	SS2A	60		●				
	1.60			**Natural soil:** Sand, round gravel. Gray, slightly humid.	SS2B			●			PAH F1-BTEX HM	F2-F4
					DUP8			●				
	2			Refusal at 2.0 m of depth.								
	3											

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH6**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			Asphalt								
	0.10			**Backfill:** Gravely sand. Brown, dry.	SS1A	90	•					
	0.60			Sand, some silt. Brown, slightly humid.	SS1B		•					
	1			Sand, some silt. Brown, slightly humid.	SS2A	90	•					
	1.60			**Natural soil:** Sand, some silt, round gravel. Gray, slightly humid.	SS2B		•				F2-F4 PAH F1-BTEX HM	
	2			Refusal at 2.0 m of depth.								
	3											

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No.	**BH7**
Reference plan	13246-1
Date	16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Sand. Brown, dry.	SS1A	60	●					
	0.60			Sand. Brown, dry.	SS1B		●					
	1			Sand. Brown, slightly humid.	SS2A	40	●					
	1.60			**Natural soil:** Sand. Gray, wet.	SS2B		●					
	2			Sand. Gray, wet.	SS3A*	40		●			PAH HM	
					DUP7			●				
	2.40			Refusal at 2.40 m of depth.								
	3											

* sieve analysis

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH8**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Sand. Brown, dry.	SS1A	70	•					
	0.60			Sand. Brown, dry.	SS1B		•					
	1			Gravelly sand. Brown, slightly humid.	SS2A	40	•					
	1.60			Gravelly sand. Brown, slightly humid.	SS2B		•					
	2			Gravelly sand. Brown, slightly humid.	SS3A	40	•					
	2.60			**Natural soil:** Sand, some silt, round gravel. Gray, slightly humid.	SS3B		•				F2-F4 PAH F1-BTEX HM	
	3			End of borehole at 3.00 m of depth.								

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH9**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules
Silt et clay	less than 0.075 mm
Sand	0.075 to 4.75 mm
Gravel	4.75 to 75 mm
Cobble	75 to 200 mm
Block	bigger than 200 mm

Terminology	Proportion
Traces	1 to 10 %
A little bit of	10 to 20 %
Adjective (ex.: sandy)	20 to 35 %
and (ex.: sand, gravel)	bigger than 35 %

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Sand. Brown, dry.	SS1A	70	●					
1												
2	0.60			Sand. Brown, dry.	SS1B		●					
3												
	1			Sand, some silt. Brown, wet.	SS2A	80	●					
4												
5												
	1.60			**Natural soil:** Silty sand, trace of clay, round gravel. Gray, slightly humid.	SS2B		●				F2-F4 PAH F1-BTEX HM	
6					DUP9		●					
	2			Refusal at 2.00 m of depth.								
7												
8												
9												
	3											
10												

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH10**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Sand. Brown, dry.	SS1A	90	•					
	0.60			Sand or silt, some clay. Brown, slightly humid.	SS1B		•					
	1			Silty sand. Brown, slightly humid.	SS2A	100	•					
	1.40			**Natural soil:** Sand. Brown, wet.	SS2B		•				F2-F4 PAH F1-BTEX HM	
	2			Refusal at 2.00 m of depth.								
	3											

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No.	**BH11**
Reference plan	13246-1
Date	16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules
Silt et clay	less than 0.075 mm
Sand	0.075 to 4.75 mm
Gravel	4.75 to 75 mm
Cobble	75 to 200 mm
Block	bigger than 200 mm

Terminology	Proportion
Traces	1 to 10 %
A little bit of	10 to 20 %
Adjective (ex.: sandy)	20 to 35 %
and (ex.: sand, gravel)	bigger than 35 %

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			**Backfill:** Sand, some gravel. Brown, dry.	SS1A	80	•					
	0.60			Sand, some gravel. Brown, dry.	SS1B		•					
	1			Silty sand. Brown, dry.	SS2A	100	•					
	1.50			**Natural soil:** Sand. Gray, wet.	SS2B		•					
	2			Sand. Gray, wet.	SS3A	60	•					
	2.50			Silty sand, traces of clay, round gravel. Gray, wet.	SS3B		•				F2-F4 PAH F1-BTEX HM	
	3			End of borehole at 3.00 m of depth.								

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH12**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			Asphalt								
	0.10			**Backfill:** Gravely sand, crushed stones. Brown, dry.	SS1A	90	•					
1												
2	0.60			Sand, some silt. Brown, slightly humid.	SS1B		•					
3												
	1			Sand, some silt. Brown, slightly humid.	SS2A	40	•				F2-F4 PAH F1-BTEX HM	
4												
5	1.50			**Natural soil:** Sand, some silt, round gravel. Brown, slightly humid.	SS2B		•					
	1.70			Refusal at 1.70 m of depth.								
6												
	2											
7												
8												
9												
	3											
10												

O/Ref.	13246
Project	Environmental Site Assessment - Phase II
Location	1199 Newmarket St, Ottawa, On
Client	1199 Newmarket Holdings Inc.
Equipment	Geoprobe 420m
Contractor	RNB
Described by	J-S Benoît
Accepted by	B.Malka,Eng.

SURVEY REPORT

Borehole No. **BH13**
Reference plan 13246-1

Date 16-07-2019

Stratigraphy symbols

Clay, Concrete, Gravel, Cobble, Fill, Rock, Sand, Silt

Classification	Dimension of particules	Terminology	Proportion
Silt et clay	less than 0.075 mm	Traces	1 to 10 %
Sand	0.075 to 4.75 mm	A little bit of	10 to 20 %
Gravel	4.75 to 75 mm	Adjective (ex.: sandy)	20 to 35 %
Cobble	75 to 200 mm	and (ex.: sand, gravel)	bigger than 35 %
Block	bigger than 200 mm		

Depth (ft)	Depth (m)	Elevation (m)	Stratigraphy	Soil description	Type / No	Recovery %	Olfactive Observations N	W	A	H	Contamination level following the MOECC criteria (Reg 53) < Table 3	> Table 3
	0.00			Asphalt								
	0.10			**Backfill:** Gravely sand, crushed stones. Brown, dry.	SS1A	80	●					
					DUP13			●				
	0.60			Sand, trace of silt. Brown, dry.	SS1B		●					
	1			Sand, trace of silt. Brown, dry.	SS2A	90	●					
	1.60			**Natural soil:** Sand, some silt. Brown, slightly humid.	SS2B		●					
	2			Silty sand. Brown, wet.	SS3A	80	●					
	2.50			Silty sand, traces clay. Gray, wet.	SS3B		●				F2-F4 PAH F1-BTEX HM	
	3			End of borehole at 3.00 m of depth.								

APPENDIX 4

- Photographic report

PHOTOGRAPH 1

Location of borehole BH1

PHOTOGRAPH 2

Location of borehole BH2

PHOTOGRAPH 3

Location of borehole BH3

PHOTOGRAPH 4

Location of borehole BH4

PHOTOGRAPH 5

Location of borehole BH5

PHOTOGRAPH 6

Location of borehole BH6

PHOTOGRAPH 7

Location of borehole BH7

PHOTOGRAPH 8

Location of borehole BH8

PHOTOGRAPH 9

Location of borehole BH9

PHOTOGRAPH 10

Location of borehole BH10

PHOTOGRAPH 11

Location of borehole BH11

PHOTOGRAPH 12

Location of borehole BH12

PHOTOGRAPH 13

Location of borehole BH13

APPENDIX 5

- Chemical analyses certificates

eurofins | EnvironeX 2325, boul. Fernand-Lafontaine, Longueuil (Québec) J4N 1N7 (514) 332-6001

CERTIFICAT D'ANALYSES OFFICIEL : M1576220-V4

DEMANDE D'ANALYSE :125752

Date d'émission du certificat : 2019-08-01

LE GROUPE ORTAM
5675, avenue Royalmount, Suite # 200
Mont-Royal, Québec
H4P 1K3
Attention : Bruce Malka

Date de réception : 2019-07-17
Nom et no projet :
Nom du préleveur : JS Benoit
Bon de commande :

Analyses	Quantité	Méthode de référence	Méthode interne
Humidité / siccité	14	MA.100- S.T. 1.1	ILCE-030
Phénols chlorés	1	EPA Method 528	ILCE-087
Hydrocarbures Aromatiques Polycycliques (HAP)	14	MA.400 - HAP 1.1	ILCE-061
Balayage de métaux par ICPMS	13	MA.200-Mét 1.2	ILCE-069
Hydrocarbures pétroliers F1 à F4	10	Externe	---
Composés organiques volatils	10	MA.400-COV 1.1	ILCE-022

Notes :

- Ce certificat d'analyse est la seule référence valide et les résultats présentés ont préséance en cas de différence avec tous autres documents transmis .
- Tous les résultats d'analyses provenant de matrice solide sont calculés sur une base sèche , à moins d'avis contraire.
- Les critères présentés sur ce certificat, le cas échéant, ainsi que la comparaison des résultats d'analyses à ceux-ci est à titre indicatif seulement. De plus, les critères ABC se réfèrent aux critères du secteur Basses-Terres du Saint-Laurent, à moins d'avis contraire.
- Groupe EnvironeX détient toutes les accréditations requises pour l'analyse des paramètres présentés sur ce certificat, à moins d'avis contraire.

Légende :

LR : Limite rapportée
MR : Matériaux de référence
N/A : Non applicable
PNA : Paramètre non accrédité
TNI : Colonies trop nombreuses pour être identifiées
TNC : Colonies trop nombreuses pour être comptées
Méthode Interne : CHM ou MBIO (méthodes QC) ; ILCE ou ILME (méthodes LG)

[1] Analyse réalisée par EnvironeX Québec
[2] Analyse réalisée par EnvironeX Longueuil
[3] Résultats en annexe
* Analyse réalisée en sous-traitance externe

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

						No d'échantillon EnvironeX :	4227193	4227195	4227197	4227201	4227219
						Nature :	Sol	Sol	Sol	Sol	Sol
						Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
						Identification de l'échantillon client :	1607-BH1-S S1A	1607-BH2-S S1A	1607-BH3-S S1A	1607-BH4-S S2B	1607-BH5-S S2B
Paramètre	Unité	Critère A	B	C	RESC						
Métaux											
Argent (Ag)	mg/Kg	2	20	40	200		<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic (As)	mg/Kg	10	30	50	250		72.6	9.2	4.5	3.3	2.0
Baryum (Ba)	mg/Kg	200	500	2000	10000		46	62	180	47	38
Cadmium (Cd)	mg/Kg	0.9	5	20	100		<0.9	<0.9	<0.9	<0.9	<0.9
Chrome (Cr)	mg/Kg	45	250	800	4000		13	<10	31	14	13
Cobalt (Co)	mg/Kg	25	50	300	1500		<10	<10	<10	<10	<10
Cuivre (Cu)	mg/Kg	50	100	500	2500		17	<10	20	17	14
Étain (Sn)	mg/Kg	5	50	300	1500		<5.0	<5.0	<5.0	<5.0	<5.0
Manganèse (Mn)	mg/Kg	1000	1000	2200	11000		227	329	366	408	242
Molybdène (Mo)	mg/Kg	6	10	40	200		<1.5	1.5	<1.5	<1.5	<1.5
Nickel (Ni)	mg/Kg	30	100	500	2500		10	<10	19	18	13
Plomb (Pb)	mg/Kg	50	500	1000	5000		19	10	<10	<10	<10
Zinc (Zn)	mg/Kg	120	500	1500	7500		58	26	52	30	23

						No d'échantillon EnvironeX :	4227220	4227223	4227226	4227228	4227232
						Nature :	Sol	Sol	Sol	Sol	Sol
						Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
						Identification de l'échantillon client :	1607-BH6-S S2B	1607-BH7-S S3A	1607-BH8-S S3B	1607-BH9-S S2B	1607-BH10-S S2B
Paramètre	Unité	Critère A	B	C	RESC						
Métaux											
Argent (Ag)	mg/Kg	2	20	40	200		<0.5	<0.5	<0.5	<0.5	<0.5
Arsenic (As)	mg/Kg	10	30	50	250		<1.5	<1.5	2.6	4.3	<1.5
Baryum (Ba)	mg/Kg	200	500	2000	10000		62	29	28	50	46
Cadmium (Cd)	mg/Kg	0.9	5	20	100		<0.9	<0.9	<0.9	<0.9	<0.9
Chrome (Cr)	mg/Kg	45	250	800	4000		26	<10	12	14	14
Cobalt (Co)	mg/Kg	25	50	300	1500		<10	<10	<10	<10	<10
Cuivre (Cu)	mg/Kg	50	100	500	2500		18	<10	15	22	12
Étain (Sn)	mg/Kg	5	50	300	1500		<5.0	<5.0	<5.0	<5.0	<5.0
Manganèse (Mn)	mg/Kg	1000	1000	2200	11000		138	99	292	392	130
Molybdène (Mo)	mg/Kg	6	10	40	200		<1.5	<1.5	<1.5	2.1	<1.5
Nickel (Ni)	mg/Kg	30	100	500	2500		17	<10	14	22	10
Plomb (Pb)	mg/Kg	50	500	1000	5000		<10	<10	<10	<10	<10
Zinc (Zn)	mg/Kg	120	500	1500	7500		28	14	27	32	20

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

					No d'échantillon EnvironeX :	**4227235**	**4227238**	**4227239**		
					Nature :	Sol	Sol	Sol		
					Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16		
					Identification de l'échantillon client :	1607-BH11-S S3B	1607-BH12-S S2B	1607-BH13-S S3B		
Paramètre	**Unité**	**Critère**								
		A	**B**	**C**	**RESC**					
Métaux										
Argent (Ag)	mg/Kg	2	20	40	200	<0.5	<0.5	<0.5		
Arsenic (As)	mg/Kg	10	30	50	250	4.1	<1.5	1.6		
Baryum (Ba)	mg/Kg	200	500	2000	10000	36	40	20		
Cadmium (Cd)	mg/Kg	0.9	5	20	100	<0.9	<0.9	<0.9		
Chrome (Cr)	mg/Kg	45	250	800	4000	17	12	<10		
Cobalt (Co)	mg/Kg	25	50	300	1500	10	<10	<10		
Cuivre (Cu)	mg/Kg	50	100	500	2500	22	11	13		
Étain (Sn)	mg/Kg	5	50	300	1500	<5.0	<5.0	<5.0		
Manganèse (Mn)	mg/Kg	1000	1000	2200	11000	420	86	202		
Molybdène (Mo)	mg/Kg	6	10	40	200	<1.5	<1.5	<1.5		
Nickel (Ni)	mg/Kg	30	100	500	2500	21	<10	<10		
Plomb (Pb)	mg/Kg	50	500	1000	5000	<10	<10	<10		
Zinc (Zn)	mg/Kg	120	500	1500	7500	35	15	14		

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

		Critère								
						No d'échantillon EnvironeX :	4227201	4227219	4227220	4227223	4227226
						Nature :	Sol	Sol	Sol	Sol	Sol
						Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
						Identification de l'échantillon client :	1607-BH4-S S2B	1607-BH5-S S2B	1607-BH6-S S2B	1607-BH7-S S3A	1607-BH8-S S3B
Paramètre	**Unité**	**A**	**B**	**C**	**RESC**						
Benzène	mg/Kg	0.2	0.5	5	5		<0.10	<0.10	<0.10	<0.10	<0.10
Éthylbenzène	mg/Kg	0.2	5	50	50		<0.10	<0.10	<0.10	<0.10	<0.10
Toluène	mg/Kg	0.2	3	30	30		<0.20	<0.20	<0.20	<0.20	<0.20
Xylènes (m+p)	mg/Kg	-	-	-	-		<0.10	<0.10	<0.10	<0.10	<0.10
Xylènes (o)	mg/Kg	-	-	-	-		<0.10	<0.10	<0.10	<0.10	<0.10
Xylènes (sommation)	mg/Kg	0.4	5	50	50		<0.10	<0.10	<0.10	<0.10	<0.10
% de récupération des étalons analogues											
Bromofluorobenzène	%	-	-	-	-		80	106	76	70	83
d4-dichloroéthane	%	-	-	-	-		102	92	84	86	125
d8-toluène	%	-	-	-	-		91	89	83	79	94

		Critère								
						No d'échantillon EnvironeX :	4227228	4227232	4227235	4227238	4227239
						Nature :	Sol	Sol	Sol	Sol	Sol
						Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
						Identification de l'échantillon client :	1607-BH9-S S2B	1607-BH10-S S2B	1607-BH11-S S3B	1607-BH12-S S2B	1607-BH13-S S3B
Paramètre	**Unité**	**A**	**B**	**C**	**RESC**						
Benzène	mg/Kg	0.2	0.5	5	5		<0.10	<0.10	<0.10	<0.10	<0.10
Éthylbenzène	mg/Kg	0.2	5	50	50		<0.10	<0.10	<0.10	<0.10	<0.10
Toluène	mg/Kg	0.2	3	30	30		<0.20	<0.20	<0.20	<0.20	<0.20
Xylènes (m+p)	mg/Kg	-	-	-	-		<0.10	<0.10	<0.10	<0.10	<0.10
Xylènes (o)	mg/Kg	-	-	-	-		<0.10	<0.10	<0.10	<0.10	<0.10
Xylènes (sommation)	mg/Kg	0.4	5	50	50		<0.10	<0.10	<0.10	<0.10	<0.10
% de récupération des étalons analogues											
Bromofluorobenzène	%	-	-	-	-		86	81	93	89	94
d4-dichloroéthane	%	-	-	-	-		125	94	105	106	109
d8-toluène	%	-	-	-	-		93	80	93	89	93

No d'échantillon EnvironeX :		4227193	4227195	4227197	4227201	4227214	4227219	4227220
Nature :		Sol	Sol	Sol	Sol	Sol	Sol	Sol
Date de prélèvement :		2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
Identification de l'échantillon client :		1607-BH1-S S1A	1607-BH2-S S1A	1607-BH3-S S1A	1607-BH4-S S2B	1607-BH5-S S1B	1607-BH5-S S2B	1607-BH6-S S2B
Paramètre	**Unité**							
Pourcentage d'humidité	%	6.9	2.1	10.0	7.0	7.8	11.8	15.0

No d'échantillon EnvironeX :		4227223	4227226	4227228	4227232	4227235	4227238	4227239
Nature :		Sol	Sol	Sol	Sol	Sol	Sol	Sol
Date de prélèvement :		2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
Identification de l'échantillon client :		1607-BH7-S S3A	1607-BH8-S S3B	1607-BH9-S S2B	1607-BH10-S S2B	1607-BH11-S S3B	1607-BH12-S S2B	1607-BH13-S S3B
Paramètre	**Unité**							
Pourcentage d'humidité	%	14.8	6.7	8.1	16.8	9.5	16.2	8.7

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

						No d'échantillon EnvironeX :	4227193	4227195	4227197	4227201	4227214
						Nature :	Sol	Sol	Sol	Sol	Sol
						Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
						Identification de l'échantillon client :	1607-BH1-S S1A	1607-BH2-S S1A	1607-BH3-S S1A	1607-BH4-S S2B	1607-BH5-S S1B
		Critère									
Paramètre	Unité	A	B	C	RESC						
HAP											
Acénaphtène	mg/Kg	0.1	10	100	100		0.42	<0.10	<0.10	<0.10	<0.20
Acénaphthylène	mg/Kg	0.1	10	100	100		<0.10	<0.10	<0.10	<0.10	<0.10
Anthracène	mg/Kg	0.1	10	100	100		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (a) anthracène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (a) pyrène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
benzo (b) fluoranthène	mg/Kg	0.1	1	10	-		<0.10	<0.10	<0.10	<0.10	<0.10
benzo(j)fluoranthène	mg/Kg	0.1	1	10	-		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (k) fluoranthène	mg/Kg	0.1	1	10	-		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (bjk) fluoranthène (Sommation)	mg/Kg	-	-	-	136		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (c) phénanthrène	mg/Kg	0.1	1	10	56		<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (g,h,i) pérylène	mg/Kg	0.1	1	10	18		<0.10	<0.10	<0.10	<0.10	<0.10
Chloro-2-naphtalène (PNA)	mg/Kg	-	-	-	56		<0.10	<0.10	<0.10	<0.10	<0.10
Chrysène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,h) anthracène	mg/Kg	0.1	1	10	82		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,h) pyrène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,i) pyrène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,l) pyrène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
Diméthyl-1,3 naphtalène	mg/Kg	0.1	1	10	56		0.14	<0.10	<0.10	<0.10	0.69
Diméthyl-7,12 benzo (a) anthracène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthène	mg/Kg	0.1	10	100	100		<0.10	<0.10	<0.10	<0.10	<0.10
Fluorène	mg/Kg	0.1	10	100	100		0.29	<0.10	<0.10	<0.10	<0.10
Indéno (1,2,3-cd) pyrène	mg/Kg	0.1	1	10	34		<0.10	<0.10	<0.10	<0.10	<0.10
Méthyl-1 naphtalène	mg/Kg	0.1	1	10	56		0.12	<0.10	<0.10	<0.10	<0.30
Méthyl-2 naphtalène	mg/Kg	0.1	1	10	56		<0.10	<0.10	<0.10	<0.10	0.19
Méthyl-3 cholanthrène	mg/Kg	0.1	1	10	150		<0.10	<0.10	<0.10	<0.10	<0.10
Naphtalène	mg/Kg	0.1	5	50	56		0.15	<0.10	<0.10	<0.10	<0.10
Phénanthrène	mg/Kg	0.1	5	50	56		0.24	<0.10	<0.10	<0.10	0.13
Pyrène	mg/Kg	0.1	10	100	100		<0.10	<0.10	<0.10	<0.10	0.15
Triméthyl-2,3,5 naphtalène	mg/Kg	0.1	1	10	56		<0.10	<0.10	<0.10	<0.10	0.21
% de récupération des étalons analogues											
d10-acénaphtène	%	-	-	-	-		78	79	75	82	91
d10-phénanthrène	%	-	-	-	-		85	72	76	88	78
D14-Dibenzo (a,h) anthracene	%	-	-	-	-		89	77	78	87	82

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

					No d'échantillon EnvironeX :	4227219	4227220	4227223	4227226	4227228
					Nature :	Sol	Sol	Sol	Sol	Sol
					Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
					Identification de l'échantillon client :	1607-BH5-S S2B	1607-BH6-S S2B	1607-BH7-S S3A	1607-BH8-S S3B	1607-BH9-S S2B
		Critère								
Paramètre	Unité	A	B	C	RESC					
HAP										
Acénaphtène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10	<0.10
Acénaphthylène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (a) anthracène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (a) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
benzo (b) fluoranthène	mg/Kg	0.1	1	10	-	<0.10	<0.10	<0.10	<0.10	<0.10
benzo(j)fluoranthène	mg/Kg	0.1	1	10	-	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (k) fluoranthène	mg/Kg	0.1	1	10	-	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (bjk) fluoranthène (Sommation)	mg/Kg	-	-	-	136	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (c) phénanthrène	mg/Kg	0.1	1	10	56	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo (g,h,i) pérylène	mg/Kg	0.1	1	10	18	<0.10	<0.10	<0.10	<0.10	<0.10
Chloro-2-naphtalène (PNA)	mg/Kg	-	-	-	56	<0.10	<0.10	<0.10	<0.10	<0.10
Chrysène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,h) anthracène	mg/Kg	0.1	1	10	82	<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,h) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,i) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,l) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
Diméthyl-1,3 naphtalène	mg/Kg	0.1	1	10	56	4.12	<0.10	<0.10	<0.10	<0.10
Diméthyl-7,12 benzo (a) anthracène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10	<0.10
Fluorène	mg/Kg	0.1	10	100	100	0.29	<0.10	<0.10	<0.10	<0.10
Indéno (1,2,3-cd) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10	<0.10
Méthyl-1 naphtalène	mg/Kg	0.1	1	10	56	2.19	<0.10	<0.10	<0.10	<0.10
Méthyl-2 naphtalène	mg/Kg	0.1	1	10	56	2.17	<0.10	<0.10	<0.10	<0.10
Méthyl-3 cholanthrène	mg/Kg	0.1	1	10	150	<0.10	<0.10	<0.10	<0.10	<0.10
Naphtalène	mg/Kg	0.1	5	50	56	0.22	<0.10	<0.10	<0.10	<0.10
Phénanthrène	mg/Kg	0.1	5	50	56	0.64	<0.10	<0.10	<0.10	<0.10
Pyrène	mg/Kg	0.1	10	100	100	0.11	<0.10	<0.10	<0.10	<0.10
Triméthyl-2,3,5 naphtalène	mg/Kg	0.1	1	10	56	<0.90	<0.10	<0.10	<0.10	<0.10
% de récupération des étalons analogues										
d10-acénaphtène	%	-	-	-	-	78	83	84	85	69
d10-phénanthrène	%	-	-	-	-	83	74	74	75	75
D14-Dibenzo (a,h) anthracene	%	-	-	-	-	80	77	76	76	77

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

					No d'échantillon EnvironeX :	**4227232**	**4227235**	**4227238**	**4227239**
					Nature :	Sol	Sol	Sol	Sol
					Date de prélèvement :	2019-07-16	2019-07-16	2019-07-16	2019-07-16
					Identification de l'échantillon client :	1607-BH10-S S2B	1607-BH11-S S3B	1607-BH12-S S2B	1607-BH13-S S3B
Paramètre	**Unité**	**Critère A**	**B**	**C**	**RESC**				
HAP									
Acénaphtène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10
Acénaphthylène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10
Anthracène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10
Benzo (a) anthracène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
Benzo (a) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
benzo (b) fluoranthène	mg/Kg	0.1	1	10	-	<0.10	<0.10	<0.10	<0.10
benzo(j)fluoranthène	mg/Kg	0.1	1	10	-	<0.10	<0.10	<0.10	<0.10
Benzo (k) fluoranthène	mg/Kg	0.1	1	10	-	<0.10	<0.10	<0.10	<0.10
Benzo (bjk) fluoranthène (Sommation)	mg/Kg	-	-	-	136	<0.10	<0.10	<0.10	<0.10
Benzo (c) phénanthrène	mg/Kg	0.1	1	10	56	<0.10	<0.10	<0.10	<0.10
Benzo (g,h,i) pérylène	mg/Kg	0.1	1	10	18	<0.10	<0.10	<0.10	<0.10
Chloro-2-naphtalène (PNA)	mg/Kg	-	-	-	56	<0.10	<0.10	<0.10	<0.10
Chrysène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,h) anthracène	mg/Kg	0.1	1	10	82	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,h) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,i) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
Dibenzo (a,l) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
Diméthyl-1,3 naphtalène	mg/Kg	0.1	1	10	56	<0.10	<0.10	<0.10	<0.10
Diméthyl-7,12 benzo (a) anthracène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
Fluoranthène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10
Fluorène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10
Indéno (1,2,3-cd) pyrène	mg/Kg	0.1	1	10	34	<0.10	<0.10	<0.10	<0.10
Méthyl-1 naphtalène	mg/Kg	0.1	1	10	56	<0.10	<0.10	<0.10	<0.10
Méthyl-2 naphtalène	mg/Kg	0.1	1	10	56	<0.10	<0.10	<0.10	<0.10
Méthyl-3 cholanthrène	mg/Kg	0.1	1	10	150	<0.10	<0.10	<0.10	<0.10
Naphtalène	mg/Kg	0.1	5	50	56	<0.10	<0.10	<0.10	<0.10
Phénanthrène	mg/Kg	0.1	5	50	56	<0.10	<0.10	<0.10	<0.10
Pyrène	mg/Kg	0.1	10	100	100	<0.10	<0.10	<0.10	<0.10
Triméthyl-2,3,5 naphtalène	mg/Kg	0.1	1	10	56	<0.10	<0.10	<0.10	<0.10
% de récupération des étalons analogues									
d10-acénaphtène	%	-	-	-	-	83	83	79	82
d10-phénanthrène	%	-	-	-	-	74	79	76	78
D14-Dibenzo (a,h) anthracene	%	-	-	-	-	76	81	76	77

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

No d'échantillon EnvironeX :		**4227201**	**4227214**	**4227219**	**4227220**	**4227226**	**4227228**	**4227232**
Nature :		Sol	Sol	Sol	Sol	Sol	Sol	Sol
Date de prélèvement :		2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16	2019-07-16
Identification de l'échantillon client :		1607-BH4-S S2B	1607-BH5-S S1B	1607-BH5-S S2B	1607-BH6-S S2B	1607-BH8-S S3B	1607-BH9-S S2B	1607-BH10-S S2B
Paramètre	**Unité**							
* Hydrocarbures pétroliers	-	Annexe	Annexe	Annexe	Annexe	Annexe	Annexe	Annexe

* Cette analyse a été effectuée en sous-traitance.

No d'échantillon EnvironeX :		**4227235**	**4227238**	**4227239**				
Nature :		Sol	Sol	Sol				
Date de prélèvement :		2019-07-16	2019-07-16	2019-07-16				
Identification de l'échantillon client :		1607-BH11-S S3B	1607-BH12-S S2B	1607-BH13-S S3B				
Paramètre	**Unité**							
* Hydrocarbures pétroliers	-	Annexe	Annexe	Annexe				

* Cette analyse a été effectuée en sous-traitance.

No d'échantillon EnvironeX :					**4227195**			
Nature :					Sol			
Date de prélèvement :					2019-07-16			
Identification de l'échantillon client :					1607-BH2-S S1A			
		Critère						
Paramètre	**Unité**	**A**	**B**	**C**	**RESC**			
Composés phénoliques GCMS								
o-crésol	mg/Kg	0.1	1	10	56	<0.10		
m-crésol	mg/Kg	0.1	1	10	56	<0.10		
p-crésol	mg/Kg	0.1	1	10	56	<0.10		
2,4-diméthylphénol	mg/Kg	0.1	1	10	140	<0.10		
2-nitrophénol	mg/Kg	0.5	1	10	130	<0.50		
4-nitrophénol	mg/Kg	0.5	1	10	290	<0.50		
phénol	mg/Kg	0.2	1	10	62	<0.10		
2-chlorophénol	mg/Kg	0.1	0.5	5	57	<0.10		
3-chlorophénol	mg/Kg	0.1	0.5	5	57	<0.10		
4-chlorophénol	mg/Kg	0.1	0.5	5	57	<0.10		
p-Chloro-m-crésol (PNA)	mg/Kg	-	-	-	140	<0.10		
2,3-dichlorophénol	mg/Kg	0.1	0.5	5	140	<0.10		
2,4+2,5-dichlorophénol	mg/Kg	0.1	0.5	5	140	<0.10		
2,6-dichlorophénol	mg/Kg	0.2	1	10	140	<0.10		
3,4-dichlorophénol	mg/Kg	0.2	1	10	140	<0.10		
3,5-dichlorophénol	mg/Kg	0.2	1	10	140	<0.10		
pentachlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,3,4,5-tétrachlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,3,4,6-tétrachlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,3,5,6-tétrachlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,3,4-trichlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,3,5-trichlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,3,6-trichlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,4,5-trichlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
2,4,6-trichlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
3,4,5-trichlorophénol	mg/Kg	0.1	0.5	5	74	<0.10		
% de récupération des étalons analogues								
d4-2-chlorophénol	%	-	-	-	-	92		
2,4,6-tribromophénol	%	-	-	-	-	114		

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

Échantillons	Commentaires
4227193	Échantillon non-homogène présence de sols, particules métaliques et roches. Résultats reprises As ; 59.8 et 71.4 mg/kg
4227214, 4227219	HAP : LR augmentée due à une interférence.
4227223	L'analyse dans F1-F4 n'a pas pu être effectuée par les sous-traitant en raison d'une trop petite quantité d'échantillon.
4227226, 4227228	L'analyse des COV a été effectuée sur un aliquot de sol prélevé dans un pot ayant été homogénéisé et contenant un espace d'air.

CHIMISTE Kamal Bakhshi 2013-063 QUÉBEC

Kamal Bakhshi, Chimiste Site Longueuil

CERTIFICAT D'ANALYSES OFFICIEL - CONTRÔLE QUALITÉ

Paramètre	Unité	Blanc	LR	MR obtenu %	MR écart acceptable %	Date d'analyse
Métaux	-					
Argent (Ag)	mg/Kg	<0.50	0.5	84.0%	80 - 120%	2019-07-18
Arsenic (As)	mg/Kg	<1.50	1.5	81.6%	80 - 120%	2019-07-18
Baryum (Ba)	mg/Kg	<10.0	10	84.6%	80 - 120%	2019-07-18
Cadmium (Cd)	mg/Kg	<0.90	0.9	84.6%	80 - 120%	2019-07-18
Chrome (Cr)	mg/Kg	<10.0	10	86.8%	80 - 120%	2019-07-18
Cobalt (Co)	mg/Kg	<10.0	10	89.6%	80 - 120%	2019-07-18
Cuivre (Cu)	mg/Kg	<10.0	10	87.2%	80 - 120%	2019-07-18
Étain (Sn)	mg/Kg	<5.00	5	91.2%	80 - 120%	2019-07-18
Manganèse (Mn)	mg/Kg	<10.0	10	87.4%	80 - 120%	2019-07-18
Molybdène (Mo)	mg/Kg	<1.50	1.5	89.4%	80 - 120%	2019-07-18
Nickel (Ni)	mg/Kg	<10.0	10	85.0%	80 - 120%	2019-07-18
Plomb (Pb)	mg/Kg	<10.0	10	90.4%	80 - 120%	2019-07-18
Zinc (Zn)	mg/Kg	<10.0	10	84.2%	80 - 120%	2019-07-18
Échantillons EnvironeX associés : **4227193, 4227195, 4227197, 4227201, 4227219, 4227220, 4227223, 4227226, 4227228, 4227232, 4227235, 4227238, 4227239**						
HAP	-					
Acénaphtène	mg/Kg	<0.10	0.1	108%	60 - 140%	2019-07-18
Acénaphthylène	mg/Kg	<0.10	0.1	110%	60 - 140%	2019-07-18
Anthracène	mg/Kg	<0.10	0.1	98.8%	60 - 140%	2019-07-18
Benzo (a) anthracène	mg/Kg	<0.10	0.1	101%	60 - 140%	2019-07-18
Benzo (a) pyrène	mg/Kg	<0.10	0.1	112%	60 - 140%	2019-07-18
benzo (b) fluoranthène	mg/Kg	<0.10	0.1	93.6%	60 - 140%	2019-07-18
benzo(j)fluoranthène	mg/Kg	<0.10	0.1	104%	60 - 140%	2019-07-18
Benzo (k) fluoranthène	mg/Kg	<0.10	0.1	111%	60 - 140%	2019-07-18
Benzo (c) phénanthrène	mg/Kg	<0.10	0.1	98.6%	60 - 140%	2019-07-18
Benzo (g,h,i) pérylène	mg/Kg	<0.10	0.1	108%	60 - 140%	2019-07-18
Chloro-2-naphtalène (PNA)	mg/Kg	<0.10	0.1	95.5%	60 - 140%	2019-07-18
Chrysène	mg/Kg	<0.10	0.1	108%	60 - 140%	2019-07-18
Dibenzo (a,h) anthracène	mg/Kg	<0.10	0.1	103%	60 - 140%	2019-07-18
Dibenzo (a,h) pyrène	mg/Kg	<0.10	0.1	108%	60 - 140%	2019-07-18
Dibenzo (a,i) pyrène	mg/Kg	<0.10	0.1	97.0%	60 - 140%	2019-07-18
Dibenzo (a,l) pyrène	mg/Kg	<0.10	0.1	91.1%	60 - 140%	2019-07-18
Diméthyl-1,3 naphtalène	mg/Kg	<0.10	0.1	100%	60 - 140%	2019-07-18
Diméthyl-7,12 benzo (a) anthracène	mg/Kg	<0.10	0.1	134%	60 - 140%	2019-07-18
Fluoranthène	mg/Kg	<0.10	0.1	101%	60 - 140%	2019-07-18
Fluorène	mg/Kg	<0.10	0.1	99.3%	60 - 140%	2019-07-18
Indéno (1,2,3-cd) pyrène	mg/Kg	<0.10	0.1	103%	60 - 140%	2019-07-18
Méthyl-1 naphtalène	mg/Kg	<0.10	0.1	102%	60 - 140%	2019-07-18
Méthyl-2 naphtalène	mg/Kg	<0.10	0.1	70.5%	60 - 140%	2019-07-18
Méthyl-3 cholanthrène	mg/Kg	<0.10	0.1	99.2%	60 - 140%	2019-07-18
Naphtalène	mg/Kg	<0.10	0.1	95.7%	60 - 140%	2019-07-18
Phénanthrène	mg/Kg	<0.10	0.1	95.2%	60 - 140%	2019-07-18
Pyrène	mg/Kg	<0.10	0.1	112%	60 - 140%	2019-07-18
Triméthyl-2,3,5 naphtalène	mg/Kg	<0.10	0.1	109%	60 - 140%	2019-07-18
% de récupération des étalons analogues	-	-		-		2019-07-18
d10-acénaphtène	%	91		84%	60 - 130%	2019-07-18
d10-phénanthrène	%	87		74%	60 - 130%	2019-07-18
D14-Dibenzo (a,h) anthracene	%	93		78%		2019-07-18

CERTIFICAT D'ANALYSES OFFICIEL - CONTRÔLE QUALITÉ

Paramètre	Unité	Blanc	LR	MR obtenu %	MR écart acceptable %	Date d'analyse
Échantillons EnvironeX associés : **4227193, 4227195, 4227197, 4227201, 4227214, 4227219, 4227220, 4227223, 4227226, 4227228, 4227232, 4227235, 4227238. 4227239**						
Composés phénoliques GCMS	-					
o-crésol	mg/Kg	<0.10	0.1	83.9%	70 - 130%	2019-07-19
m-crésol	mg/Kg	<0.10	0.1	106%	70 - 130%	2019-07-19
p-crésol	mg/Kg	<0.10	0.1	88.6%	70 - 130%	2019-07-19
2,4-diméthylphénol	mg/Kg	<0.10	0.1	70.0%	70 - 130%	2019-07-19
2-nitrophénol	mg/Kg	<0.50	0.5	109%	70 - 130%	2019-07-19
4-nitrophénol	mg/Kg	<0.50	0.5	120%	70 - 130%	2019-07-19
phénol	mg/Kg	<0.10	0.1	125%	70 - 130%	2019-07-19
2-chlorophénol	mg/Kg	<0.10	0.1	96.5%	70 - 130%	2019-07-19
3-chlorophénol	mg/Kg	<0.10	0.1	101%	70 - 130%	2019-07-19
4-chlorophénol	mg/Kg	<0.10	0.1	95.7%	70 - 130%	2019-07-19
p-Chloro-m-crésol (PNA)	mg/Kg	<0.10	0.1	92.3%	70 - 130%	2019-07-19
2,3-dichlorophénol	mg/Kg	<0.10	0.1	85.9%	70 - 130%	2019-07-19
2,4+2,5-dichlorophénol	mg/Kg	<0.10	0.1	103%	70 - 130%	2019-07-19
2,6-dichlorophénol	mg/Kg	<0.10	0.1	95.0%	70 - 130%	2019-07-19
3,4-dichlorophénol	mg/Kg	<0.10	0.1	98.9%	70 - 130%	2019-07-19
3,5-dichlorophénol	mg/Kg	<0.10	0.1	88.1%	70 - 130%	2019-07-19
pentachlorophénol	mg/Kg	<0.10	0.1	86.3%	70 - 130%	2019-07-19
2,3,4,5-tétrachlorophénol	mg/Kg	<0.10	0.1	99.0%	70 - 130%	2019-07-19
2,3,4,6-tétrachlorophénol	mg/Kg	<0.10	0.1	97.2%	70 - 130%	2019-07-19
2,3,5,6-tétrachlorophénol	mg/Kg	<0.10	0.1	81.6%	70 - 130%	2019-07-19
2,3,4-trichlorophénol	mg/Kg	<0.10	0.1	91.8%	70 - 130%	2019-07-19
2,3,5-trichlorophénol	mg/Kg	<0.10	0.1	82.3%	70 - 130%	2019-07-19
2,3,6-trichlorophénol	mg/Kg	<0.10	0.1	84.4%	70 - 130%	2019-07-19
2,4,5-trichlorophénol	mg/Kg	<0.10	0.1	93.0%	70 - 130%	2019-07-19
2,4,6-trichlorophénol	mg/Kg	<0.10	0.1	90.3%	70 - 130%	2019-07-19
3,4,5-trichlorophénol	mg/Kg	<0.10	0.1	78.4%	70 - 130%	2019-07-19
% de récupération des étalons analogues	-					
d4-2-chlorophénol	%	94		109%	70 - 130%	2019-07-19
2,4,6-tribromophénol	%	112		103%	70 - 130%	2019-07-19
Échantillons EnvironeX associés : **4227195**						
Benzène	mg/Kg	<0.10	0.1	111%	60 - 140%	2019-07-19
Éthylbenzène	mg/Kg	<0.10	0.1	77.3%	60 - 140%	2019-07-19
Toluène	mg/Kg	<0.20	0.2	114%	60 - 140%	2019-07-19
Xylènes (m+p)	mg/Kg	<0.10	0.1	96.0%	60 - 140%	2019-07-19
Xylènes (o)	mg/Kg	<0.10	0.1	111%	60 - 140%	2019-07-19
Xylènes (sommation)	mg/Kg	<0.10	0.1	101%	60 - 140%	2019-07-19
% de récupération des étalons analogues	-					
Bromofluorobenzène	%	81		121%	50 - 130%	2019-07-19
d4-dichloroéthane	%	95		90%	50 - 130%	2019-07-19
d8-toluène	%	90		103%	50 - 130%	2019-07-19
Échantillons EnvironeX associés : **4227201, 4227219, 4227220, 4227223**						

CERTIFICAT D'ANALYSES OFFICIEL - CONTRÔLE QUALITÉ

Paramètre	Unité	Blanc	LR	MR obtenu %	MR écart acceptable %	Date d'analyse
Benzène	mg/Kg	<0.10	0.1	111%	60 - 140%	2019-07-19
Éthylbenzène	mg/Kg	<0.10	0.1	77.3%	60 - 140%	2019-07-19
Toluène	mg/Kg	<0.20	0.2	114%	60 - 140%	2019-07-19
Xylènes (m+p)	mg/Kg	<0.10	0.1	96.0%	60 - 140%	2019-07-19
Xylènes (o)	mg/Kg	<0.10	0.1	111%	60 - 140%	2019-07-19
Xylènes (sommation)	mg/Kg	<0.10	0.1	101%	60 - 140%	2019-07-19
% de récupération des étalons analogues	-					
Bromofluorobenzène	%	81		121%	50 - 130%	2019-07-19
d4-dichloroéthane	%	95		90%	50 - 130%	2019-07-19
d8-toluène	%	90		103%	50 - 130%	2019-07-19
Échantillons EnvironeX associés : **4227226, 4227228**						
Benzène	mg/Kg	<0.10	0.1	114%	60 - 140%	2019-07-19
Éthylbenzène	mg/Kg	<0.10	0.1	109%	60 - 140%	2019-07-19
Toluène	mg/Kg	<0.20	0.2	114%	60 - 140%	2019-07-19
Xylènes (m+p)	mg/Kg	<0.10	0.1	104%	60 - 140%	2019-07-19
Xylènes (o)	mg/Kg	<0.10	0.1	106%	60 - 140%	2019-07-19
Xylènes (sommation)	mg/Kg	<0.10	0.1	105%	60 - 140%	2019-07-19
% de récupération des étalons analogues	-					
Bromofluorobenzène	%	92		97%	50 - 130%	2019-07-19
d4-dichloroéthane	%	104		107%	50 - 130%	2019-07-19
d8-toluène	%	89		94%	50 - 130%	2019-07-19
Échantillons EnvironeX associés : **4227232, 4227235, 4227238, 4227239**						

Paramètre	Unité	Échantillon associé	Duplicata	Écart	DUP 1	DUP 2	DUP 3
Métaux	-						
Argent (Ag)	mg/Kg	<0.50	<0.50	N/A			
Arsenic (As)	mg/Kg	4.1	3.74	9.18%			
Baryum (Ba)	mg/Kg	36	33.5	6.36%			
Cadmium (Cd)	mg/Kg	<0.90	<0.90	N/A			
Chrome (Cr)	mg/Kg	17	15.9	7.85%			
Cobalt (Co)	mg/Kg	10	<10.0	N/A			
Cuivre (Cu)	mg/Kg	22	20.3	9.39%			
Étain (Sn)	mg/Kg	<5.00	<5.00	N/A			
Manganèse (Mn)	mg/Kg	420	379	10.3%			
Molybdène (Mo)	mg/Kg	<1.50	<1.50	N/A			
Nickel (Ni)	mg/Kg	21	19.4	8.40%			
Plomb (Pb)	mg/Kg	<10.0	<10.0	N/A			
Zinc (Zn)	mg/Kg	35	33.2	6.41%			
Numéros d'échantillons EnvironeX associés : **4227235**							
HAP	-						
Acénaphtène	mg/Kg	<0.10	<0.10	N/A			
Acénaphthylène	mg/Kg	<0.10	<0.10	N/A			
Anthracène	mg/Kg	<0.10	<0.10	N/A			
Benzo (a) anthracène	mg/Kg	<0.10	<0.10	N/A			
Benzo (a) pyrène	mg/Kg	<0.10	<0.10	N/A			
benzo (b) fluoranthène	mg/Kg	<0.10	<0.10	N/A			
benzo(j)fluoranthène	mg/Kg	<0.10	<0.10	N/A			
Benzo (k) fluoranthène	mg/Kg	<0.10	<0.10	N/A			
Benzo (bjk) fluoranthène (Sommation)	mg/Kg	<0.10	<0.10	N/A			
Benzo (c) phénanthrène	mg/Kg	<0.10	<0.10	N/A			
Benzo (g,h,i) pérylène	mg/Kg	<0.10	<0.10	N/A			
Chloro-2-naphtalène (PNA)	mg/Kg	<0.10	<0.10	N/A			
Chrysène	mg/Kg	<0.10	<0.10	N/A			
Dibenzo (a,h) anthracène	mg/Kg	<0.10	<0.10	N/A			
Dibenzo (a,h) pyrène	mg/Kg	<0.10	<0.10	N/A			
Dibenzo (a,i) pyrène	mg/Kg	<0.10	<0.10	N/A			
Dibenzo (a,l) pyrène	mg/Kg	<0.10	<0.10	N/A			
Diméthyl-1,3 naphtalène	mg/Kg	<0.10	<0.10	N/A			
Diméthyl-7,12 benzo (a) anthracène	mg/Kg	<0.10	<0.10	N/A			
Fluoranthène	mg/Kg	<0.10	<0.10	N/A			
Fluorène	mg/Kg	<0.10	<0.10	N/A			
Indéno (1,2,3-cd) pyrène	mg/Kg	<0.10	<0.10	N/A			
Méthyl-1 naphtalène	mg/Kg	<0.10	<0.10	N/A			
Méthyl-2 naphtalène	mg/Kg	<0.10	<0.10	N/A			
Méthyl-3 cholanthrène	mg/Kg	<0.10	<0.10	N/A			
Naphtalène	mg/Kg	<0.10	<0.10	N/A			
Phénanthrène	mg/Kg	<0.10	<0.10	N/A			
Pyrène	mg/Kg	<0.10	<0.10	N/A			
Triméthyl-2,3,5 naphtalène	mg/Kg	<0.10	<0.10	N/A			
% de récupération des étalons analogues	-	-					
Numéros d'échantillons EnvironeX associés : **4227232**							

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CERTIFICAT D'ANALYSES OFFICIEL : M1643604-V1

DEMANDE D'ANALYSE :134393

Date d'émission du certificat : 2020-01-29

LE GROUPE ORTAM
5675, avenue Royalmount, Suite # 200
Mont-Royal, Québec
H4P 1K3
Attention : Bruce Malka

Date de réception : 2020-01-17
Nom et no projet : 13246
Nom du préleveur : Jean-Sébastien Benoit
Bon de commande :

Analyses	Quantité	Méthode de référence	Méthode interne
Granulo et sédimentométrie	1	Externe	Externe

Notes :

- Ce certificat d'analyse est la seule référence valide et les résultats présentés ont préséance en cas de différence avec tous autres documents transmis .
- Tous les résultats d'analyses provenant de matrice solide sont calculés sur une base sèche , à moins d'avis contraire.
- Les critères présentés sur ce certificat, le cas échéant, ainsi que la comparaison des résultats d'analyses à ceux-ci est à titre indicatif seulement. De plus, les critères ABC se réfèrent aux critères du secteur Basses-Terres du Saint-Laurent, à moins d'avis contraire.
- Groupe EnvironeX détient toutes les accréditations requises pour l'analyse des paramètres présentés sur ce certificat, à moins d'avis contraire.

Légende :

LR : Limite rapportée
MR : Matériaux de référence
N/A : Non applicable
PNA : Paramètre non accrédité
TNI : Colonies trop nombreuses pour être identifiées
TNC : Colonies trop nombreuses pour être comptées
Méthode Interne : CHM ou MBIO (méthodes QC) ; ILCE ou ILME (méthodes LG)

[1] Analyse réalisée par EnvironeX Québec
[2] Analyse réalisée par EnvironeX Longueuil
[3] Résultats en annexe
* Analyse réalisée en sous-traitance externe

CERTIFICAT D'ANALYSES OFFICIEL - RÉSULTATS

No d'échantillon EnvironeX :		**4450788**						
Nature :		Sol						
Date de prélèvement :		2020-01-16						
Identification de l'échantillon client :		1602-BH7-S S3A						
Paramètre	**Unité**							
² Granulo-sédimento (PNA)	-	Annexe						

² Cette analyse a été effectuée à notre laboratoire du 2350 Chemin du Lac à Longueuil.

Leila Gholami, Chimiste, Site Longueuil

CHIMISTE Leila Gholami 2017011 QUÉBEC

Certificat d'analyse sols final

Entreprise : **290403-002**

Groupe EnvironeX
Division Longueuil
2350, Chemin du Lac
Longueuil (Québec)
J4N 1G8

Client : **100000**

Groupe EnvironeX /
Division Longueuil
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No Certificat : **COA-257493**

Émission originale : 28-01-2020
Émis le : 28-01-2020
Demandeur : **soustraitance stlongueuil@labenvironex.com**
Bon de commande : 4450792

No Échantillon	Description	Identification	Échantillonné le	Reçu le
649048	**Catégorie sol**	**4450788 - sol**	**16-01-2020**	**23-01-2020**

Paramètre	Résultat
Granulométrie	ci-joint

Description

La création de l'histogramme est basé sur le guide de référence en fertilisation du CRAAQ, 2ème édition 2010.
https://www.craaq.qc.ca/ https://www.iso.org/home/standards/popular-standards/isoiec-17025-testing-and-calibra.html
*accrédité ISO/CEI 17025 **Résultats sur base sèche

Approuvé par :
Rabeb Jebali, B. Biochimie.
Chimiste, site de Longueuil.

CHIMISTE Rabeb Jebali 2019-032 QUÉBEC

GROUPE EnvironeX
Emblème de qualité de vie

Échantillon : 649048
Date : 2020-01-22

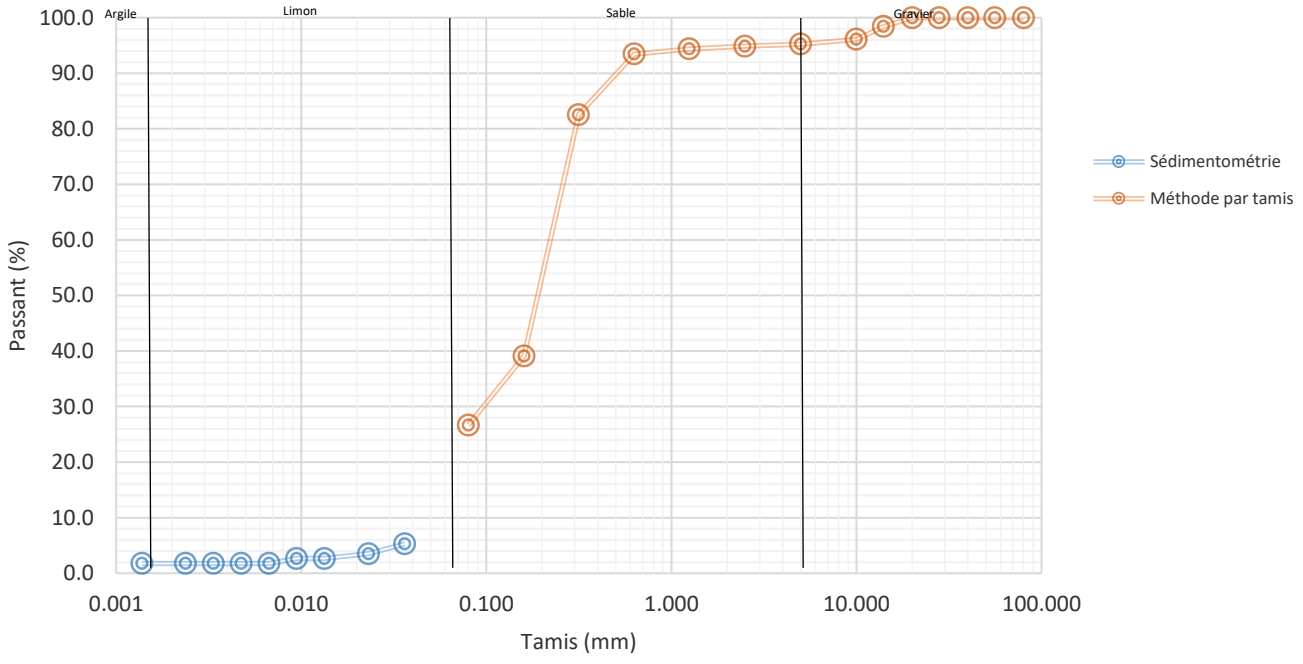
Teneur en eau : 17 %
Diamètre apparent : <10 mm

Méthode par tamis			
Tamis (mm)	Refus (%)	Refus cum. (%)	Passant (%)
80	0.0	0.0	100.0
56	0.0	0.0	100.0
40	0.0	0.0	100.0
28	0.0	0.0	100.0
20	0.0	0.0	100.0
14	1.6	1.6	98.4
10	2.3	3.9	96.1
5	0.9	4.8	95.2
2.5	0.4	5.1	94.9
1.25	0.5	5.6	94.4
0.63	1.0	6.5	93.5
0.315	11.5	17.5	82.5
0.16	45.6	60.9	39.1
0.08	13.0	73.3	26.7

Sédimentométrie		
Point de lecture	Diamètre éq. (mm)	Passant (%)
R_2	0.036	5.3
R_5	0.023	3.5
R_{15}	0.013	2.6
R_{30}	0.009	2.6
R_{60}	0.007	1.8
R_{120}	0.005	1.8
R_{240}	0.003	1.8
R_{480}	0.002	1.8
R_{1440}	0.001	1.8

	Composition (%)
Gravier (> 5 mm)	4.8
Sable (de 0.08 à 5 mm)	68.6
Limon et argile (< 0.08 mm)	26.7

Courbe granulométrique



EnvironeX Group (Longueuil)
ATTN: Sophie Viens
2350, Chemin du Lac
Longueuil QC J4N 1N7

Date Received: 19-JUL-19
Report Date: 30-JUL-19 14:31 (MT)
Version: FINAL

Client Phone: --

Certificate of Analysis

Lab Work Order #: L2313216

Project P.O. #: 4227201
Job Reference:
C of C Numbers:
Legal Site Desc:

Emily Smith
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2313216-1 4227201 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	7.39		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	<5.0	VOCJ	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	<10		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	95.5		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	108.9		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-2 4227214 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	6.00		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F2 (C10-C16)	186		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	1280		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	301		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	90.2		60-140	%	19-JUL-19	22-JUL-19	R4720669
L2313216-3 4227219 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	11.6		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	5.3	VOCJ	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	288		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	220		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	513		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	96.6		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	101.0		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-4 4227220 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	15.4		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	<5.0	VOCJ	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	<10		10	ug/g	19-JUL-19	22-JUL-19	R4720669

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2313216-4 4227220 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Hydrocarbons							
F3 (C16-C34)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	90.7		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	105.0		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-6 4227226 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	7.30		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	<5.0	VOCN	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	<10		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	94.9		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	101.9		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-7 4227228 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	8.01		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	5.7	VOCN	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	36		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	52		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	94		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	91.3		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	124.1		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-8 4227232 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	17.6		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	<5.0	VOCJ	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	<10		10	ug/g	19-JUL-19	23-JUL-19	R4720669
F3 (C16-C34)	<50		50	ug/g	19-JUL-19	23-JUL-19	R4720669

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2313216-8 4227232 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Hydrocarbons							
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	23-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	23-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	87.0		60-140	%	19-JUL-19	23-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	104.1		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-9 4227235 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	10.2		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	<5.0	VOCJ	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	<10		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	91.1		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	109.2		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-10 4227238 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	13.0		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	<5.0	VOCN	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	<10		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	95.2		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	116.6		60-140	%	25-JUL-19	26-JUL-19	R4727721
L2313216-11 4227239 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	8.04		0.10	%	19-JUL-19	20-JUL-19	R4719551
Hydrocarbons							
F1 (C6-C10)	<5.0	VOCJ	5.0	ug/g	25-JUL-19	26-JUL-19	R4727721
F2 (C10-C16)	<10		10	ug/g	19-JUL-19	22-JUL-19	R4720669
F3 (C16-C34)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669
F4 (C34-C50)	<50		50	ug/g	19-JUL-19	22-JUL-19	R4720669

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2313216-11 4227239 Sampled By: CLIENT on 16-JUL-19 Matrix: SOIL							
Hydrocarbons							
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-JUL-19	
Chrom. to baseline at nC50	YES				19-JUL-19	22-JUL-19	R4720669
Surrogate: 2-Bromobenzotrifluoride	88.0		60-140	%	19-JUL-19	22-JUL-19	R4720669
Surrogate: 3,4-Dichlorotoluene	97.9		60-140	%	25-JUL-19	26-JUL-19	R4727721

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
VOCJ	Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
VOCN	Non-ALS methanol preservative vial submitted with VOC soil sample. Purity and volume of methanol cannot be verified by ALS. Reported test results assume a 10.0 mL volume of methanol.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
F1-F4-511-CALC-WT	Soil	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-F4-CALC-WT Soil CCME Total Hydrocarbons CCME CWS-PHC, Pub #1310, Dec 2001-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT Soil F1-O.Reg 153/04 (July 2011) E3398/CCME TIER 1-HS

Fraction F1 is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT Soil F2-F4-O.Reg 153/04 (July 2011) CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from soil with 1:1 hexane:acetone using a rotary extractor. Extracts are treated with silica gel to remove polar organic interferences. F2, F3, & F4 are analyzed by GC-FID. F4G-sg is analyzed gravimetrically.

Notes:
1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.

Reference Information

4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where both F4 (C34-C50) and F4G-sg are reported for a sample, the larger of the two values is used for comparison against the relevant CCME guideline for F4.
7. F4G-sg cannot be added to the C6 to C50 hydrocarbon results to obtain an estimate of total extractable hydrocarbons.
8. This method is validated for use.
9. Data from analysis of validation and quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram, unless otherwise indicated.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-WT Soil F2-F4 (O.Reg.153/04) CCME Tier 1

A sub-sample of the solid sample is extracted with a solvent mixture. Following extraction, the sample extract is treated in situ with Silica Gel analyzed by GC/FID.

The F2 fraction is determined by integrating the area in the chromatogram from the apex of nC10 to the apex nC16 and quantitating using external calibration using a standard mix containing nC10, nC16 and nC34. Similarly, the F3 fraction extends from the apex of nC16 to the apex nC34 and the F4 fraction covers the area from the apex nC34 to the apex nC50. If the chromatogram does not return to the baseline by the time nC50 elutes, a gravimetric determination of the F4 is performed.

MOISTURE-WT Soil % Moisture CCME PHC in Soil - Tier 1 (mod)

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2313216 Report Date: 30-JUL-19

Client: EnvironeX Group (Longueuil)
2350, Chemin du Lac
Longueuil QC J4N 1N7
Contact: Sophie Viens

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Soil**							
Batch R4727721								
WG3114819-4 DUP		**WG3114819-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	26-JUL-19
WG3114819-2 LCS								
F1 (C6-C10)			110.5		%		80-120	26-JUL-19
WG3114819-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	26-JUL-19
Surrogate: 3,4-Dichlorotoluene			121.9		%		60-140	26-JUL-19
WG3114819-6 MS		**L2314634-2**						
F1 (C6-C10)			107.8		%		60-140	26-JUL-19
F2-F4-511-WT	**Soil**							
Batch R4720669								
WG3110073-3 DUP		**WG3110073-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	22-JUL-19
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
WG3110073-7 DUP		**WG3110073-6**						
F2 (C10-C16)		31	15	J	ug/g	16	20	22-JUL-19
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
WG3110073-9 DUP		**WG3110073-8**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	22-JUL-19
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
WG3110073-2 LCS								
F2 (C10-C16)			105.5		%		80-120	22-JUL-19
F3 (C16-C34)			106.0		%		80-120	22-JUL-19
F4 (C34-C50)			105.7		%		80-120	22-JUL-19
WG3110073-1 MB								
F2 (C10-C16)			<10		ug/g		10	22-JUL-19
F3 (C16-C34)			<50		ug/g		50	22-JUL-19
F4 (C34-C50)			<50		ug/g		50	22-JUL-19
Surrogate: 2-Bromobenzotrifluoride			94.8		%		60-140	22-JUL-19
WG3110073-4 MS		**WG3110073-5**						
F2 (C10-C16)			107.0		%		60-140	22-JUL-19
F3 (C16-C34)			105.6		%		60-140	22-JUL-19
F4 (C34-C50)			108.7		%		60-140	22-JUL-19

Quality Control Report

Client: EnvironeX Group (Longueuil)
2350, Chemin du Lac
Longueuil QC J4N 1N7
Contact: Sophie Viens

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-WT	**Soil**							
Batch R4720669								
WG3110073-3 DUP		**WG3110073-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	22-JUL-19
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
WG3110073-7 DUP		**WG3110073-6**						
F2 (C10-C16)		31	15	J	ug/g	16	20	22-JUL-19
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
WG3110073-9 DUP		**WG3110073-8**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	22-JUL-19
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	22-JUL-19
WG3110073-2 LCS								
F2 (C10-C16)			105.5		%		80-120	22-JUL-19
F3 (C16-C34)			106.0		%		80-120	22-JUL-19
F4 (C34-C50)			105.7		%		80-120	22-JUL-19
WG3110073-1 MB								
F2 (C10-C16)			<10		ug/g		10	22-JUL-19
F3 (C16-C34)			<50		ug/g		50	22-JUL-19
F4 (C34-C50)			<50		ug/g		50	22-JUL-19
Surrogate: 2-Bromobenzotrifluoride			94.8		%		60-140	22-JUL-19
WG3110073-4 MS		**WG3110073-5**						
F2 (C10-C16)			107.0		%		50-150	22-JUL-19
F3 (C16-C34)			105.6		%		50-150	22-JUL-19
F4 (C34-C50)			108.7		%		50-150	22-JUL-19
MOISTURE-WT	**Soil**							
Batch R4719551								
WG3109973-3 DUP		**L2312326-20**						
% Moisture		10.8	9.88		%	8.9	20	20-JUL-19
WG3109973-2 LCS								
% Moisture			100.5		%		90-110	20-JUL-19
WG3109973-1 MB								
% Moisture			<0.10		%		0.1	20-JUL-19

Quality Control Report

Workorder: L2313216 Report Date: 30-JUL-19

Client: EnvironeX Group (Longueuil)
2350, Chemin du Lac
Longueuil QC J4N 1N7
Contact: Sophie Viens

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

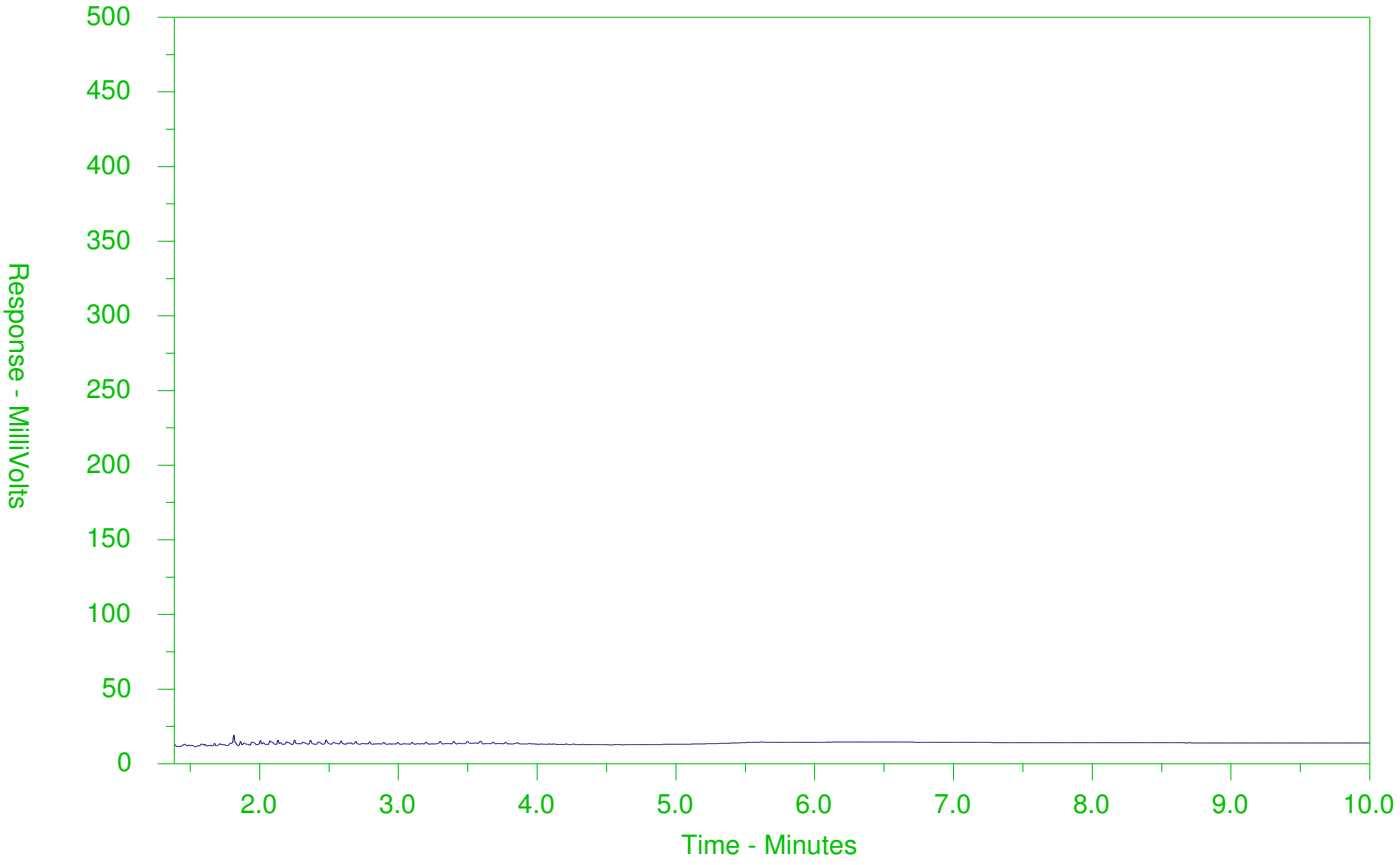
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-1
Client Sample ID: 4227201



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

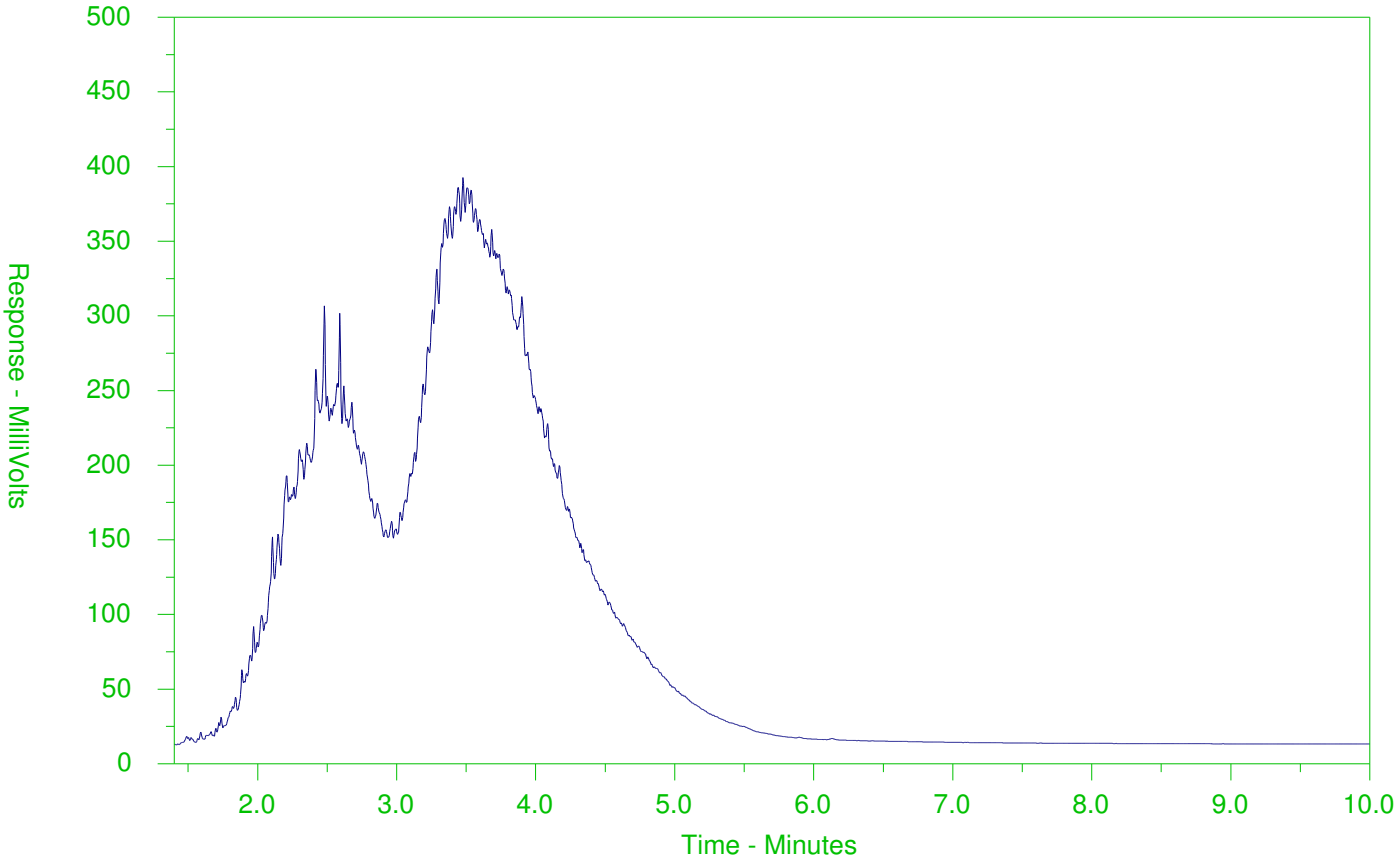
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-2
Client Sample ID: 4227214



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

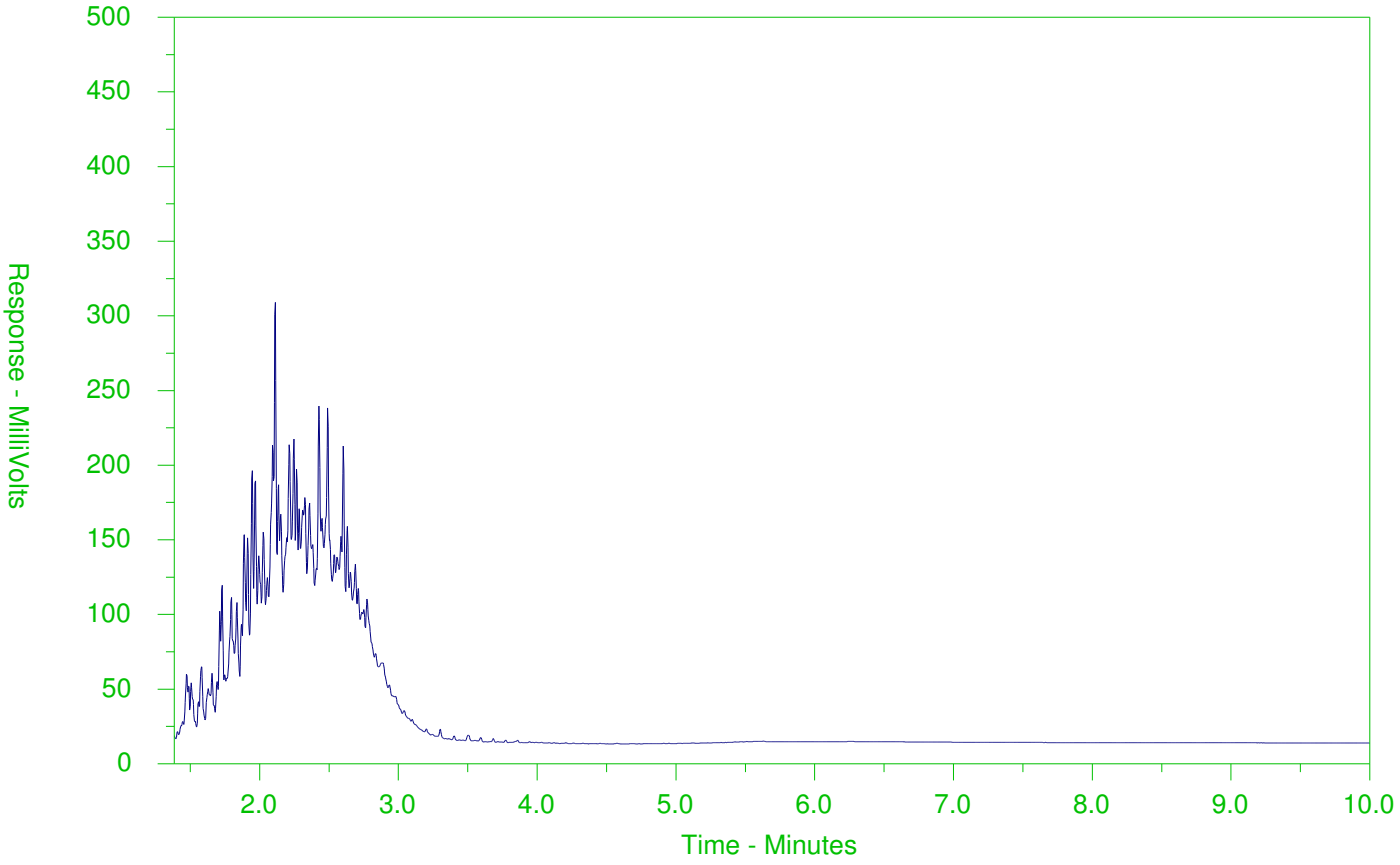
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-3
Client Sample ID: 4227219



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

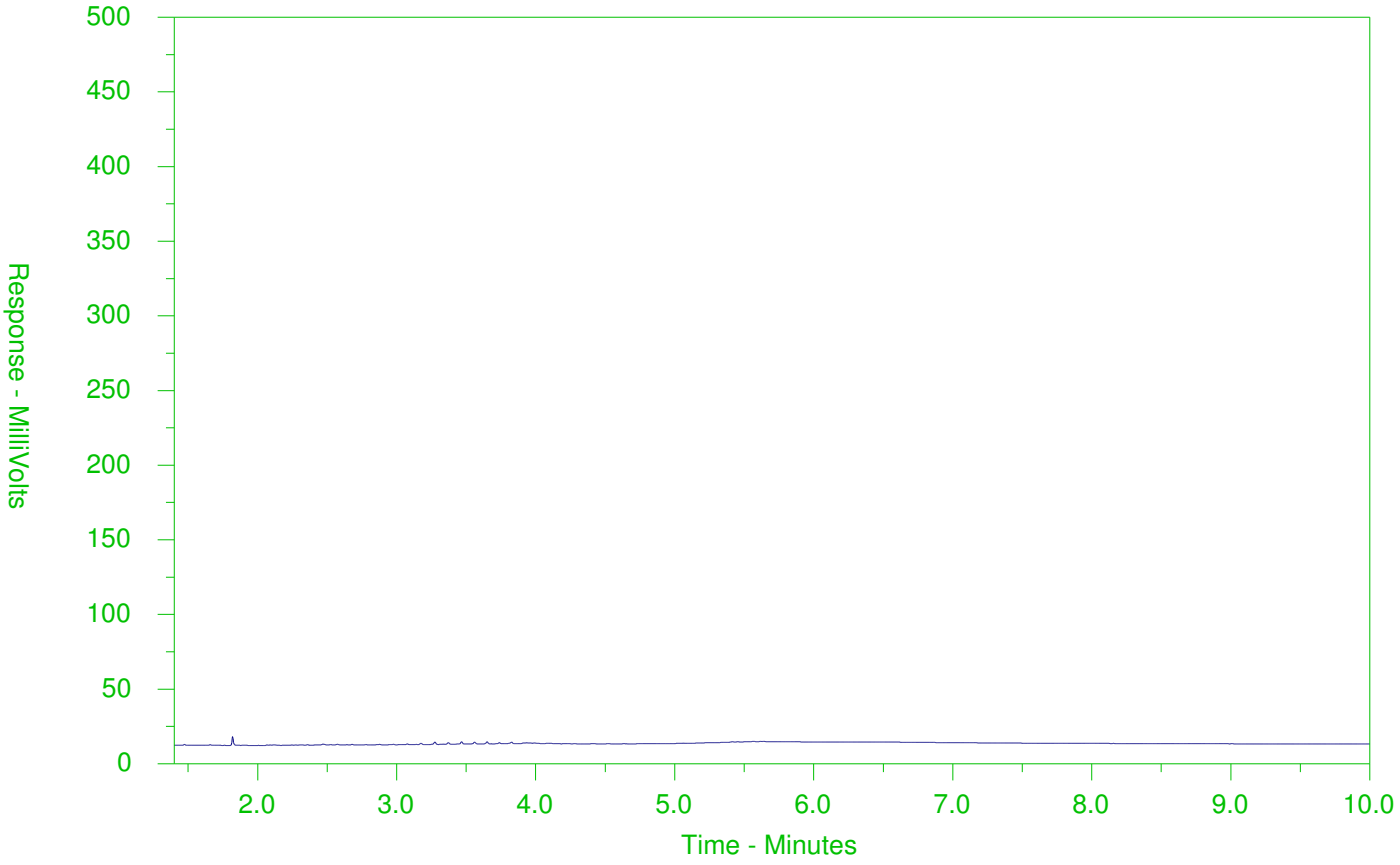
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-4
Client Sample ID: 4227220



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

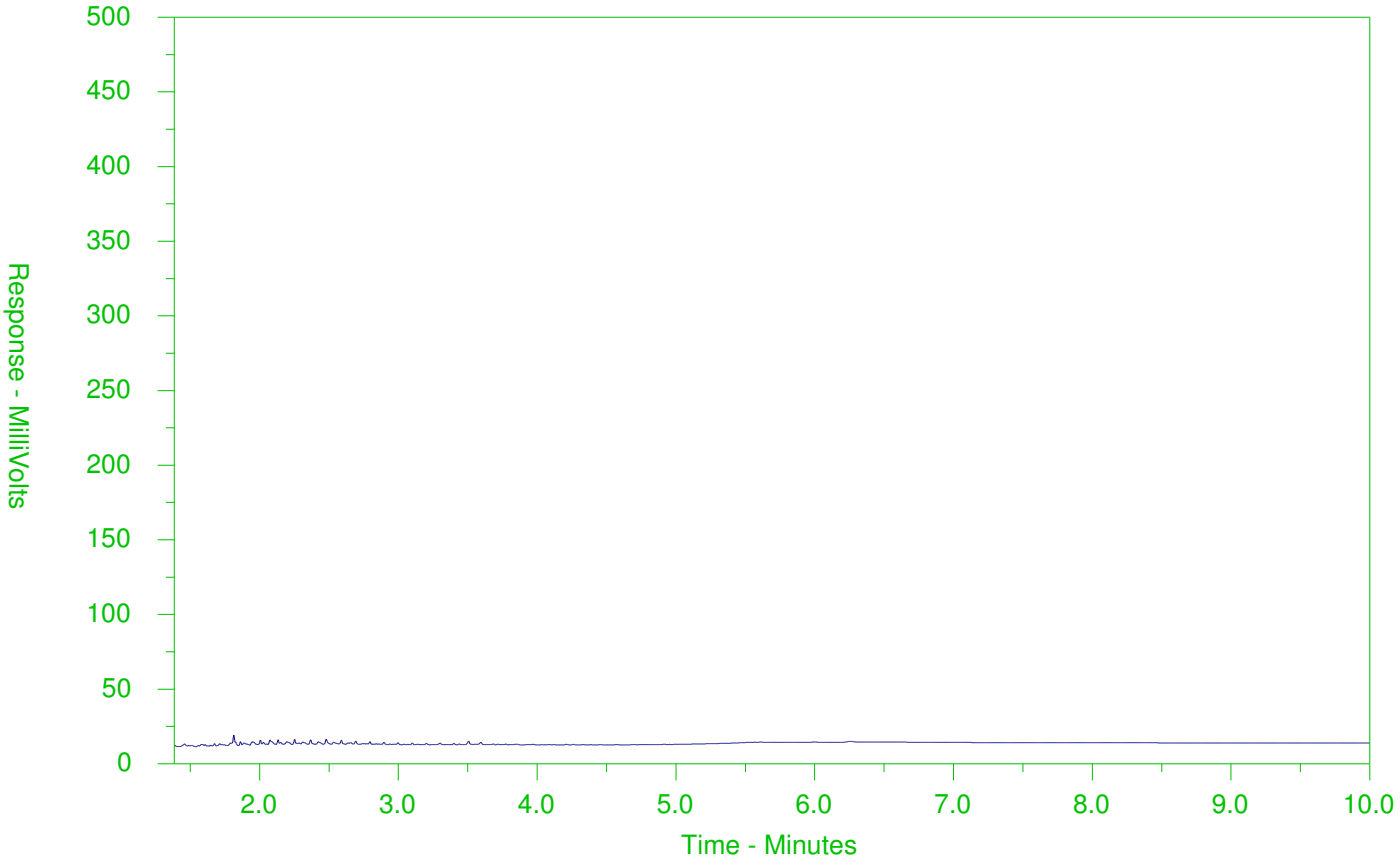
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-6
Client Sample ID: 4227226



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

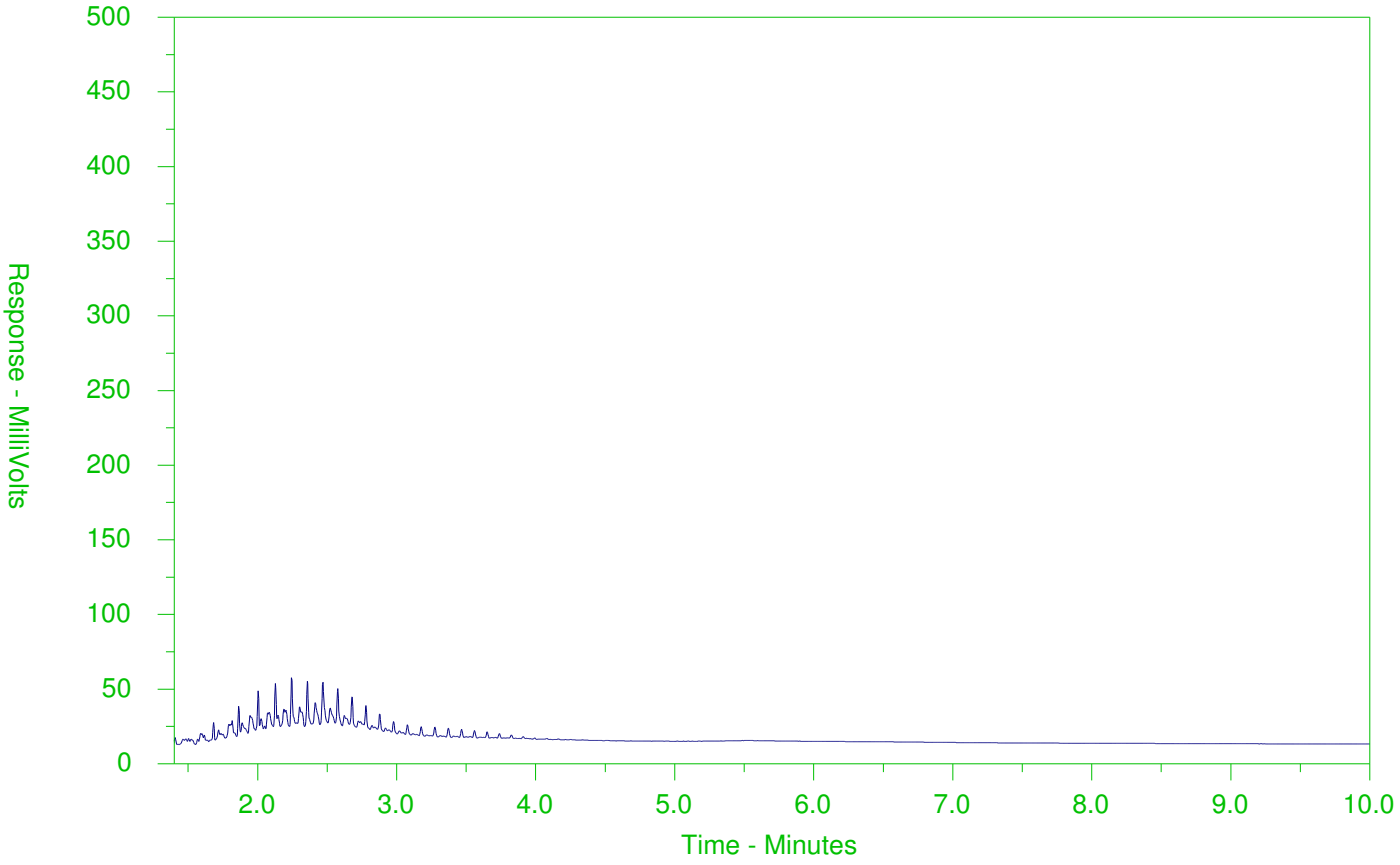
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-7
Client Sample ID: 4227228



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

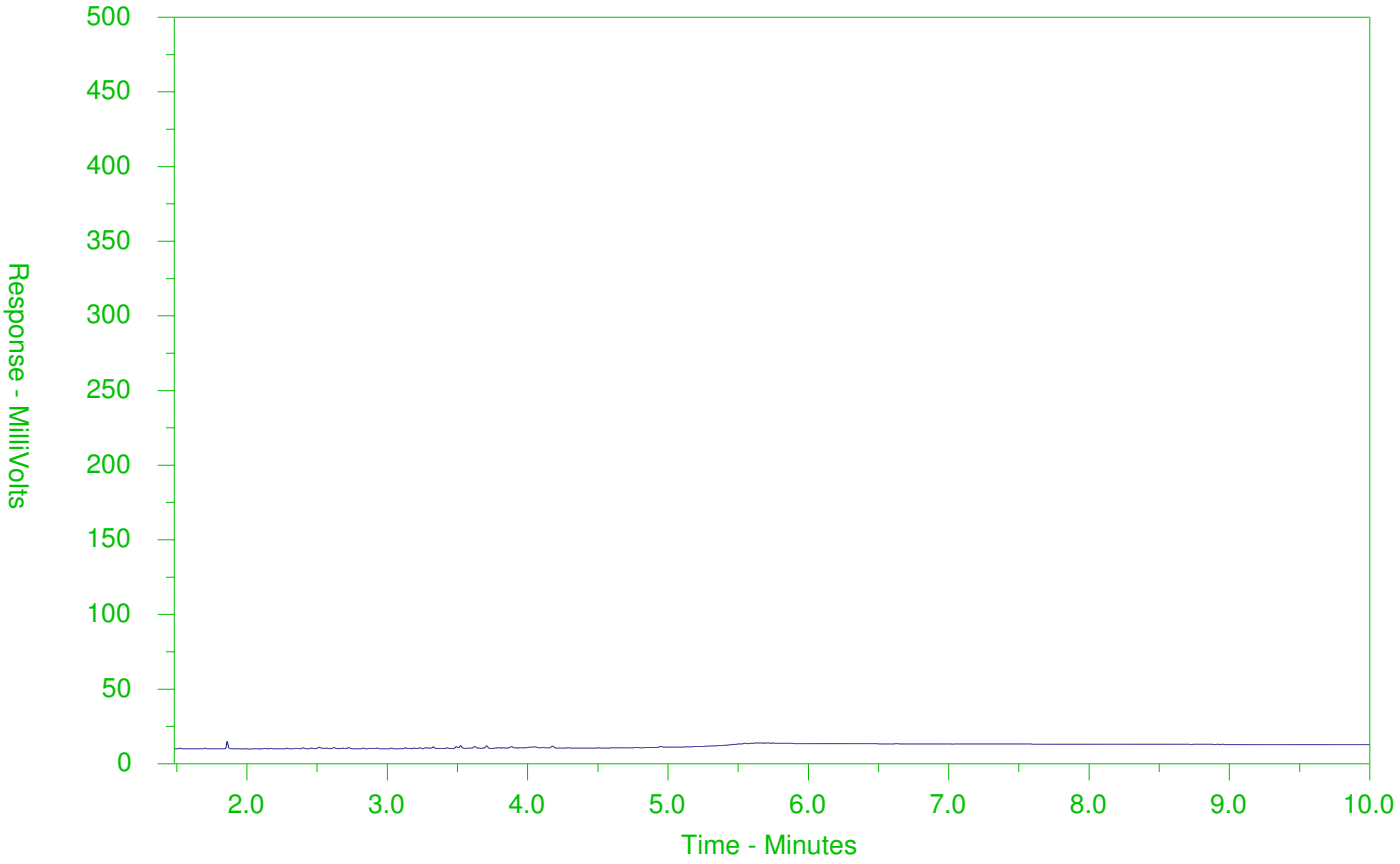
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-8
Client Sample ID: 4227232



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

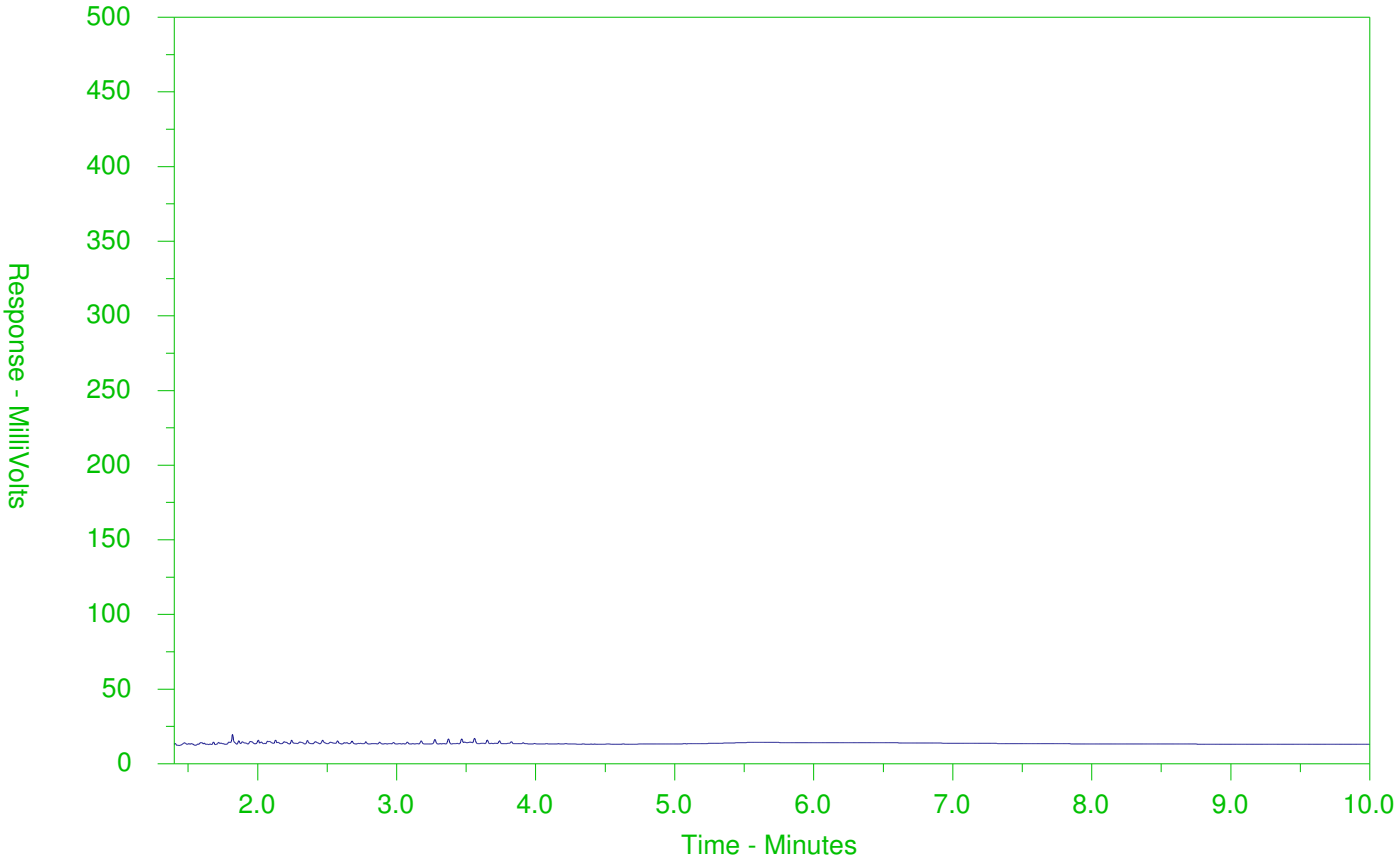
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-9
Client Sample ID: 4227235



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

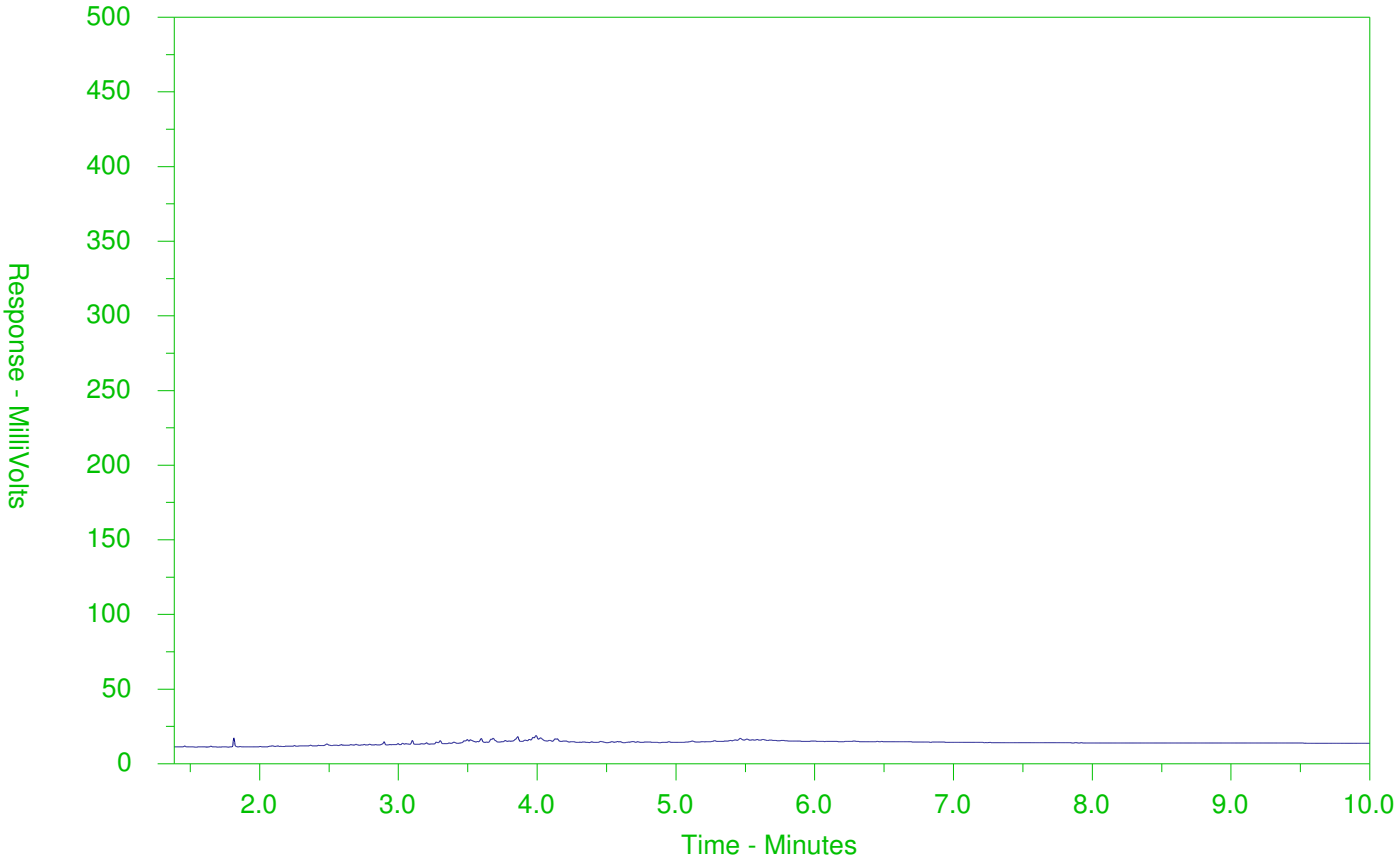
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-10
Client Sample ID: 4227238



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

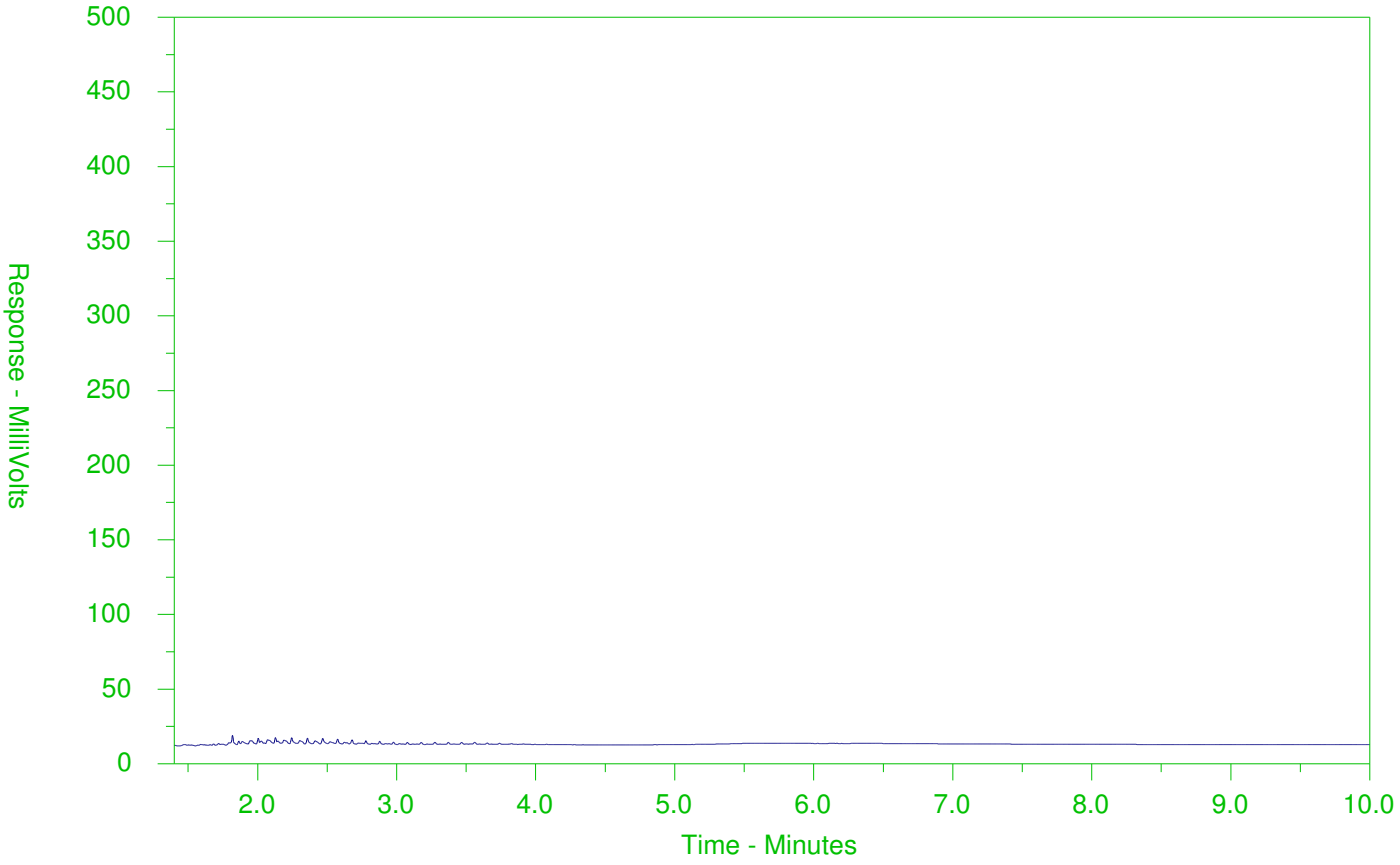
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2313216-11
Client Sample ID: 4227239



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

eurofins | EnvironeX

2350, Chemin du Lac
Longueuil, Québec J4N 1G8
Tél. (514) 332-6001 Téléc. (450) 651-5211

3705, boul. Industriel
Sherbrooke, Québec J1L 1X8
Tél. (819) 481-1469 Téléc. (819) 987-1211

Subcontracting Analysis Request

Purchase Order: **4227201**
Expedition Date: **2019/07/18**

To: **ALS-Waterloo**
60 Northland Road, Unit 1
Waterloo, Ontario,
Phone: 1-519-886-6910 Fax:

Responsable: Rick Hawthorne

From: **Groupe EnvironeX (ENV Longueuil)**
2325 boul. Fernand-Lafontaine
ENV-LONG **, Québec J4N 1N7
Phone: (514) 332-6001 Fax: (450) 651-5211

Responsable: Chargé de projets
Expeditor: Evelina Kirilova

L2313216

Sample No	Sampled Date	Type	Requested Analysis
4227201	2019-07-16	Sol	F2 - F4
4227214	2019-07-16		
4227219	2019-07-16		
4227220	2019-07-16		
4227223	2019-07-16		
4227226	2019-07-16		
4227228	2019-07-16		
4227232	2019-07-16		
4227235	2019-07-16		
4227238	2019-07-16		
4227239	2019-07-16		

COC14 E
F1 - F2

L2313216-COFC

TERMS

Results required for: 2019/07/25
MOE accreditation domain required:
The subcontractor may not subcontract part of a mandate without special agreement.

ACCEPTANCE

To confirm the reception of the samples and the acceptance of specified terms, this request or an acknowledgement of receipt must be returned by fax to the person in charge of subcontracting. The partial or final results must also be transmitted to this person.

Request accepted by: AP 19-7-19 10:30 24.9°C Date: _____

APPENDIX 6

- Generic criteria for contaminated soil

The generic criteria serve to assess the scope of contamination and as decontamination objectives for a given use. They are also used as an excavated contaminated soils management instrument and have been established to preserve the health of future users and protect the environment. These criteria constitute the response means easiest to apply on a site and requiring the least monitoring and commitment for the future. Their use must be considered the priority risk management method, and the one most commonly used.

2.1 Generic criteria for soils

2.1.1 Generic criteria grid

The *Ministère de l'Environnement et de la Faune* provides three levels of generic criteria for different substances as shown in the grid presented below. The levels (A, B, C) may be defined as follows:

Level A: Background levels for inorganic parameters and quantification limit for organic parameters.

The quantification limit is defined as the minimum concentration that can be **quantified** using an analysis method of defined reliability.

Level B: Maximum acceptable limit for residential, recreational and institutional sites. Commercial sites located in a residential district are also included.

Institutional use includes hospitals, schools and day-care centres.

Recreational use includes many possible cases presenting various levels of sensitivity. Thus, sensitive uses such as playgrounds must be managed according to level B, while recreational uses considered less sensitive, such as bicycle paths, may be associated with level C.

Level C: Maximum acceptable limit for commercial sites not located in a residential area, and for industrial sites.

Specific criteria for agricultural use are not included in this criteria grid but may be added later. On an interim basis, it is however recommended that each reuse of a site for agricultural purposes be carried out on clean soils that comply with level A of the criteria grid. If the soils do not comply with this level, the concentrations found on the site must be proven safe for agricultural use.

2.1.2 Use of Generic Criteria

The use of generic criteria for soils as decontamination objective means that, for a given use, all soils contaminated beyond the generic criteria for use must be excavated and managed safely or else be treated until the concentrations in the soils remaining in place are equal to or less than the generic criteria values.

The approach based on generic criteria for soils must be used together with a verification of the condition of the groundwater. Indeed, the assessment of groundwater quality and its impact may require further action, which must be considered in developing the site restoration plan.

As well, in certain cases, the firm responsible for the contamination must, before decontaminating the soils in accordance with the generic criteria for use, verify whether the planned decontamination levels are adequate. This verification is necessary if resources subject to the objectives of the *Québec Convention on Biological Diversity Implementation Strategy* (Government of Québec, 1996) are present. These resources are defined by:

- Environments critical or sensitive for biodiversity (peat bogs, marshes, swamps, mature forests, etc.);
- Protected areas (parks, ecological preserves, wildlife habitats and refuges, etc.);
- Threatened or vulnerable species or those likely to be so designated, and their habitats.

In these cases, a restricted assessment of ecotoxicological risk must be carried out. How such an analysis is to be carried out is described in the MEF document entitled "Ecotoxicological risk assessment procedure." It uses a narrow conceptual model to limit the risk characterization to only the sensitive resources that are present. Its objective is to ensure that use of generic criteria makes it possible to reach the desired level of protection for these resources. The assessment results will make it possible to determine whether decontamination in accordance with the generic criteria is enough or whether rehabilitation must be pushed further.

With respect to the level of decontamination to be attained in the event of a response to any contamination occurring after the date the policy appeared, the objective is to return the site to the condition it was in before the event. This will apply in all contamination cases. If the condition of the site before the spill is unknown, the background levels presented in the generic criteria grid will be used.

2.2 Criteria applicable to cases of groundwater contamination

2.2.1 Criteria Grid

The water quality criteria grid shown below presents, for various substances, the water criteria established for drinking water, as well as the criteria applying to situations where contaminated groundwater reappears in surface water or infiltrates into the sewer network. This grid also gives the quantification limits (LQD) associated with each substance.

The criteria adopted were taken mostly from official publications on water quality in Canada and Québec. Certain criteria also come from WHO and the US EPA. Complete references are found at the end of the criteria grid.

Water quality criteria are not published or established for all parameters or for all uses. In the absence of pre-established criteria for a given contaminant or a given use, the *Ministère* is responsible for defining a criterion based on documentation or itself generating the criteria according to the protocols and methods in effect. As well, once established, the list of new criteria will be updated periodically.

2.2.2 Use of Criteria for Groundwater: Response Procedure

This procedure specifies the restoration objectives to be attained in each situation. It is based mainly on use of the water quality criteria in the grid.

Thus, for each site characterized, the concentrations measured in groundwater must be compared with the measured background levels or the quantification limits in order to determine whether the groundwater is contaminated. A diagnosis of contaminated groundwater makes it necessary to identify and act on industrial or other activities to eliminate the active contribution of substances that are the source of the contamination.

If groundwater is contaminated from an industrial plant established after the introduction of this policy, action will have to be undertaken on soils and groundwater to return the site to the quality it had before the setting-up of the plant.

In other cases, the impact of the activities and contaminated soils on groundwater quality must be assessed. If a real or apprehended impact on groundwater (see definition, Section 2.2.2.1) exists, on-site response will be required to eliminate or reduce the active contribution of contaminants to allow lost uses to be recovered. Such a response will consist in recovering floating phases and depending on the situation, recovering, decontaminating or confining components that constitute active sources of contamination (contaminated soils and wastes). In certain situations, it may also be necessary to decontaminate or confine the groundwater affected and to ensure that users have a supply of drinking water.

If the contamination is not the cause of real or apprehended impacts, it is always necessary to recover the existing floating phases. A monitoring program on groundwater quality may also be required when water contamination is above the warning points (See definition, Section 2.2.2.2). This monitoring may lead, if water contamination levels rise, to action aimed at the contamination sources. As a preventive measure, when the warning point is exceeded, we recommend that, as part of the site rehabilitation work, you take advantage of the opportunity to carry out water-proof surface confinement that will limit the percolation of surface waters through contamination sources (soils or waste) and reduce the risk of subsequent impacts on groundwater.

2.2.2.1 Definition of Real or Apprehended Impact

The water quality criteria shown in the criteria grid are used to define an impact and are applied according to the place of impact.

A **real impact** is defined as an actual situation at the place of impact while an **apprehended impact** is defined as a predictable impact, considering the dynamic character of the groundwater contamination. More accurately, there is a real or apprehended impact when there is:

- contamination (real or apprehended) of a well, water intake or water distribution network exceeding the criteria set for drinking water[1];
- contamination (real or apprehended) exceeding the criteria set for drinking water[1] from a class I aquifer zone[2];
- Contamination (real or apprehended) exceeding the criteria set for drinking water from a Class IIA or Class III aquifer zone whose use for supply purposes will be required to ensure that development projects are carried out;
- Seepage (real or apprehended) into surface water of groundwater contaminated beyond the criteria set for protection of surface waters;
- infiltration into a sewer network of groundwater contaminated beyond the criteria set for protection of surface waters;
- Emanation, from contaminated groundwater, of volatile substance presenting a risk to the health and safety of persons or causing discomfort (e.g.: hydrocarbons in gaseous phase);

[1] If the groundwater is used for irrigation or watering of cattle, the criteria presented in the document "Canadian Water Quality Guideline (CWQG)" (CCME, 1987) must be used.

[2] The groundwater classification system, as presented in the draft *Politique de protection et de conservation des eaux souterraines* [Groundwaters protection and conservation policy] (April 1996), makes it possible to identify the groundwaters that are being exploited or that present a certain potential and assess their value to society. The vulnerability of these waters, as well as the existence of a link with a watercourse may be assessed during this classification process. This classification system is used to define the real or apprehended impacts on groundwaters.

To define the impacts, the following points must be taken into consideration:

1. If the background level of a contaminant is higher than the level corresponding to the relevant water quality criteria, this value should be considered in determining the real or apprehended impacts.

2. If a well or aquifer is intended for various uses (ex.: irrigation and drinking water), the strictest criteria shall be adopted to define the real or apprehended impacts.

2.2.2.2 Definition of Warning Points

The warning points defined in the draft Groundwater Protection and Conservation Policy (April 1996) referring to a preventive limit or concentration from which a loss of use of the resource may be apprehended. These thresholds correspond to a portion of the water quality criteria and, for each site, they are selected in accordance with the classification of groundwater and the receiving water body, or according to the background level of the groundwater.

MANAGEMENT GRID FOR EXCAVATED CONTAMINATED SOILS - MINISTÈRE DE L'ENVIRONNEMENT ET DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES (MELCC – APPENDIX 5 - 2016)

CONTAMINATION LEVEL	MANAGEMENT OPTIONS
≤ critère A1	1. Utilisés sans restriction sur tout terrain.
< Critère B (valeurs limites de l'annexe I du RPRT)	1. 1. Ailleurs que sur le terrain d'origine, les sols ne peuvent être déposés que sur des sols dont la concentration en contaminants est égale ou supérieure à celle des sols remblayés (article 4 du RSCTSC) et s'ils n'émettent pas d'odeurs d'hydrocarbures perceptibles. 2. Aux mêmes conditions, déposés sur ou dans des terrains destinés à l'habitation s'ils sont utilisés comme matériau de remblayage dans le cadre de travaux de réhabilitation de terrains faits conformément à la LQE.
≤ critère B (valeurs limites de l'annexe I du RPRT)	1. Valorisés sur le terrain d'origine ou sur le terrain à partir duquel a eu lieu l'activité à l'origine de la contamination. 2. Valorisés comme matériau de recouvrement journalier ou final dans un lieu d'enfouissement technique (LET) ou comme matériau de recouvrement hebdomadaire ou final dans un lieu d'enfouissement en tranchée ou comme recouvrement mensuel ou final dans un lieu d'enfouissement de débris de construction ou de démolition, conformément au REIMR aux conditions des articles 42, 50, 90, 91, 105 ou 106. 3. Valorisés comme recouvrement final dans un lieu d'enfouissement de sols contaminés (LESC) aux conditions décrites à l'article 38 du RESC ou valorisés dans un système de captage des gaz prévu à l'article 13 du RESC. 4. Valorisés comme recouvrement final d'un lieu de dépôt définitif de matières dangereuses aux conditions de l'article 101 du RMD. 5. Valorisés comme matériau de recouvrement final dans un système de gestion qui comporte le dépôt définitif par enfouissement de déchets de fabriques de pâtes et papiers, aux conditions de l'article 116 du Règlement sur les fabriques de pâtes et papiers (RFPP). 6. Valorisés sur un lieu d'élimination nécessitant un recouvrement, aux conditions prévues au certificat d'autorisation en vertu de l'article 22 de la LQE. 7. Valorisés avec ou sans MRF, comme matériau apte à la végétation dans des projets de restauration d'aires d'accumulation de résidus miniers2 ou dans la couverture de lieux visés par le RFPP, le RESC ou le RMD. Ne doit dégager aucune odeur d'hydrocarbure perceptible. Dans le cas d'ajout de MRF, le projet doit être autorisé et respecter le Guide sur l'utilisation de matières résiduelles fertilisantes pour la restauration de la couverture végétale de lieux dégradés[3] 8. Valorisés comme couche de protection d'une géo-membrane utilisée dans un système multicouche lors de la restauration d'une aire d'accumulation de résidus miniers générateurs d'acide[2] 9. Éliminés dans un lieu d'enfouissement visé par le RESC. 10. Éliminés dans un LET, un lieu d'enfouissement en tranchée, un lieu d'enfouissement en milieu nordique, un lieu d'enfouissement de débris de construction ou de démolition ou un lieu d'enfouissement en territoire isolé, conformément à l'article 4 du REIMR.

≥ critère B et ≤ critère C	1. Utilisés sur le terrain d'origine comme matériau de remblayage à la condition que les concentrations mesurées respectent les critères ou valeurs limites réglementaires applicables aux sols selon l'usage et le zonage. 2. Valorisés comme matériau de recouvrement dans un LET ou comme matériau de recouvrement hebdomadaire dans un lieu d'enfouissement en tranchée, aux conditions des articles 42, 50 ou 90 du REIMR. Ces conditions incluent notamment que les concentrations de composés organiques volatils soient égales ou inférieures aux critères B. 3. Traités sur place ou dans un lieu de traitement autorisé. 4. Éliminés dans un lieu d'enfouissement visé par le RESC
< Annexe I du RESC	1. Utilisés pour remplir des dépressions naturelles ou des excavations sur le terrain d'origine lors de travaux de réhabilitation aux conditions prévues dans le plan de réhabilitation approuvé dans le cadre d'une analyse de risques (dossiers GTE), à la condition que les C10-C50 et les COV respectent les critères d'usage. 2. Traités sur place ou dans un lieu de traitement autorisé. 3. Éliminés dans un lieu d'enfouissement visé par le RESC.
≥ annexe I du RESC	1. Décontaminés sur place ou dans un lieu de traitement autorisé et gestion selon le résultat obtenu. Si cela est impossible, éliminés dans un lieu d'enfouissement visé par le RESC pour les exceptions mentionnées à l'article 4.1º a, b ou c.
Cas particuliers	1. Des sols contaminés peuvent être utilisés, à condition de ne dégager aucune odeur d'hydrocarbures perceptible, pour la construction d'un écran visuel ou antibruit dont l'utilité est démontrée : a. Sur un terrain résidentiel avec des sols du terrain d'origine : i. dont les concentrations sont ≤ B; ii. dont les concentrations sont ≤ C, lors de travaux de réhabilitation sur le terrain réalisés conformément au plan de réhabilitation approuvé dans le cadre d'une analyse de risque (dossiers GTE), sous les mesures de confinement, à condition que les sols contiennent des concentrations ≤ B en C10-C50 et en composés organiques volatils (COV)[4]; iii. dont les concentrations sont < annexe I du RESC, lors de travaux de réhabilitation sur le terrain réalisés conformément au plan de réhabilitation approuvé dans le cadre d'une analyse de risque (dossiers GTE), sous les mesures de confinement, à condition que les sols en place soient de niveau > C et que les sols déposés contiennent des concentrations ≤ B en C10-C50 et en COV[4]; b. Sur un terrain commercial/industriel avec des sols du terrain d'origine : i. dont les concentrations sont ≤ C; ii. dont les concentrations sont ≤ C, lors de travaux de réhabilitation sur le terrain réalisés conformément au plan de réhabilitation approuvé dans le

	cadre d'une analyse de risque (dossiers GTE), sous les mesures de confinement; iii. dont les concentrations sont < annexe I du RESC, lors de travaux de réhabilitation sur le terrain réalisés conformément au plan de réhabilitation approuvé dans le cadre d'une analyse de risque (dossiers GTE), sous les mesures de confinement, à condition que les sols en place soient > C, et que les sols déposés contiennent des concentrations ≤ C en C10-C50 et en COV[4]. 2. La valorisation de sols contaminés dans un procédé en remplacement d'une matière vierge est possible aux conditions de l'autorisation. 3. Les sols ≥ B peuvent être acheminés sur les aires de résidus miniers, s'ils sont contaminés exclusivement par des métaux ou métalloïdes résultant des activités minières de l'entreprise responsable de l'aire, aux conditions de l'autorisation délivrée par le Ministère (article 6 du RSCTSC). 4. Les sols ≥ B peuvent être acheminés dans un lieu de dépôt définitif de matières dangereuses aux conditions du certificat d'autorisation détenu par ce lieu pour recevoir des sols.
	5.

Note : S'il y a présence de matières résiduelles dans les sols, se référer à la figure 12 de la section 7.7.2.

1. S'il est établi que la concentration naturelle dans le sol importé est supérieure au critère A et à la concentration du sol récepteur, il est recommandé au propriétaire du terrain récepteur de garder une trace du remblayage (localisation, niveau de contamination, provenance des sols importés), de façon qu'il puisse, le cas échéant, démontrer qu'il ne s'agit pas d'une contamination anthropique. Faute de l'existence d'une telle trace, le Ministère considérera que les sols ont été contaminés par l'activité humaine et ils devront donc être gérés comme tels. Advenant le cas où les concentrations naturelles excèdent largement les critères génériques recommandés pour l'usage qui est fait du terrain récepteur, un avis sur les possibles risques à la santé et l'à-propos du remblayage avec de tels sols pourra être demandé à la direction de santé publique.

2. Ne s'applique pas aux sols contaminés = B, à moins que ces sols n'aient d'abord transité par un lieu visé à l'article 6 du Règlement sur le stockage et les centres de transfert de sols contaminés. Les sols excavés ≥ B ne peuvent en effet être acheminés directement que dans des lieux légalement autorisés à les recevoir et listés à l'article 6 du RSCTSC.

3. Il faudra toutefois s'assurer que la valorisation de sols A-B, auxquels on aura ajouté des matières fertilisantes ou non, entraîne un effet bénéfique, par exemple, sur la croissance de la végétation, et que ces sols répondent à un besoin réel, l'ajout de sols n'étant pas essentiel dans tous les cas de restauration minière. Il sera possible de

s’assurer du bien-fondé du projet de valorisation et de son contrôle dans le cadre du certificat d’autorisation délivré préalablement à sa réalisation.

4. L’écran visuel ou antibruit doit être recouvert de 1 m de sols ≤ A ou de 40 cm ≤ A aux endroits recouverts d’une structure permanente (asphalte ou béton). Il est possible d’utiliser des MRF dans la couche apte à la végétation selon les orientations du Guide sur l’utilisation des matières résiduelles fertilisantes pour la restauration de la couverture végétale des lieux dégradés si la résultante est ≤ A.