Appendix 58

Meadowbank 2024 Quarry 22 Report

AGNICO EAGLE

MEADOWBANK COMPLEX

2024 All-Weather Access Road
Quarry 22 Report

Prepared by:
Agnico Eagle Mines Limited – Meadowbank Complex

January 2025

EXECUTIVE SUMMARY

This document presents the All-Weather Access Road Quarry 22 remediation method program of Petroleum Hydrocarbon (PHC) for Agnico Eagle Mines Limited (Agnico Eagle), Meadowbank Complex.

Following the CIRNAC inspection report received in 2012 (formally the AANDC), this report has been prepared to provide information regarding remediation of Quarry 22, including but not limited to the cause of contamination, the quantity of contaminated material transferred to the Meadowbank Landfarm, results from soil sampling campaigns, and further decontamination actions.

Since 2012, Agnico Eagle has submitted annual updates on the Quarry 22 remediation status as part of the Meadowbank Complex Annual Report. Agnico Eagle intended to scarify and sample the quarry on a yearly basis, however some sampling campaigns were postponed due to peregrine falcon nesting activities to minimize mining disturbance to wildlife.

Based on the degradation history of PHC's in the Meadowbank Landfarm, and upon analyzing results from the Quarry 22 soil sampling campaign (2014, 2016, 2018, 2020, 2021, 2022 & 2024), Agnico Eagle is confident that the natural degradation of Petroleum Hydrocarbon-related products is an effective remediation method for the Quarry 22.

The 2024 sample results (Table 1 below) indicate a significant reduction in contaminated PHC remnants remaining in the Q22 soil (parcels Q22-1 & Q22-2). Results were compared to the Canadian Council of Ministers of the Environment (CCME) remediation criteria for industrial use of coarse material, which is determined to be in line with the definition of industrial land detailed in the Government of Nunavut Environmental Guidelines for the Management of Contaminated Sites Remediation. The results have met all requirements for industrial use.

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1 INTRODUCTION

1.1 BACKGROUND

The All-Weather Access Road (AWAR) is used to transport materials, goods, and petroleum products from the Baker Lake Marshalling Facility to the Meadowbank Complex. The quarries along the road were used as a source of road-building aggregate during the construction phase of the AWAR and primarily for road maintenance during the operation phase. Quarry 22 was historically used as a temporary storage area for contaminated materials generated from the petroleum hydrocarbon spill clean-up activities prior to the establishment of the Landfarm at the Meadowbank site. The use of Q22 as a temporary storage area ceased in 2012 when the Meadowbank Landfarm construction was completed.

In accordance with the CIRNAC (formerly AANDC) Water Licence inspection dated March 2012, Agnico Eagle prepared and submitted an action plan (dated June 2, 2012) to the Inspector. The plan consisted of a two-phased approach. The first phase included an assessment and delineation of any residual contamination due to storage and the second phase consisted of removing identified contaminated soils and coarse rock to the Landfarm at Meadowbank.

In 2013, a total of 4,413 m^3 of soil and coarse material was removed from Q22. Approximately half of this material (1,930 m^3) was placed in the Landfarm as windrows for soil decontamination. The remaining coarse material, which was not contaminated with PHC's, was placed in the Meadowbank Waste Rock Storage Facility, located north of Portage Pit. Residual, uncontaminated coarse material was used as pit wall sloping in Q22 for progressive reclamation.

Based on the 2022 sampling campaign, there were still contamination remnants in Q22. Results were compared to the Canadian Council of Ministers of the Environment (CCME) remediation criteria for industrial use of coarse material. The results indicated a concentration exceeding PHC Fraction 3 only for sampling areas Q22-1 and Q22-2. The last four sampling campaigns (2018, 2020-2022) results were below the CCME Remediation criteria for PHC Fraction 1, 2 and 4 in all sections and for PHC Fraction 3 in sections Q22-3 to Q22-8 since at least 2018. As a result, Agnico Eagle was planning to sample parcels Q22-1 and Q22-2 and to stop the annual monitoring for parcel Q22-3 to Q22-8 as the results are below the contamination guideline.

The final reclamation of the quarries along AWAR will be done during the closure phase of the Meadowbank mine site as described in the Meadowbank Interim Reclamation and Closure Plan (SNC, 2020).

1.2 OBJECTIVES

The objectives of this report are as follows:

- Evaluate the contaminated material reclamation.
- Document the movement of contaminated soils and coarse rock.
- Analyze results of the annual sampling campaign.
- Document the remediation actions.

2 QUARRY 22

2.1 2024 ACTIONS

As mentioned above, results from the September 2022 sampling campaign indicated some remnants of contamination when compared to the CCME Remediation Criteria for industrial use of coarse material in parcels Q22-1 and Q22-2. The remaining contamination was associated with Fraction 3 PHC hydrocarbons.

Taking into consideration the results from the previous sampling campaigns (2014, 2016, 2018, 2020, 2021 & 2022), Agnico Eagle intended to continue to scarify the surface of Q22 during the summer of 2024, with the back end of a grader, allowing ground surface to be aerated thus increasing degradation of PHC. A bird deterrent cannon was deployed on May 15th, 2024, to prevent falcon activities in the quarry before scarification occurred. However, during the June 1st, 2024, scheduled quarry inspection, the bird deterrent cannon was found to be no longer working, and presence of falcons was noted. The bird deterrent cannon was then removed from Q22. All activity within the Q22 area, including scarification, were postponed, minimizing the impact of potential nesting for this species, and therefore ensuring proper conditions for nesting activity. The last falcon observation was July 12th, 2024, with regular checks continuing throughout the summer without observation.

Soil samples from Q22 (parcels Q22-1 & Q22-2) were collected on September 25th, 2024, after the scarification of Quarry 22 occurred, to track the degradation of PHC with time. Results are shown in Section 3.

Regular inspections of the quarry were also performed during the year to ensure that runoff, if any, was free of any visible sheen and did not impact the environment. No issues with runoff water inside the quarry were noted in 2024.

2.2 SAMPLING

On September 25th, 2024, the Environment department sampled the soil from the substrate in parcels Q22-1 & Q22-2 to further assess PHC degradation following the clean-up actions of 2013 and to track rates of contamination reclamation. A composite sample was taken from the surface at 30-centimeter intervals covering the entire parcel area. This composite sample was collected in a clean plastic bag by an environmental technician in accordance with standard sampling techniques. The composite plastic bag was then thoroughly stirred and mixed. Following this, a 320 mL sample was obtained, placed in a standard glass sample bottle kit, and sent to Agnico Eagle's external accredited lab. Sampling instruments were cleaned between each sampling event.

To ensure sampling consistency, the same grid system was used in all previous sampling campaigns to divide the quarry into portions representing areas where contaminated material had been stored (Appendix A). As such, areas from 0 to 1 represent a smaller sampling area in size as more contaminated material was stored in this area (towards the back of the quarry/near quarry walls). Size progressively increases as areas move from 1 to 2 to 3. Portions from 3 and beyond represent the largest areas. The surface includes any material that was used for sloping along the walls (see Section 1.1 above). This area sampling design was adopted to ensure that the soil characterization was well assessed; in particular, in the areas that stored most of the contaminated material.

3 RESULTS

The 2024 sampling results (Table 1 below) indicate the significant breakdown of contamination remnants in Q22-1 & Q22-2. Results were compared to the Canadian Council of Ministers of the Environment (CCME) remediation criteria for industrial use of coarse material, which is determined to be aligned with the definition of industrial land detailed in the Government of Nunavut Environmental Guidelines for the Management of Contaminated Sites Remediation. The results indicated that all concentrations are below the above CCME guideline (Figures 1 to 4 below).

The 2024 PHC Fraction 3 results for the sampling area Q22-1 were lower than the previous sampling campaign with a concentration of 830 mg/kg compared to 3,300 mg/kg in 2022. Similarly for the sampling area Q22-2, the result for PHC Fraction 3 was lower than the previous sampling campaign with a concentration of 370 mg/kg in 2024 compared to 3,300 mg/kg in 2022. Both sampling areas Q22-1 and Q22-2 continue to show a downtrend since the beginning of the remediation program (Table 1 below).

For the fifth consecutive sampling campaign (Table 1 below), analysis results were below the CCME remediation criteria for the PHC Fraction 1, 2 and 4.

Table 1 Quarry 22 (2014, 2016, 2018, 2020, 2021, 2022 & 2024) Sampling Results

Sample Location		Q22-1				Q22-2				Q22-3				Q22-4				Q22-5				Q22-6				Q22-7				Q22-8			
Petroleum Hydrocarbons Fraction (mg/kg)		F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4
Remediation criteria (mg/kg)		320	260	1,700	3,300	320	260	1,700	3,300	320	260	1,700	3,300	320	260	1,700	3,300	320	260	1,700	3,300	320	260	1,700	3,300	320	260	1,700	3,300	320	260	1,700	3,300
Sampling Year	2014	0.06	400	10,000	1,900	0.06	130	4,600	1,100	0.06	10	1,100	250	0.06	96	6,800	1,500	0.06	10	500	170	0.06	10	1600	570	0.06	10	2,200	520	0.06	37	3,100	660
	2016	0.06	99	7,000	1,400	0.06	110	8,100	1,600	0.06	58	3,400	770	0.06	37	2,100	490	0.06	<10	260	100	0.06	<10	470	180	0.06	13	450	180	0.2	<10	400	160
	2018	0.71	52	8,800	2,000	<0.06	16	5,300	1,400	0.74	<10	750	230	<0.06	<10	1,700	480	<0.06	<10	170	73	<0.06	<10	1,600	500	<0.06	<10	290	110	<0.06	<10	470	160
	2020	<10	<10	2,000	450	<10	17	2,300	670	<10	<10	180	<50	<10	18	810	210	<10	<10	260	100	<10	<10	280	71	<10	<10	160	69	<10	<10	1,200	280
	2021	<10	96	4,000	910	<10	32	2,100	570	<10	<10	270	68	<10	<10	690	170	<10	<10	200	54	<10	<10	660	160	<10	<10	250	63	<10	<10	440	120
	2022	<10	76	3,300	800	<10	38	3,300	880	<10	<10	790	220	<10	11	880	250	<10	<10	170	65	<10	<10	320	110	<10	<10	440	85	<10	<10	580	160
	2024	<10	15	830	230	<10	10	370	100	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Red Values are above the CCME criteria.
Certificates of Analysis for 2024 sampling campaign included in Appendix B
**Removed from sampling campaign as indicated in Section 4 of the Meadowbank 2022 Quarry 22 Report*

3.1 SAMPLING CAMPAIGN COMPARATIVE RESULTS

Figure 1 Petroleum Hydrocarbons Fraction (F1) - Comparative results from 2014 to 2024

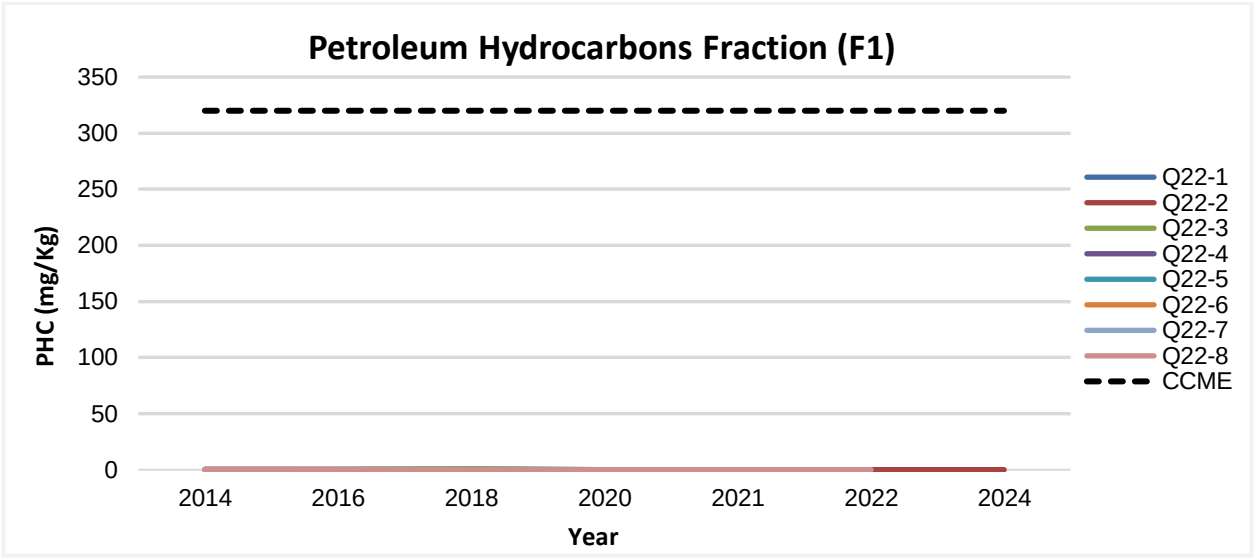


Figure 2 Petroleum Hydrocarbons Fraction (F2) - Comparative results from 2014 to 2024

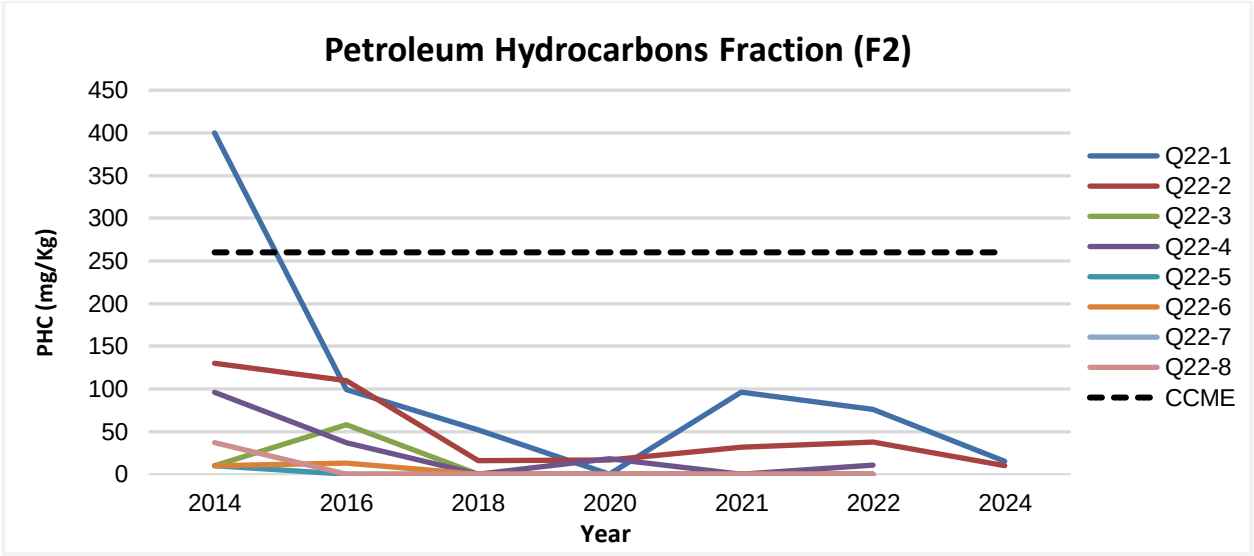


Figure 3 Petroleum Hydrocarbons Fraction (F3) - Comparative results from 2014 to 2024

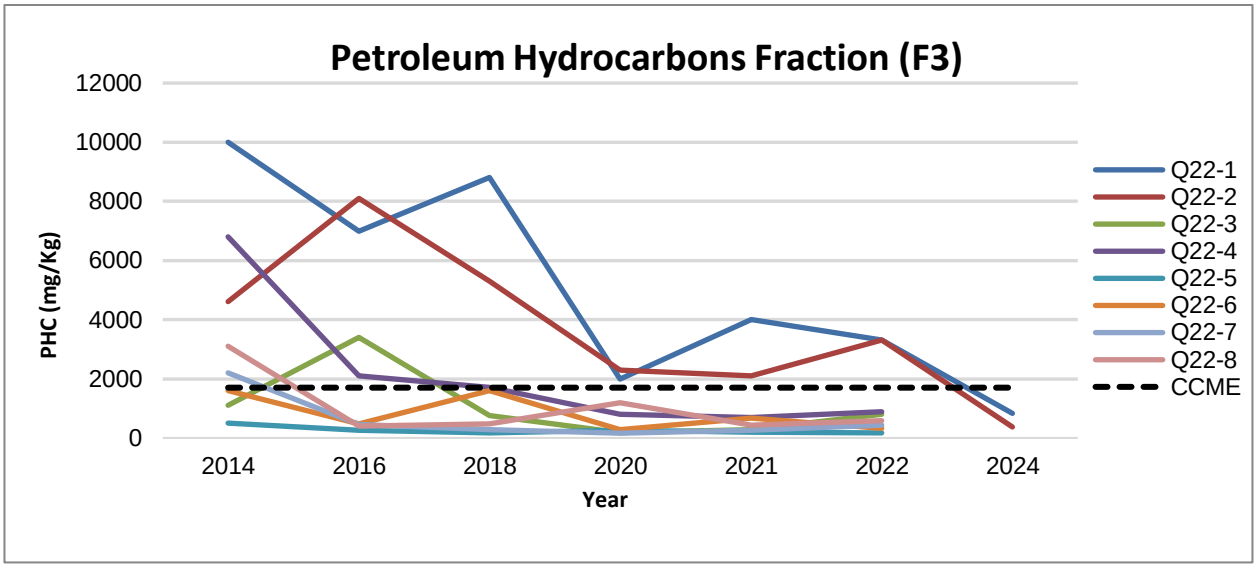
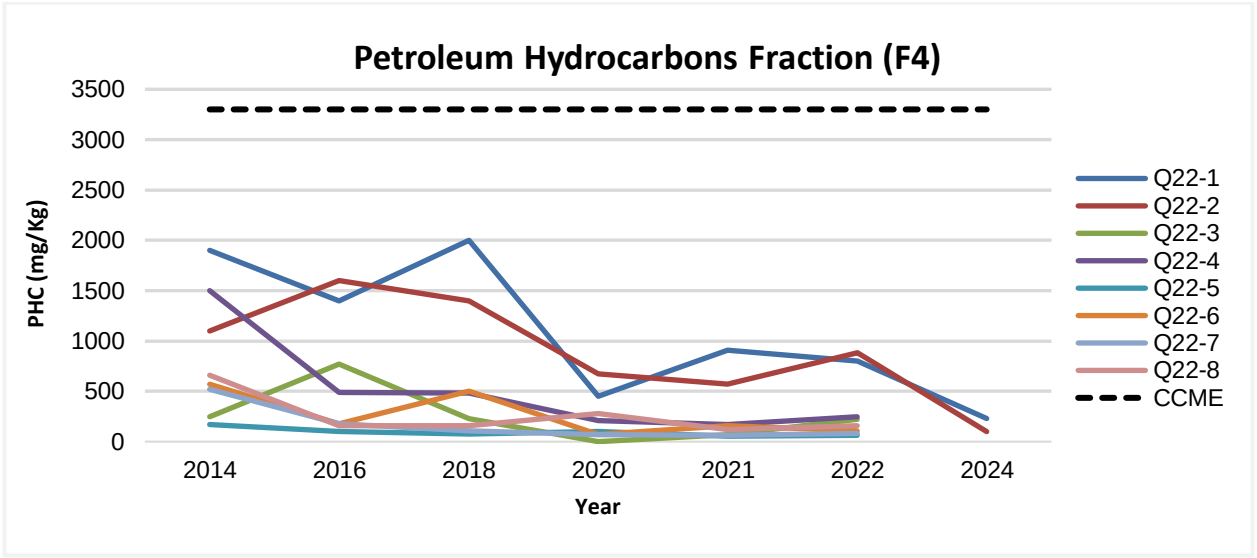


Figure 4 Petroleum Hydrocarbons Fraction (F4) - Comparative results from 2014 to 2024



4 CONCLUSION / RECOMMENDATIONS

Upon analyzing results from the Q22 soil sampling campaign (2014, 2016, 2018, 2020, 2021, 2022 & 2024) as indicated in Table 1 and Figures 1 to 4 above, Agnico Eagle is confident that the natural degradation of Petroleum Hydrocarbon (PHC) related products is an effective remediation method for Q22.

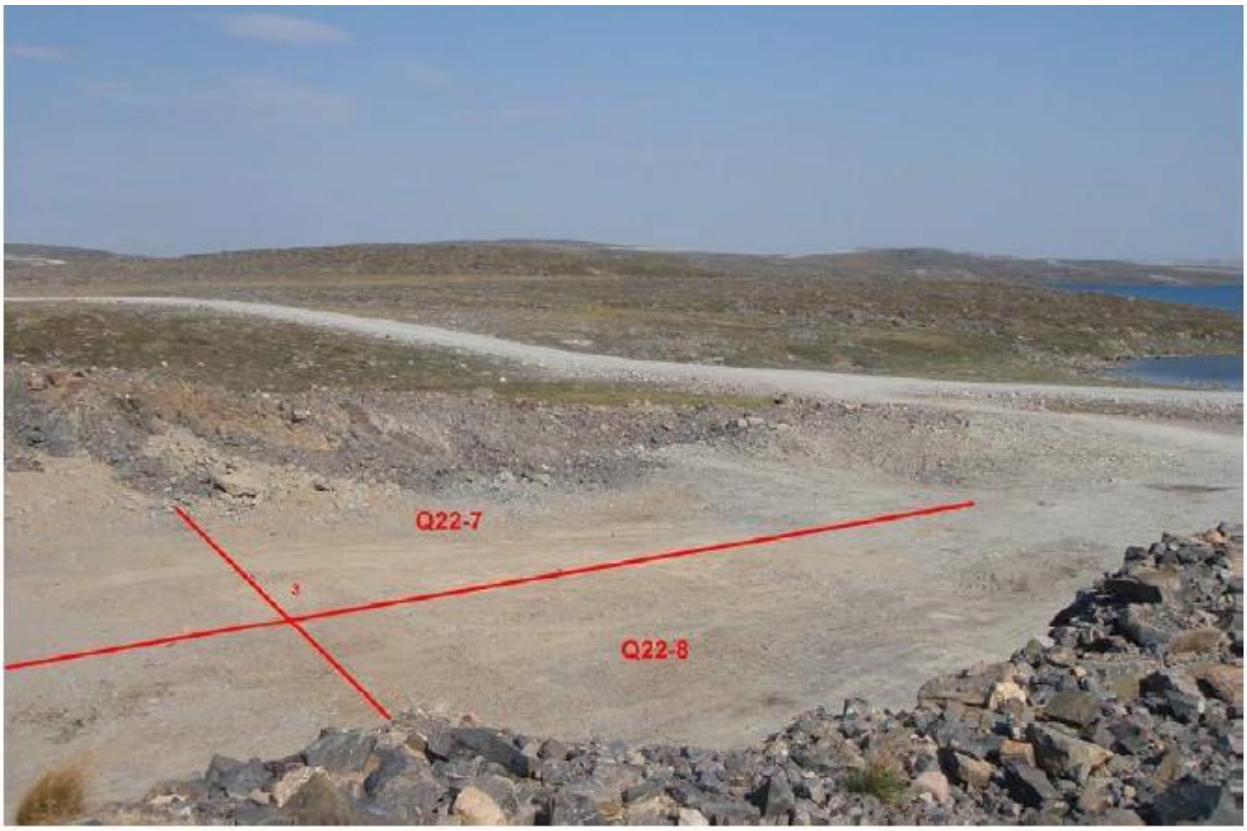
As results are below CCME Guidelines, there is no further sampling planned to track the PHC degradation at Q22 in any of the parcels. The final reclamation of the quarries along AWAR will be done during the closure phase of the Meadowbank mine site as described in the Meadowbank Interim Reclamation and Closure Plan (SNC, 2020).

Agnico Eagle will continue to ensure that runoff water is managed during freshet, therefore not affecting any watercourses or surrounding environment. This item is part of the weekly AWAR inspection. To date there has not been any impact to water outside of this quarry

Appendix A

Area Delimitation – Quarry 22


0
Q22-1
1
Q22-2
Q22-3
2
Q22-5
Q22-4
Q22-6


Q22-7
3
Q22-8

Appendix B

2024 Analytical Certificates - Quarry 22

Your C.O.C. #: 970454

Attention: Reporting

Agnico Eagle
Meadowbank
Meadowbank
Keewatin, NU
CANADA P0X 0A1

Report Date: 2024/10/07
Report #: R8351670
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4U6369
Received: 2024/09/30, 11:00

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Petroleum Hydrocarbons F2-F4 in Soil (1, 2)	2	2024/10/03	2024/10/03	CAM SOP-00316	CCME CWS m
Glycols in Soil by GC-FID (1)	2	N/A	2024/10/04	CAM SOP-00322	EPA 8015 m
Moisture (1)	2	N/A	2024/10/02	CAM SOP-00445	Carter 2nd ed 70.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	2	2024/10/04	2024/10/05	CAM SOP-00318	EPA 8270E
Volatile Organic Compounds and F1 PHCs (1)	2	N/A	2024/10/03	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your C.O.C. #: 970454

Attention: Reporting

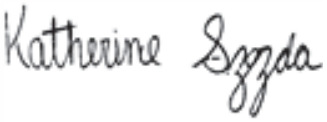
Agnico Eagle
Meadowbank
Meadowbank
Keewatin, NU
CANADA P0X 0A1

Report Date: 2024/10/07
Report #: R8351670
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4U6369
Received: 2024/09/30, 11:00

Encryption Key



Katherine Szozda
Project Manager
07 Oct 2024 16:39:22

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

CCME PETROLEUM HYDROCARBONS SOIL (SOIL)

Bureau Veritas ID		AEKT19	AEKT20		
Sampling Date		2024/09/25 14:30	2024/09/25 14:30		
COC Number		970454	970454		
	UNITS	Q22-1	Q22-2	RDL	QC Batch
Volatile Organics					
Benzene	ug/g	<0.0060	<0.0060	0.0060	9678594
Ethylbenzene	ug/g	<0.010	<0.010	0.010	9678594
Toluene	ug/g	0.032	0.036	0.020	9678594
p+m-Xylene	ug/g	<0.020	<0.020	0.020	9678594
o-Xylene	ug/g	<0.020	<0.020	0.020	9678594
Total Xylenes	ug/g	<0.020	<0.020	0.020	9678594
F1 (C6-C10)	ug/g	<10	<10	10	9678594
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	9678594
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/g	15	10	7.0	9678489
F3 (C16-C34 Hydrocarbons)	ug/g	830	370	50	9678489
F4 (C34-C50 Hydrocarbons)	ug/g	230	100	50	9678489
Reached Baseline at C50	ug/g	Yes	Yes		9678489
Surrogate Recovery (%)					
o-Terphenyl	%	94	95		9678489
4-Bromofluorobenzene	%	98	98		9678594
D10-o-Xylene	%	127	126		9678594
D4-1,2-Dichloroethane	%	92	92		9678594
D8-Toluene	%	90	91		9678594

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Bureau Veritas Job #: C4U6369
Report Date: 2024/10/07

Agnico Eagle
Sampler Initials: RP

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		AEKT19	AEKT20		
Sampling Date		2024/09/25 14:30	2024/09/25 14:30		
COC Number		970454	970454		
	UNITS	Q22-1	Q22-2	RDL	QC Batch
Inorganics					
Moisture	%	15	14	1.0	9677857

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

GLYCOLS BY GC-FID (SOIL)

Bureau Veritas ID		AEKT19	AEKT19	AEKT20		
Sampling Date		2024/09/25 14:30	2024/09/25 14:30	2024/09/25 14:30		
COC Number		970454	970454	970454		
	UNITS	Q22-1	Q22-1 Lab-Dup	Q22-2	RDL	QC Batch
Glycols						
Propylene Glycol	mg/kg	<10	<10	<10	10	9680793
Ethylene Glycol	mg/kg	<10	<10	<10	10	9680793
Diethylene Glycol	mg/kg	<10	<10	<10	10	9680793
Total Glycol	mg/kg	<10	<10	<10	10	9680793

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AEKT19	AEKT20		
Sampling Date		2024/09/25 14:30	2024/09/25 14:30		
COC Number		970454	970454		
	UNITS	Q22-1	Q22-2	RDL	QC Batch
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	<0.0050	<0.0050	0.0050	9682656
Acenaphthylene	ug/g	<0.0050	<0.0050	0.0050	9682656
Anthracene	ug/g	<0.0050	<0.0050	0.0050	9682656
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	0.0050	9682656
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	0.0050	9682656
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	9682656
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	0.0050	9682656
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	9682656
Chrysene	ug/g	<0.0050	<0.0050	0.0050	9682656
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	0.0050	9682656
Fluoranthene	ug/g	<0.0050	<0.0050	0.0050	9682656
Fluorene	ug/g	<0.0050	<0.0050	0.0050	9682656
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	0.0050	9682656
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	9682656
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	9682656
Naphthalene	ug/g	<0.0050	<0.0050	0.0050	9682656
Phenanthrene	ug/g	<0.0050	<0.0050	0.0050	9682656
Pyrene	ug/g	<0.0050	<0.0050	0.0050	9682656
Surrogate Recovery (%)					
D10-Anthracene	%	118	119		9682656
D14-Terphenyl (FS)	%	126	120		9682656
D8-Acenaphthylene	%	105	105		9682656

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

TEST SUMMARY

Bureau Veritas ID: AEKT19
Sample ID: Q22-1
Matrix: Soil

Collected: 2024/09/25
Shipped:
Received: 2024/09/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9678489	2024/10/03	2024/10/03	Suleeqa Nurr
Glycols in Soil by GC-FID	GC/FID	9680793	N/A	2024/10/04	Anca Ganea
Moisture	BAL	9677857	N/A	2024/10/02	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9682656	2024/10/04	2024/10/05	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9678594	N/A	2024/10/03	Juan Pangilinan

Bureau Veritas ID: AEKT19 Dup
Sample ID: Q22-1
Matrix: Soil

Collected: 2024/09/25
Shipped:
Received: 2024/09/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Glycols in Soil by GC-FID	GC/FID	9680793	N/A	2024/10/04	Anca Ganea

Bureau Veritas ID: AEKT20
Sample ID: Q22-2
Matrix: Soil

Collected: 2024/09/25
Shipped:
Received: 2024/09/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9678489	2024/10/03	2024/10/03	Suleeqa Nurr
Glycols in Soil by GC-FID	GC/FID	9680793	N/A	2024/10/04	Anca Ganea
Moisture	BAL	9677857	N/A	2024/10/02	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9682656	2024/10/04	2024/10/05	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9678594	N/A	2024/10/03	Juan Pangilinan

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	20.0°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9678489	o-Terphenyl	2024/10/03	93	60 - 140	90	60 - 140	87	%		
9678594	4-Bromofluorobenzene	2024/10/03	101	60 - 140	103	60 - 140	99	%		
9678594	D10-o-Xylene	2024/10/03	114	60 - 130	103	60 - 130	93	%		
9678594	D4-1,2-Dichloroethane	2024/10/03	96	60 - 140	95	60 - 140	92	%		
9678594	D8-Toluene	2024/10/03	105	60 - 140	107	60 - 140	91	%		
9682656	D10-Anthracene	2024/10/04	96	50 - 130	123	50 - 130	123	%		
9682656	D14-Terphenyl (FS)	2024/10/04	94	50 - 130	125	50 - 130	129	%		
9682656	D8-Acenaphthylene	2024/10/04	86	50 - 130	105	50 - 130	106	%		
9677857	Moisture	2024/10/02							0	20
9678489	F2 (C10-C16 Hydrocarbons)	2024/10/03	98	60 - 140	87	80 - 120	<7.0	ug/g	88 (1)	30
9678489	F3 (C16-C34 Hydrocarbons)	2024/10/03	94	60 - 140	90	80 - 120	<50	ug/g	75 (1)	30
9678489	F4 (C34-C50 Hydrocarbons)	2024/10/03	88	60 - 140	87	80 - 120	<50	ug/g	NC	30
9678594	Benzene	2024/10/03	105	60 - 140	106	60 - 130	<0.0060	ug/g	NC	50
9678594	Ethylbenzene	2024/10/03	93	60 - 140	99	60 - 130	<0.010	ug/g	NC	50
9678594	F1 (C6-C10) - BTEX	2024/10/03					<10	ug/g	NC	30
9678594	F1 (C6-C10)	2024/10/03	98	60 - 140	104	80 - 120	<10	ug/g	NC	30
9678594	o-Xylene	2024/10/03	106	60 - 140	112	60 - 130	<0.020	ug/g	NC	50
9678594	p+m-Xylene	2024/10/03	100	60 - 140	107	60 - 130	<0.020	ug/g	NC	50
9678594	Toluene	2024/10/03	100	60 - 140	104	60 - 130	<0.020	ug/g	NC	50
9678594	Total Xylenes	2024/10/03					<0.020	ug/g	NC	50
9680793	Diethylene Glycol	2024/10/04	97	60 - 140	101	60 - 140	<10	mg/kg	NC	50
9680793	Ethylene Glycol	2024/10/04	100	60 - 140	100	60 - 140	<10	mg/kg	NC	50
9680793	Propylene Glycol	2024/10/04	99	60 - 140	100	60 - 140	<10	mg/kg	NC	50
9680793	Total Glycol	2024/10/04					<10	mg/kg	NC	50
9682656	1-Methylnaphthalene	2024/10/04	89	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
9682656	2-Methylnaphthalene	2024/10/04	88	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
9682656	Acenaphthene	2024/10/04	91	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
9682656	Acenaphthylene	2024/10/04	90	50 - 130	87	50 - 130	<0.0050	ug/g	NC	40
9682656	Anthracene	2024/10/04	92	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
9682656	Benzo(a)anthracene	2024/10/04	89	50 - 130	91	50 - 130	<0.0050	ug/g	7.1	40
9682656	Benzo(a)pyrene	2024/10/04	89	50 - 130	88	50 - 130	<0.0050	ug/g	36	40
9682656	Benzo(b/j)fluoranthene	2024/10/04	82	50 - 130	92	50 - 130	<0.0050	ug/g	31	40
9682656	Benzo(g,h,i)perylene	2024/10/04	88	50 - 130	72	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9682656	Benzo(k)fluoranthene	2024/10/04	85	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
9682656	Chrysene	2024/10/04	79	50 - 130	82	50 - 130	<0.0050	ug/g	20	40
9682656	Dibenzo(a,h)anthracene	2024/10/04	115	50 - 130	58	50 - 130	<0.0050	ug/g	NC	40
9682656	Fluoranthene	2024/10/04	86	50 - 130	91	50 - 130	<0.0050	ug/g	19	40
9682656	Fluorene	2024/10/04	93	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
9682656	Indeno(1,2,3-cd)pyrene	2024/10/04	95	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40
9682656	Naphthalene	2024/10/04	85	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
9682656	Phenanthrene	2024/10/04	84	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
9682656	Pyrene	2024/10/04	92	50 - 130	94	50 - 130	<0.0050	ug/g	23	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate results exceeded RPD acceptance criteria for flagged analytes. Sample extract was reanalyzed with the same results. This is likely due to sample heterogeneity.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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