

ABSAROKA ENERGY AND ENVIRONMENTAL SOLUTIONS, LLC.

112 High Street
Buffalo, WY 82834

www.absarokasolutions.com

O: (855) 684.5891

C: (307) 299.5950

Ben.Shoup@AbsarokaSolutions.com

Our ref:

CIT.CO.0518



June 10, 2021

Colorado Oil and Gas Conservation Commission
Mr. Jason Kosola, P.G.
Environmental Protection Specialist – Southeast Colorado

Summary of Sampling Event: Mount Pearl Unit 13-25

Dear Mr. Kosola,

Absaroka Energy and Environmental Solutions, LLC. (Absaroka) conducted soil sampling at the Mount Pearl Unit 13-25 well head on May 20, 2021. These efforts were in conjunction with a site investigation plan that was uploaded to the Colorado Oil and Gas Conservation Commission (COGCC) via Form 27 (document number 402665674, remediation project number 17942) on April 20, 2021.

The field investigation and soil sampling activities were conducted by Mr. Max Moran with Absaroka. Soil samples were collected following the generally accepted industry standard operating procedure (SOP) for soil sampling. New PPE was donned prior to each sample being collected and all sampling equipment was decontaminated prior to each sample collection. Soil sample locations were photo documented and recorded using a GPS device. Samples were screened using a soil electrical conductivity meter and photo ionization detector. Samples were then placed into laboratory provided containers and immediately placed on ice. The soil samples were then delivered to Summit Scientific, under strict chain of custody (COC) protocol.

There are six (6) attachments included with this letter. These attachments include a project location map, sample location map, a table describing the soil samples collected, a table summarizing soil sample results, the soil sample analytical results, and a photolog.

The sample results indicate that the location is below COGCC Table 915-1 minimum contaminant levels (MCL) for most of the listed analytical constituents. All samples contained arsenic concentrations above the COGCC MCL of 0.68 mg/kg. The background sample, MPU_BG_01, contained an arsenic concentration of 2.82 mg/kg. MPU_SS_01, MPU_SS_02, and MPU_SS_03 contained arsenic concentrations of 2.95, 2.25 and 2.17 mg/kg.

Citation is requesting closure of this remediation project at this time. Soil sample results indicate the location is within organic MCLs outlined in the COGCC Table 915-1. The 2.95, 2.25 and 2.17 mg/kg arsenic concentrations of MPU_SS_01, MPU_SS_02, and MPU_SS_03 are results of elevated



background arsenic concentrations. Increased concentrations of arsenic are known to occur naturally in native soils in this region. Due to the established elevated background concentration identified in MPU_BG_01, Absaroka requests relief from the Table 915-1 arsenic concentration limit of 0.68 mg/kg.

If you have any questions or require any additional information, please contact me at your convenience.

Sincerely,

Ben Shoup, P.G.

Principal Consultant

Attachments (6):

- Project Location Map
- Sample Location Map
- Table 1: Description and Summary of Soil Samples Collected
- Table 2: Summary of Soil Sample Results
- Analytical Results
- Photolog

cc: Bob Redweik, Citation



Project Location Map



Map Key

* Project Location

MPU 13-25 Project Location

Cheyenne County, State of Colorado

0 0.2 0.4 0.8 Miles

Coordinate System: WGS 1984 UTM Zone 13N

N

112 High Street
Buffalo, Wyoming 82834
855.684.5891

www.absarokasolutions.com

CIT.CO.0518.01

Date: 4/20/2021

Scale: 1:14,000



Sample Location Map

Mount Pearl Unit #13-25

Sample Location Map

Legend

- MPU Background
- MPU SS





Table 1: Description and Summary of Soil Samples Collected

Sample ID	Latitude	Longitude	Sample Depth (In.)	EC Screening (mS/cm)	PID Screening (PPM VOCs)	Comment
MPU_SS_01	38.88650	-102.73889	0-6	0.38	0.6	Soil sample collected on pad.
MPU_SS_02	38.88612	-102.73851	0-6	0.28	0.6	Soil sample collected on pad.
MPU_SS_03	38.88625	-102.73875	0-6	0.13	0.4	Soil sample collected on pad.
MPU_BG_01	38.88650	-102.73890	0-6	0.41	1.0	Background soil sample northwest of pad.

ABSAROKA ENERGY AND ENVIRONMENTAL SOLUTIONS, LLC.

Table 2: Summary of Soil Sample Results

Table 915-1			Mount Pearl Unit 13-25			
CONCENTRATION LEVELS			Sample ID			
Contaminant of Concern	Concentrations	Units				
Organic Compounds in Soil			MPU_BG_01	MPU_SS_01	MPU_SS_02	MPU_SS_03
TPH (GRO)	500	mg/kg	N/A	ND	ND	ND
TPH (DRO)			N/A	ND	ND	ND
TPH (ORO)			N/A	ND	ND	ND
Benzene	1.2	mg/kg	N/A	ND	ND	ND
Toluene	490	mg/kg	N/A	ND	ND	ND
Ethylbenzene	5.8	mg/kg	N/A	ND	ND	ND
Xylenes (total)	58	mg/kg	N/A	ND	ND	ND
1,2,4-Trimethylbenzene	30	mg/kg	N/A	ND	ND	ND
1,3,5-Trimethylbenzene	27	mg/kg	N/A	ND	ND	ND
Acenaphthene	360	mg/kg	N/A	ND	ND	ND
Anthracene	1800	mg/kg	N/A	ND	ND	ND
Benz(A)anthracene	1.1	mg/kg	N/A	ND	ND	ND
Benzo(B)fluoranthene	1.1	mg/kg	N/A	ND	ND	ND
Benzo(K)fluoranthene	11	mg/kg	N/A	ND	ND	ND
Benzo(A)pyrene	0.11	mg/kg	N/A	ND	ND	ND
Chrysene	110	mg/kg	N/A	ND	ND	ND
Dibenzo(A,H)anthracene	0.11	mg/kg	N/A	ND	ND	ND
Fluoranthene	240	mg/kg	N/A	ND	ND	ND
Fluorene	240	mg/kg	N/A	ND	ND	ND
Indeno(1,2,3,C,D)pyrene	1.1	mg/kg	N/A	ND	ND	ND
1-Methylnapthalene	18	mg/kg	N/A	ND	ND	ND
2-Methylnapthalene	24	mg/kg	N/A	ND	ND	ND
Napthalene	2	mg/kg	N/A	ND	ND	ND
Pyrene	180	mg/kg	N/A	ND	ND	ND
Inorganics and Metals in Soils						
Electrical Conductivity (EC)	<4.0	mmohs/cm	0.113	0.307	0.144	0.0731
Sodium Adsorption Ratio (SAR)	<6.0	NA	0.256	0.385	0.143	0.732
pH	6.0-8.3	NA	7.69	7.94	7.84	7.97
Arsenic	0.68	mg/kg	2.82	2.95	2.25	2.17
Barium (total)	15,000	mg/kg	90.9	89.5	80.2	64.0
Boron (Hot Water Soluble)	2	mg/L	0.175	0.306	0.239	0.252
Cadmium	71	mg/kg	ND	ND	ND	ND
Chromium (VI)	0.3	mg/kg	ND	ND	ND	ND
Copper	3,100	mg/kg	8.90	6.79	7.65	5.01
Lead	400	mg/kg	11.6	8.73	27.8	9.82
Nickel	1,500	mg/kg	9.26	7.48	6.38	4.43
Selenium	390	mg/kg	1.13	1.03	0.918	0.675
Silver	390	mg/kg	0.0367	0.0251	0.0256	ND
Zinc	2300	mg/kg	38.8	24.6	128	20.8



Analytical Results

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 07, 2021

Ben Shoup

Absaroka Solutions

112 High Street

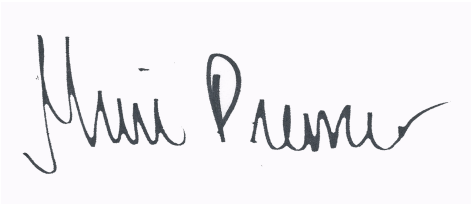
Buffalo, WY 82834

RE: Mount Pearl Unit 13-25

Work Order #2105386

Enclosed are the results of analyses for samples received by Summit Scientific on 05/24/21 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive style with a large, stylized "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury
President



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MPU_SS_01	2105386-01	Soil	05/20/21 10:14	05/24/21 17:30
MPU_SS_02	2105386-02	Soil	05/20/21 10:22	05/24/21 17:30
MPU_SS_03	2105386-03	Soil	05/20/21 10:26	05/24/21 17:30
MPU_BG_01	2105386-04	Soil	05/20/21 10:10	05/24/21 17:30

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

2105386

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 1

Client: Absaroka Energy & Environmental Solutions

Project Manager: Ben Shoup

Address: 112 High St.

E-Mail: ben.shoup@absarakasolutions.com

City/State/Zip: Buffalo, WY 82834

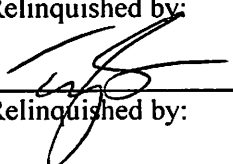

Phone: 307-299-5950

Project Name: Mount Pearl Unit 13-25

Sampler Name: Moran/Scherden

Project Number: CIT.CO.0518

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	Full 915 Suite	EC	SAR	pH	Boron*	Metals			
1	MPU_SS_01	5/20/21	1014	3			X			X				X							
2	MPU_SS_02	5/20/21	1022	3			X			X				X							
3	MPU_SS_03	5/20/21	1026	3			X			X				X							
4	MPU_BG_01	5/20/21	1010	3			X			X					X	X	X	X	X		
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes: *HWS - Hot Water Soluble
	5/20/21 1600		5/24/21 1730	Same Day	72 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours	Standard	
Relinquished by:	Date/Time:	Received by:	Date/Time:	48 hours	X	
				Sample Integrity:		
				Temperature Upon Receipt:	4	
				Samples Intact:	Yes	No

Sample Receipt Checklist

S2 Work Order: 2105386

Client: Absaroka

Client Project ID: Mount Pearl Unit 13-25

Shipped Via: ☒ H.D./P.U. ☐ FedEx/UPS/USPS/Other: _____ Airbill #: _____

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	<u>4</u>
-----------	----------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>On ice.</u>
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

JB
Custodian Printed Name or Initials

Josh Br
Signature of Custodian

5/24/21
Date/Time



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_01
2105386-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEE0477	05/25/21	05/28/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0478	05/25/21	05/28/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		79.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_01
2105386-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEF0118	06/04/21	06/06/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		44.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.306	0.0100	mg/L	1	BEF0008	06/01/21	06/02/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_01
2105386-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.95	0.248	mg/kg dry	1	BEF0078	06/03/21	06/04/21	EPA 6020B
Barium	89.5	0.495	"	"	"	"	"	"
Cadmium	ND	0.248	"	"	"	"	"	"
Copper	6.79	0.495	"	"	"	"	"	"
Lead	8.73	0.248	"	"	"	"	"	"
Nickel	7.48	0.495	"	"	"	"	"	"
Selenium	1.03	0.322	"	"	"	"	"	"
Silver	0.0251	0.0248	"	"	"	"	"	"
Zinc	24.6	0.495	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEE0525	05/27/21	05/28/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.9	0.0619	mg/L dry	1	BEE0500	05/26/21	05/28/21	EPA 6020B	
Magnesium	7.13	0.0619	"	"	"	"	"	"	
Sodium	10.7	0.0619	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.385	0.00100	units	1	BEF0012	06/01/21	06/02/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518

Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_01
2105386-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.8	%	1	BEF0013	06/01/21	06/01/21	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.307	0.0100	mmhos/cm	1	BEE0512	05/27/21	05/27/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/20/21 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BEE0513	05/27/21	05/27/21	EPA 9045D	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_02
2105386-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEE0477	05/25/21	05/28/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0478	05/25/21	05/28/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		86.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_02
2105386-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEF0118	06/04/21	06/06/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.239	0.0100	mg/L	1	BEF0008	06/01/21	06/02/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_02
2105386-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.25	0.217	mg/kg dry	1	BEF0078	06/03/21	06/04/21	EPA 6020B
Barium	80.2	0.434	"	"	"	"	"	"
Cadmium	ND	0.217	"	"	"	"	"	"
Copper	7.65	0.434	"	"	"	"	"	"
Lead	27.8	0.217	"	"	"	"	"	"
Nickel	6.38	0.434	"	"	"	"	"	"
Selenium	0.918	0.282	"	"	"	"	"	"
Silver	0.0256	0.0217	"	"	"	"	"	"
Zinc	128	0.434	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEE0525	05/27/21	05/28/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.9	0.0543	mg/L dry	1	BEE0500	05/26/21	05/28/21	EPA 6020B	
Magnesium	3.08	0.0543	"	"	"	"	"	"	
Sodium	2.65	0.0543	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.143	0.00100	units	1	BEF0012	06/01/21	06/02/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518

Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_02
2105386-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	92.1	%	1	BEF0013	06/01/21	06/01/21	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.144	0.0100	mmhos/cm	1	BEE0512	05/27/21	05/27/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/20/21 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BEE0513	05/27/21	05/27/21	EPA 9045D	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_03
2105386-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEE0477	05/25/21	05/28/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		95.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0478	05/25/21	05/28/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		78.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_03
2105386-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEF0118	06/04/21	06/06/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		44.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		46.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.252	0.0100	mg/L	1	BEF0008	06/01/21	06/02/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_03
2105386-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.17	0.246	mg/kg dry	1	BEF0078	06/03/21	06/04/21	EPA 6020B
Barium	64.0	0.493	"	"	"	"	"	"
Cadmium	ND	0.246	"	"	"	"	"	"
Copper	5.01	0.493	"	"	"	"	"	"
Lead	9.82	0.246	"	"	"	"	"	"
Nickel	4.43	0.493	"	"	"	"	"	"
Selenium	0.675	0.320	"	"	"	"	"	"
Silver	ND	0.0246	"	"	"	"	"	"
Zinc	20.8	0.493	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEE0525	05/27/21	05/28/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6.28	0.0616	mg/L dry	1	BEE0500	05/26/21	05/28/21	EPA 6020B	
Magnesium	1.44	0.0616	"	"	"	"	"	"	
Sodium	7.82	0.0616	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.732	0.00100	units	1	BEF0012	06/01/21	06/02/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_SS_03
2105386-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	81.2			%	1	BEF0013	06/01/21	06/01/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0731	0.0100		mmhos/cm	1	BEE0512	05/27/21	05/27/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/20/21 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.97			pH Units	1	BEE0513	05/27/21	05/27/21	EPA 9045D	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_BG_01
2105386-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.175	0.0100	mg/L	1	BEF0008	06/01/21	06/02/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.82	0.256	mg/kg dry	1	BEF0078	06/03/21	06/04/21	EPA 6020B	
Barium	90.9	0.513	"	"	"	"	"	"	
Cadmium	ND	0.256	"	"	"	"	"	"	
Copper	8.90	0.513	"	"	"	"	"	"	
Lead	11.6	0.256	"	"	"	"	"	"	
Nickel	9.26	0.513	"	"	"	"	"	"	
Selenium	1.13	0.333	"	"	"	"	"	"	
Silver	0.0367	0.0256	"	"	"	"	"	"	
Zinc	38.8	0.513	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEE0525	05/27/21	05/28/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	16.0	0.0641	mg/L dry	1	BEE0500	05/26/21	05/28/21	EPA 6020B	
Magnesium	2.86	0.0641	"	"	"	"	"	"	
Sodium	4.23	0.0641	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

MPU_BG_01
2105386-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.256	0.00100	units	1	BEF0012	06/01/21	06/02/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	78.0		%	1	BEF0013	06/01/21	06/01/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.113	0.0100	mmhos/cm	1	BEE0512	05/27/21	05/27/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/20/21 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.69		pH Units	1	BEE0513	05/27/21	05/27/21	EPA 9045D	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEE0477 - EPA 5030 Soil MS

Blank (BEE0477-BLK1)

Prepared: 05/25/21 Analyzed: 05/28/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0428		"	0.0400		107	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.0	21-167			

LCS (BEE0477-BS1)

Prepared: 05/25/21 Analyzed: 05/28/21

Benzene	0.128	0.0020	mg/kg	0.100		128	70-130			
Toluene	0.121	0.0050	"	0.100		121	70-130			
Ethylbenzene	0.116	0.0050	"	0.100		116	70-130			
m,p-Xylene	0.228	0.010	"	0.200		114	70-130			
o-Xylene	0.109	0.0050	"	0.100		109	70-130			
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100		112	70-130			
1,3,5-Trimethylbenzene	0.117	0.0050	"	0.100		117	70-130			
Naphthalene	0.0932	0.0038	"	0.100		93.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	21-167			

Matrix Spike (BEE0477-MS1)

Source: 2105355-01

Prepared: 05/25/21 Analyzed: 05/28/21

Benzene	0.121	0.0020	mg/kg	0.100	ND	121	70-130			
Toluene	0.130	0.0050	"	0.100	ND	130	70-130			
Ethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
m,p-Xylene	0.210	0.010	"	0.200	0.00390	103	70-130			
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130			
1,2,4-Trimethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130			
Naphthalene	0.109	0.0038	"	0.100	ND	109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0400		113	23-173			
Surrogate: Toluene-d8	0.0426		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.5	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEE0477 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0477-MSD1)		Source: 2105355-01			Prepared: 05/25/21 Analyzed: 05/28/21					
Benzene	0.125	0.0020	mg/kg	0.100	ND	125	70-130	3.48	30	
Toluene	0.121	0.0050	"	0.100	ND	121	70-130	6.62	30	
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	1.52	30	
m,p-Xylene	0.205	0.010	"	0.200	0.00390	101	70-130	2.14	30	
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130	0.808	30	
1,2,4-Trimethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	3.51	30	
1,3,5-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	4.60	30	
Naphthalene	0.104	0.0038	"	0.100	ND	104	70-130	4.69	30	
Surrogate: 1,2-Dichloroethane-d4	0.0453		"	0.0400		113	23-173			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518

Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BEE0478 - EPA 3550A

Blank (BEE0478-BLK1)

Prepared: 05/25/21 Analyzed: 05/28/21

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BEE0478-BS1)

Prepared: 05/25/21 Analyzed: 05/28/21

C10-C28 (DRO)	574	50	mg/kg	500	115	70-130
---------------	-----	----	-------	-----	-----	--------

Matrix Spike (BEE0478-MS1)

Source: 2105355-01

Prepared: 05/25/21 Analyzed: 05/28/21

C10-C28 (DRO)	636	50	mg/kg	500	12.6	125	70-130
---------------	-----	----	-------	-----	------	-----	--------

Matrix Spike Dup (BEE0478-MSD1)

Source: 2105355-01

Prepared: 05/25/21 Analyzed: 05/28/21

C10-C28 (DRO)	361	50	mg/kg	500	12.6	69.7	70-130	55.1	20	QM-07
---------------	-----	----	-------	-----	------	------	--------	------	----	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result		%REC	Limits	RPD	Limit
Notes											

Batch BEF0118 - EPA 5030 Soil MS

Blank (BEF0118-BLK1)

Prepared: 06/04/21 Analyzed: 06/06/21

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
Surrogate: 2-Methylnaphthalene-d10	0.0188		"	0.0333		56.4		40-150			
Surrogate: Fluoranthene-d10	0.0196		"	0.0333		58.9		40-150			

LCS (BEF0118-BS1)

Prepared: 06/04/21 Analyzed: 06/06/21

Acenaphthene	0.0304	0.00500	mg/kg	0.0333		91.1		31-137			
Anthracene	0.0304	0.00500	"	0.0333		91.3		30-120			
Benzo (a) anthracene	0.0302	0.00500	"	0.0333		90.6		30-120			
Benzo (a) pyrene	0.0297	0.00500	"	0.0333		89.0		30-120			
Benzo (b) fluoranthene	0.0307	0.00500	"	0.0333		92.0		30-120			
Benzo (k) fluoranthene	0.0307	0.00500	"	0.0333		92.0		30-120			
Chrysene	0.0304	0.00500	"	0.0333		91.2		30-120			
Dibenz (a,h) anthracene	0.0288	0.00500	"	0.0333		86.4		30-120			
Fluoranthene	0.0376	0.00500	"	0.0333		113		30-120			
Fluorene	0.0296	0.00500	"	0.0333		88.9		30-120			
Indeno (1,2,3-cd) pyrene	0.0285	0.00500	"	0.0333		85.4		30-120			
Pyrene	0.0323	0.00500	"	0.0333		97.0		35-142			
1-Methylnaphthalene	0.0283	0.00500	"	0.0333		84.8		35-142			
2-Methylnaphthalene	0.0316	0.00500	"	0.0333		94.7		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0166		"	0.0333		49.7		40-150			
Surrogate: Fluoranthene-d10	0.0174		"	0.0333		52.2		40-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEF0118 - EPA 5030 Soil MS

Matrix Spike (BEF0118-MS1)

Source: 2105160-01

Prepared: 06/04/21 Analyzed: 06/06/21

Acenaphthene	0.0319	0.00500	mg/kg	0.0333	ND	95.7	31-137		
Anthracene	0.0318	0.00500	"	0.0333	ND	95.3	30-120		
Benzo (a) anthracene	0.0324	0.00500	"	0.0333	ND	97.1	30-120		
Benzo (a) pyrene	0.0317	0.00500	"	0.0333	ND	95.1	30-120		
Benzo (b) fluoranthene	0.0313	0.00500	"	0.0333	ND	93.9	30-120		
Benzo (k) fluoranthene	0.0311	0.00500	"	0.0333	ND	93.3	30-120		
Chrysene	0.0320	0.00500	"	0.0333	ND	95.9	30-120		
Dibenz (a,h) anthracene	0.0305	0.00500	"	0.0333	ND	91.6	30-120		
Fluoranthene	0.0203	0.00500	"	0.0333	ND	61.0	30-120		
Fluorene	0.0317	0.00500	"	0.0333	ND	95.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0306	0.00500	"	0.0333	ND	91.8	30-120		
Pyrene	0.0333	0.00500	"	0.0333	ND	100	35-142		
1-Methylnaphthalene	0.0306	0.00500	"	0.0333	ND	91.8	15-130		
2-Methylnaphthalene	0.0338	0.00500	"	0.0333	ND	102	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0198		"	0.0333		59.3	40-150		
Surrogate: Fluoranthene-d10	0.0152		"	0.0333		45.5	40-150		

Matrix Spike Dup (BEF0118-MSD1)

Source: 2105160-01

Prepared: 06/04/21 Analyzed: 06/06/21

Acenaphthene	0.0316	0.00500	mg/kg	0.0333	ND	94.7	31-137	0.981	30
Anthracene	0.0320	0.00500	"	0.0333	ND	96.0	30-120	0.799	30
Benzo (a) anthracene	0.0329	0.00500	"	0.0333	ND	98.6	30-120	1.56	30
Benzo (a) pyrene	0.0316	0.00500	"	0.0333	ND	94.7	30-120	0.336	30
Benzo (b) fluoranthene	0.0318	0.00500	"	0.0333	ND	95.3	30-120	1.41	30
Benzo (k) fluoranthene	0.0316	0.00500	"	0.0333	ND	94.8	30-120	1.62	30
Chrysene	0.0326	0.00500	"	0.0333	ND	97.7	30-120	1.85	30
Dibenz (a,h) anthracene	0.0300	0.00500	"	0.0333	ND	89.9	30-120	1.93	30
Fluoranthene	0.0241	0.00500	"	0.0333	ND	72.3	30-120	16.9	30
Fluorene	0.0318	0.00500	"	0.0333	ND	95.4	30-120	0.213	30
Indeno (1,2,3-cd) pyrene	0.0301	0.00500	"	0.0333	ND	90.4	30-120	1.61	30
Pyrene	0.0348	0.00500	"	0.0333	ND	104	35-142	4.36	30
1-Methylnaphthalene	0.0325	0.00500	"	0.0333	ND	97.4	15-130	5.89	50
2-Methylnaphthalene	0.0322	0.00500	"	0.0333	ND	96.6	15-130	4.95	50
Surrogate: 2-Methylnaphthalene-d10	0.0163		"	0.0333		48.8	40-150		
Surrogate: Fluoranthene-d10	0.0163		"	0.0333		48.8	40-150		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEF0008 - EPA 3050B

Blank (BEF0008-BLK1)

Prepared: 06/01/21 Analyzed: 06/02/21

Boron ND 0.0100 mg/L

LCS (BEF0008-BS1)

Prepared: 06/01/21 Analyzed: 06/02/21

Boron 5.41 0.0100 mg/L 5.00 108 80-120

Duplicate (BEF0008-DUP1)

Source: 2105385-02

Prepared: 06/01/21 Analyzed: 06/02/21

Boron 0.647 0.0100 mg/L 0.695 7.19 20

Matrix Spike (BEF0008-MS1)

Source: 2105385-02

Prepared: 06/01/21 Analyzed: 06/02/21

Boron 6.18 0.0100 mg/L 5.00 0.695 110 75-125

Matrix Spike Dup (BEF0008-MSD1)

Source: 2105385-02

Prepared: 06/01/21 Analyzed: 06/02/21

Boron 6.45 0.0100 mg/L 5.00 0.695 115 75-125 4.15 25

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEF0078 - EPA 3050B

Blank (BEF0078-BLK1)

Prepared: 06/03/21 Analyzed: 06/04/21

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BEF0078-BS1)

Prepared: 06/03/21 Analyzed: 06/04/21

Arsenic	44.7	0.200	mg/kg wet	40.0	112	80-120
Barium	40.8	0.400	"	40.0	102	80-120
Cadmium	2.03	0.200	"	2.00	102	80-120
Copper	40.6	0.400	"	40.0	101	80-120
Lead	19.5	0.200	"	20.0	97.4	80-120
Nickel	41.1	0.400	"	40.0	103	80-120
Selenium	4.31	0.260	"	4.00	108	80-120
Silver	2.01	0.0200	"	2.00	101	80-120
Zinc	41.2	0.400	"	40.0	103	80-120

Duplicate (BEF0078-DUP1)

Source: 2105284-09

Prepared: 06/03/21 Analyzed: 06/04/21

Arsenic	0.357	0.210	mg/kg dry	0.347	2.68	20
Barium	35.7	0.421	"	39.0	8.87	20
Cadmium	0.0366	0.210	"	0.0428	15.6	20
Copper	3.20	0.421	"	3.22	0.385	20
Lead	3.79	0.210	"	3.94	4.00	20
Nickel	3.01	0.421	"	3.57	17.2	20
Selenium	0.924	0.273	"	1.07	14.8	20
Silver	0.0230	0.0210	"	0.0232	0.882	20
Zinc	13.6	0.421	"	14.7	7.60	20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEF0078 - EPA 3050B

Matrix Spike (BEF0078-MS1)

Source: 2105284-09

Prepared: 06/03/21 Analyzed: 06/04/21

Arsenic	49.6	0.210	mg/kg dry	42.1	0.347	117	75-125
Barium	75.6	0.421	"	42.1	39.0	87.1	75-125
Cadmium	2.19	0.210	"	2.10	0.0428	102	75-125
Copper	44.9	0.421	"	42.1	3.22	99.0	75-125
Lead	22.0	0.210	"	21.0	3.94	85.8	75-125
Nickel	45.9	0.421	"	42.1	3.57	101	75-125
Selenium	4.87	0.273	"	4.21	1.07	90.3	75-125
Silver	2.11	0.0210	"	2.10	0.0232	99.1	75-125
Zinc	56.7	0.421	"	42.1	14.7	100	75-125

Matrix Spike Dup (BEF0078-MSD1)

Source: 2105284-09

Prepared: 06/03/21 Analyzed: 06/04/21

Arsenic	49.9	0.210	mg/kg dry	42.1	0.347	118	75-125	0.644	25
Barium	77.8	0.421	"	42.1	39.0	92.3	75-125	2.85	25
Cadmium	2.21	0.210	"	2.10	0.0428	103	75-125	1.32	25
Copper	45.6	0.421	"	42.1	3.22	101	75-125	1.68	25
Lead	22.2	0.210	"	21.0	3.94	87.0	75-125	1.12	25
Nickel	46.8	0.421	"	42.1	3.57	103	75-125	2.02	25
Selenium	5.09	0.273	"	4.21	1.07	95.6	75-125	4.45	25
Silver	2.14	0.0210	"	2.10	0.0232	100	75-125	1.33	25
Zinc	59.2	0.421	"	42.1	14.7	106	75-125	4.29	25

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25
Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEE0525 - 3060A Mod

Blank (BEE0525-BLK1)

Prepared: 05/27/21 Analyzed: 05/28/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEE0525-BS1)

Prepared: 05/27/21 Analyzed: 05/28/21

Chromium, Hexavalent 25.4 0.30 mg/kg wet 25.0 101 80-120

Duplicate (BEE0525-DUP1)

Source: 2104415-01

Prepared: 05/27/21 Analyzed: 05/28/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEE0525-MS1)

Source: 2104415-01

Prepared: 05/27/21 Analyzed: 05/28/21

Chromium, Hexavalent 28.7 0.30 mg/kg dry 28.8 ND 99.6 75-125

Matrix Spike Dup (BEE0525-MSD1)

Source: 2104415-01

Prepared: 05/27/21 Analyzed: 05/28/21

Chromium, Hexavalent 28.8 0.30 mg/kg dry 28.8 ND 100 75-125 0.401 20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518

Project Manager: Ben Shoup

Reported:

06/07/21 16:01

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEE0500 - General Preparation

Blank (BEE0500-BLK1)

Prepared: 05/26/21 Analyzed: 05/27/21

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BEE0500-BS1)

Prepared: 05/26/21 Analyzed: 05/27/21

Calcium	4.88	0.0500	mg/L wet	5.00	97.6	70-130
Magnesium	5.43	0.0500	"	5.00	109	70-130
Sodium	4.94	0.0500	"	5.00	98.8	70-130

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518

Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BEF0013 - General Preparation

Duplicate (BEF0013-DUP1)

Source: 2105384-04

Prepared & Analyzed: 06/01/21

% Solids	93.4	%	90.8	2.82	20
----------	------	---	------	------	----

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518

Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BEE0512 - General Preparation

Blank (BEE0512-BLK1)

Prepared & Analyzed: 05/27/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEE0512-BS1)

Prepared & Analyzed: 05/27/21

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 90-110

Duplicate (BEE0512-DUP1)

Source: 2105370-01

Prepared & Analyzed: 05/27/21

Specific Conductance (EC) 7.92 0.0100 mmhos/cm 7.92 0.0253 20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518

Project Manager: Ben Shoup

Reported:

06/07/21 16:01

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BEE0513 - General Preparation

LCS (BEE0513-BS1)

Prepared & Analyzed: 05/27/21

pH	9.27	pH Units	9.21	101	95-105
----	------	----------	------	-----	--------

Duplicate (BEE0513-DUP1)

Source: 2105370-01

Prepared & Analyzed: 05/27/21

pH	7.89	pH Units	7.88	0.127	20
----	------	----------	------	-------	----

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Absaroka Solutions
112 High Street
Buffalo WY, 82834

Project: Mount Pearl Unit 13-25

Project Number: CIT.CO.0518
Project Manager: Ben Shoup

Reported:
06/07/21 16:01

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



Photolog



Photographic Log

Mount Pearl Unit #13-25

Site Soil Sampling

(May 20, 2021)

Table of Contents

OVERVIEW	1
SOIL SAMPLING	4

OVERVIEW



Photo No 1:

Description: Location sign for Mount Pearl Unit #13-25.



Photo No 2:

Description: Site location facing northeast.



Photo No 3:

Description: Site location facing northwest.



Photo No 4:

Description: Site location facing west.



Photo No 5:

Description: Site location facing southwest.



Photo No 6:

Description: Site location facing southeast.

SOIL SAMPLING



Photo No 9:

Description:
Sampling location of
MPU_SS_01.



Photo No 10:

Description:
Sampling location of
MPU_SS_02.



Photo No 11:

Description:
Sampling location of
MPU_SS_03.



Photo No 12:

Description:
Sampling location of
MPU_BG_01.