

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 03, 2024

Paul Henchan
Fremont Environmental
PO Box 1289
Wellington, CO 80549
RE: PDC - Kortum Pad
Work Order #2408301

Enclosed are the results of analyses for samples received by Summit Scientific on 08/23/24 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG-NE-ON PAD	2408301-01	Soil	08/22/24 00:00	08/23/24 17:30
BG-SE-ON PAD	2408301-02	Soil	08/22/24 00:00	08/23/24 17:30
BG-NE	2408301-03	Soil	08/22/24 00:00	08/23/24 17:30
BG-NC	2408301-04	Soil	08/22/24 00:00	08/23/24 17:30
BG-NW	2408301-05	Soil	08/22/24 00:00	08/23/24 17:30

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S₂

2408301

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Fremont Environmental Inc.

Project Manager: Paul Henehan

Address:

E-Mail: PDC

City/State/Zip:

Phone:

Project Name: KORTUM PAD

Sampler Name: HENEHAN

Project Number:

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	GBTEXN+TMBs	DRO,RRO	PAHs	pH, EC, SAR	Boron	915-1 metals	Arsenic	BTEXN + TMBs	TDS, Cl, Su		
1	BG-NE - ON PAD	8/22/24		2			✓			✓							✓	✓	✓				
2	BG-SE - ON PAD	↓		↓						↓							↓	↓	↓				
3	BG-NE	↓		↓						↓							↓	↓	↓				
4	BG-NC																						
5	BG-NW																						
6																							
7																							
8																							
9																							
10																							
Relinquished by: <i>MJFE</i>		Date/Time: 8/23/24		Received by: <i>[Signature]</i>		Date/Time: 8/23/24 1730		Turn Around Time (Check)				Same Day ___		72 hours ___		24 hours ___		48 hours ___		Standard <input checked="" type="checkbox"/>		Notes:	
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:				Temperature Upon Receipt: 8.8		Samples Intact: Yes <input checked="" type="checkbox"/> No									

S₂

Sample Receipt Checklist

S2 Work Order# 2408301

Client: Fremont Client Project ID: Kartum Pad

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

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no sample times
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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"/>	
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"/>	
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⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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.

AS
Custodian Printed Name

8/23/24
Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

BG-NE-ON PAD
2408301-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHH0767	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.37	0.181		mg/kg dry	1	BHH0771	08/26/24	08/29/24	EPA 6020B	
Barium	38.9	0.362		"	"	"	"	"	"	
Cadmium	0.351	0.181		"	"	"	"	"	"	
Copper	7.57	0.362		"	"	"	"	"	"	
Lead	13.4	0.181		"	"	"	"	"	"	
Nickel	6.55	0.362		"	"	"	"	"	"	
Silver	0.0376	0.0181		"	"	"	"	"	"	
Zinc	18.6	0.362		"	"	"	"	"	"	
Selenium	0.380	0.236		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHH0814	08/27/24	08/27/24	EPA 7196A	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	98.9	0.0500		mg/L dry	1	BHH0844	08/27/24	08/29/24	EPA 6020B	
Magnesium	52.3	0.0500		"	"	"	"	"	"	
Sodium	620	0.0500		"	"	"	"	"	"	

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Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

BG-NE-ON PAD
2408301-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	12.5	0.00100	units	1	BHI0021	09/03/24	09/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.0		%	1	BHH0773	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.42	0.0100	mmhos/cm	1	BHH0846	08/27/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.11		pH Units	1	BHH0845	08/27/24	08/29/24	EPA 9045D	

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Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

BG-SE-ON PAD
2408301-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHH0767	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.86	0.200	mg/kg dry	1	BHH0771	08/26/24	08/29/24	EPA 6020B	
Barium	16.8	0.400	"	"	"	"	"	"	
Cadmium	0.561	0.200	"	"	"	"	"	"	
Copper	10.2	0.400	"	"	"	"	"	"	
Lead	15.4	0.200	"	"	"	"	"	"	
Nickel	11.4	0.400	"	"	"	"	"	"	
Silver	0.0418	0.0200	"	"	"	"	"	"	
Zinc	21.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0814	08/27/24	08/27/24	EPA 7196A	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	60.1	0.0500	mg/L dry	1	BHH0844	08/27/24	08/29/24	EPA 6020B	
Magnesium	43.8	0.0500	"	"	"	"	"	"	
Sodium	729	0.0500	"	"	"	"	"	"	

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 PO Box 1289
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Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

BG-SE-ON PAD
2408301-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	17.5	0.00100	units	1	BHI0021	09/03/24	09/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.4		%	1	BHH0773	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.50	0.0100	mmhos/cm	1	BHH0846	08/27/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.36		pH Units	1	BHH0845	08/27/24	08/29/24	EPA 9045D	

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PO Box 1289
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Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

BG-NE
2408301-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHH0767	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.05	0.200	mg/kg dry	1	BHH0771	08/26/24	08/29/24	EPA 6020B	
Barium	98.1	0.400	"	"	"	"	"	"	
Cadmium	0.238	0.200	"	"	"	"	"	"	
Copper	6.07	0.400	"	"	"	"	"	"	
Lead	8.29	0.200	"	"	"	"	"	"	
Nickel	6.58	0.400	"	"	"	"	"	"	
Silver	0.0449	0.0200	"	"	"	"	"	"	
Zinc	17.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0814	08/27/24	08/27/24	EPA 7196A	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	88.5	0.0500	mg/L dry	1	BHH0844	08/27/24	08/29/24	EPA 6020B	
Magnesium	14.7	0.0500	"	"	"	"	"	"	
Sodium	72.3	0.0500	"	"	"	"	"	"	

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Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

BG-NE
2408301-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.88	0.00100	units	1	BHI0021	09/03/24	09/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.5		%	1	BHH0773	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.528	0.0100	mmhos/cm	1	BHH0846	08/27/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.39		pH Units	1	BHH0845	08/27/24	08/29/24	EPA 9045D	

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Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

BG-NC
2408301-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHH0767	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	6.62	0.200	mg/kg dry	1	BHH0771	08/26/24	08/29/24	EPA 6020B	
Barium	219	0.400	"	"	"	"	"	"	
Cadmium	0.453	0.200	"	"	"	"	"	"	
Copper	6.97	0.400	"	"	"	"	"	"	
Lead	14.5	0.200	"	"	"	"	"	"	
Nickel	7.70	0.400	"	"	"	"	"	"	
Silver	0.0863	0.0200	"	"	"	"	"	"	
Zinc	26.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0814	08/27/24	08/27/24	EPA 7196A	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	199	0.0500	mg/L dry	1	BHH0844	08/27/24	08/29/24	EPA 6020B	
Magnesium	216	0.0500	"	"	"	"	"	"	
Sodium	92.1	0.0500	"	"	"	"	"	"	

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 PO Box 1289
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Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

BG-NC
2408301-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.08	0.00100	units	1	BHI0021	09/03/24	09/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.5		%	1	BHH0773	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.491	0.0100	mmhos/cm	1	BHH0846	08/27/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17		pH Units	1	BHH0845	08/27/24	08/29/24	EPA 9045D	

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PO Box 1289
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Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

BG-NW
2408301-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHH0767	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	6.15	0.200	mg/kg dry	1	BHH0771	08/26/24	08/29/24	EPA 6020B	
Barium	131	0.400	"	"	"	"	"	"	
Cadmium	0.401	0.200	"	"	"	"	"	"	
Copper	6.77	0.400	"	"	"	"	"	"	
Lead	13.5	0.200	"	"	"	"	"	"	
Nickel	7.47	0.400	"	"	"	"	"	"	
Silver	0.0989	0.0200	"	"	"	"	"	"	
Zinc	26.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0814	08/27/24	08/27/24	EPA 7196A	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	196	0.0500	mg/L dry	1	BHH0844	08/27/24	08/29/24	EPA 6020B	
Magnesium	399	0.0500	"	"	"	"	"	"	
Sodium	189	0.0500	"	"	"	"	"	"	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

BG-NW
2408301-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.78	0.00100	units	1	BHI0021	09/03/24	09/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.7		%	1	BHH0773	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.750	0.0100	mmhos/cm	1	BHH0846	08/27/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.26		pH Units	1	BHH0845	08/27/24	08/29/24	EPA 9045D	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

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

Summit Scientific

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

Batch BHH0767 - EPA 3050B

Blank (BHH0767-BLK1)

Prepared: 08/26/24 Analyzed: 08/29/24

Boron ND 2.00 mg/L

LCS (BHH0767-BS1)

Prepared: 08/26/24 Analyzed: 08/29/24

Boron 4.94 2.00 mg/L 5.00 98.8 80-120

Duplicate (BHH0767-DUP1)

Source: 2408301-01

Prepared: 08/26/24 Analyzed: 08/29/24

Boron 0.518 2.00 mg/L 0.499 3.86 20

Matrix Spike (BHH0767-MS1)

Source: 2408301-01

Prepared: 08/26/24 Analyzed: 08/29/24

Boron 5.85 2.00 mg/L 4.99 0.499 107 75-125

Matrix Spike Dup (BHH0767-MSD1)

Source: 2408301-01

Prepared: 08/26/24 Analyzed: 08/29/24

Boron 5.87 2.00 mg/L 4.99 0.499 108 75-125 0.325 25

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHH0771 - EPA 3050B

Blank (BHH0771-BLK1)

Prepared: 08/26/24 Analyzed: 08/29/24

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	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							
Selenium	ND	0.260	"							

LCS (BHH0771-BS1)

Prepared: 08/26/24 Analyzed: 08/29/24

Arsenic	32.5	0.200	mg/kg wet	36.5	89.0	80-120
Barium	32.4	0.400	"	36.5	88.8	80-120
Cadmium	1.62	0.200	"	1.82	88.9	80-120
Copper	34.6	0.400	"	36.5	94.8	80-120
Lead	16.8	0.200	"	18.2	92.0	80-120
Nickel	34.2	0.400	"	36.5	93.8	80-120
Silver	1.64	0.0200	"	1.82	89.7	80-120
Zinc	34.0	0.400	"	36.5	93.1	80-120
Selenium	3.27	0.260	"	3.65	89.6	80-120

Duplicate (BHH0771-DUP1)

Source: 2408300-01

Prepared: 08/26/24 Analyzed: 08/29/24

Arsenic	2.53	0.200	mg/kg dry	3.91	42.8	20	QR-02
Barium	109	0.400	"	116	6.55	20	
Cadmium	0.199	0.200	"	0.400	66.9	20	QR-01
Copper	5.82	0.400	"	6.30	7.89	20	
Lead	6.76	0.200	"	7.57	11.3	20	
Nickel	4.90	0.400	"	6.04	20.8	20	QR-02
Silver	0.0438	0.0200	"	0.0391	11.4	20	
Zinc	18.9	0.400	"	22.1	15.5	20	
Selenium	ND	0.260	"	ND		20	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHH0771 - EPA 3050B

Matrix Spike (BHH0771-MS1)

Source: 2408300-01

Prepared: 08/26/24 Analyzed: 08/29/24

Arsenic	39.2	0.200	mg/kg dry	41.8	3.91	84.3	75-125			
Barium	158	0.400	"	41.8	116	101	75-125			
Cadmium	2.10	0.200	"	2.09	0.400	81.2	75-125			
Copper	27.6	0.400	"	41.8	6.30	50.9	75-125			QM-05
Lead	24.3	0.200	"	20.9	7.57	80.3	75-125			
Nickel	26.2	0.400	"	41.8	6.04	48.2	75-125			QM-05
Silver	1.90	0.0200	"	2.09	0.0391	89.1	75-125			
Zinc	41.9	0.400	"	41.8	22.1	47.4	75-125			QM-05
Selenium	3.31	0.260	"	4.18	ND	79.3	75-125			

Matrix Spike Dup (BHH0771-MSD1)

Source: 2408300-01

Prepared: 08/26/24 Analyzed: 08/29/24

Arsenic	38.6	0.200	mg/kg dry	42.7	3.91	81.3	75-125	1.31	25	
Barium	131	0.400	"	42.7	116	35.1	75-125	18.7	25	QM-05
Cadmium	2.10	0.200	"	2.14	0.400	79.7	75-125	0.355	25	
Copper	27.5	0.400	"	42.7	6.30	49.5	75-125	0.442	25	QM-05
Lead	24.4	0.200	"	21.4	7.57	78.7	75-125	0.187	25	
Nickel	26.4	0.400	"	42.7	6.04	47.7	75-125	0.950	25	QM-05
Silver	1.93	0.0200	"	2.14	0.0391	88.7	75-125	1.67	25	
Zinc	40.5	0.400	"	42.7	22.1	42.9	75-125	3.61	25	QM-05
Selenium	3.42	0.260	"	4.27	ND	80.0	75-125	3.09	25	

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHH0814 - 3060A Mod

Blank (BHH0814-BLK1)

Prepared & Analyzed: 08/27/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHH0814-BS1)

Prepared & Analyzed: 08/27/24

Chromium, Hexavalent 4.85 0.30 mg/kg wet 5.00 97.0 80-120

Duplicate (BHH0814-DUP1)

Source: 2408301-01

Prepared & Analyzed: 08/27/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHH0814-MS1)

Source: 2408301-01

Prepared & Analyzed: 08/27/24

Chromium, Hexavalent 5.97 0.30 mg/kg dry 6.03 ND 99.0 75-125

Matrix Spike Dup (BHH0814-MSD1)

Source: 2408301-01

Prepared & Analyzed: 08/27/24

Chromium, Hexavalent 6.33 0.30 mg/kg dry 6.03 ND 105 75-125 5.88 20

Summit Scientific

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Fremont Environmental
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Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

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

Summit Scientific

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

Batch BHH0844 - General Preparation

Blank (BHH0844-BLK1)

Prepared: 08/27/24 Analyzed: 08/29/24

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

LCS (BHH0844-BS1)

Prepared: 08/27/24 Analyzed: 08/30/24

Calcium	5.13	0.0500	mg/L wet	5.00		103	70-130			
Magnesium	4.92	0.0500	"	5.00		98.5	70-130			
Sodium	5.15	0.0500	"	5.00		103	70-130			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

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

Summit Scientific

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

Batch BHH0773 - General Preparation

Duplicate (BHH0773-DUP1)

Source: 2408281-01

Prepared & Analyzed: 08/26/24

% Solids	88.9		%		89.1			0.210		20	
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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

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

Summit Scientific

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

Batch BHH0846 - General Preparation

Blank (BHH0846-BLK1)

Prepared: 08/27/24 Analyzed: 08/29/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHH0846-BS1)

Prepared: 08/27/24 Analyzed: 08/29/24

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BHH0846-DUP1)

Source: 2408297-01

Prepared: 08/27/24 Analyzed: 08/29/24

Specific Conductance (EC) 0.503 0.0100 mmhos/cm 0.508 1.05 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 09/03/24 11:50

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

Summit Scientific

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

Batch BHH0845 - General Preparation

LCS (BHH0845-BS1)

Prepared: 08/27/24 Analyzed: 08/29/24

pH	9.01	pH Units	9.18	98.1	95-105
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Duplicate (BHH0845-DUP1)

Source: 2408297-01

Prepared: 08/27/24 Analyzed: 08/29/24

pH	7.90	pH Units	8.05	1.88	20
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Kortum Pad

Project Number: [none]
Project Manager: Paul Henchan

Reported:
09/03/24 11:50

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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