

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 23, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - McKay Federal AB02-14

Work Order #2410250

Enclosed are the results of analyses for samples received by Summit Scientific on 10/16/24 17:21. 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 fluid and cursive, with the first name being more prominent.

Natalie Tessier For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14

Project Number: UWRWE-A2604-ABN

Project Manager: Paul Henchan

Reported:
10/23/24 09:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP FL01 - 4FT	2410250-01	Soil	10/16/24 00:00	10/16/24 17:21

Summit Scientific

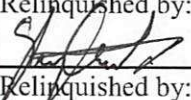
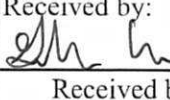
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4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2410250	

			Send Data To:										Send Invoice To:									
Client: Fremont Environmental			Project Manager: Paul Henehan										Company: Noble									
Address:			E-Mail: Fremont Distribution List										Project Name/Location:									
City/State/Zip:													AFE#:									
Phone: 303-261-6246			Project Name: McKay Federal AB02-14										PO/Billing Codes: UWRWE-A2604-ABN									
Sampler Name: Stanley Gilbert			Project Number:										Contact: Mike Montoya									
			Preservative				Matrix				Analysis Requested						Special Instructions					
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)	TDS, Chloride, Sulfate	HOLD			
1	SEP FLO1-4F+	10/16/24		2			X			X			X	X	X	X	X					
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: 	Date/Time: 10/16/24 17:18	Received by: 	Date/Time: 10/16/24 17:21	TAT Business Days	Field DO	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	Field Turb.	
Temperature Upon Receipt: 1.50L		Corrected Temperature		IR gun #:		HNO3 lot #:

S₂

Sample Receipt Checklist

S2 Work Order# 2410250Client: Fremont Environmental Client Project ID: Mckay Federal A802-14Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: _____
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 15.0 Thermometer # 02

	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 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"/>	
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.				

Control Form #: SRC-001


 Custodian Printed Name

10/16/24 17:21
 Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

SEP FL01 - 4FT
2410250-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/16/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0406	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.85	78.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PAH by EPA Method 8270D SIM

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0198	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00938	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0209	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00615	0.00500	"	"	"	"	"	"	
Chrysene	0.0226	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0510	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00570	0.00500	"	"	"	"	"	"	
Pyrene	0.0420	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0166	49.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0225	67.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0838	10/21/24	10/22/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Manager: Paul Henchan

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SEP FL01 - 4FT
2410250-01 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.27	0.200	mg/kg dry	1	BHJ0832	10/21/24	10/22/24	EPA 6020B
Barium	59.8	0.400	"	"	"	"	"	"
Cadmium	0.201	0.200	"	"	"	"	"	"
Copper	6.24	0.400	"	"	"	"	"	"
Lead	6.41	0.200	"	"	"	"	"	"
Nickel	5.61	0.400	"	"	"	"	"	"
Silver	0.0210	0.0200	"	"	"	"	"	"
Zinc	22.2	0.400	"	"	"	"	"	"
Selenium	0.276	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0680	10/17/24	10/17/24	EPA 7196A	

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

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	70.9	0.0500	mg/L dry	1	BHJ0790	10/18/24	10/22/24	EPA 6020B	
Magnesium	8.23	0.0500	"	"	"	"	"	"	
Sodium	3.49	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.105	0.00100	units	1	BHJ0952	10/23/24	10/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SEP FL01 - 4FT
2410250-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.9	%	1	BHJ0664	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.111	0.0100	mmhos/cm	1	BHJ0791	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/16/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.35		pH Units	1	BHJ0792	10/18/24	10/21/24	EPA 9045D	

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Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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 BHJ0690 - EPA 5030 Soil MS

Blank (BHJ0690-BLK1)

Prepared & Analyzed: 10/17/24

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	0.0446		"	0.0400		111	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

LCS (BHJ0690-BS1)

Prepared & Analyzed: 10/17/24

Benzene	0.111	0.0020	mg/kg	0.100		111	70-130			
Toluene	0.112	0.0050	"	0.100		112	70-130			
Ethylbenzene	0.117	0.0050	"	0.100		117	70-130			
m,p-Xylene	0.233	0.010	"	0.200		117	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100		110	70-130			
1,3,5-Trimethylbenzene	0.114	0.0050	"	0.100		114	70-130			
Naphthalene	0.104	0.0038	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0432		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	50-150			

Matrix Spike (BHJ0690-MS1)

Source: 2410239-01

Prepared & Analyzed: 10/17/24

Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
m,p-Xylene	0.221	0.010	"	0.200	0.00321	109	70-130			
o-Xylene	0.0975	0.0050	"	0.100	ND	97.5	70-130			
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
1,3,5-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0451		"	0.0400		113	50-150			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	50-150			

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Project Manager: Paul Henchan

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10/23/24 09:32

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 BHJ0690 - EPA 5030 Soil MS

Matrix Spike Dup (BHJ0690-MSD1)	Source: 2410239-01			Prepared & Analyzed: 10/17/24						
Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130	0.368	30	
Toluene	0.108	0.0050	"	0.100	ND	108	70-130	2.70	30	
Ethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130	0.569	30	
m,p-Xylene	0.227	0.010	"	0.200	0.00321	112	70-130	2.90	30	
o-Xylene	0.0976	0.0050	"	0.100	ND	97.6	70-130	0.154	30	
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	1.56	30	
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130	0.867	30	
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130	0.254	30	
Surrogate: 1,2-Dichloroethane-d4	0.0440		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	50-150			

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Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHJ0691 - EPA 3550A

Blank (BHJ0691-BLK1)

Prepared & Analyzed: 10/17/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	14.3		"	12.5		114	30-150			

LCS (BHJ0691-BS1)

Prepared & Analyzed: 10/17/24

C10-C28 (DRO)	471	50	mg/kg	500		94.3	70-130			
Surrogate: o-Terphenyl	13.5		"	12.5		108	30-150			

Matrix Spike (BHJ0691-MS1)

Source: 2410239-01

Prepared & Analyzed: 10/17/24

C10-C28 (DRO)	483	50	mg/kg	500	ND	96.6	70-130			
Surrogate: o-Terphenyl	11.2		"	12.5		89.6	30-150			

Matrix Spike Dup (BHJ0691-MSD1)

Source: 2410239-01

Prepared: 10/17/24 Analyzed: 10/18/24

C10-C28 (DRO)	483	50	mg/kg	500	ND	96.7	70-130	0.0434	20	
Surrogate: o-Terphenyl	11.3		"	12.5		90.2	30-150			

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Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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 BHJ0669 - EPA 5030 Soil MS

Blank (BHJ0669-BLK1)

Prepared: 10/17/24 Analyzed: 10/18/24

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	0.0153		"	0.0333		46.0	40-150			
Surrogate: Fluoranthene-d10	0.0222		"	0.0333		66.6	40-150			

LCS (BHJ0669-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

Acenaphthene	0.0225	0.00500	mg/kg	0.0333		67.6	31-137			
Anthracene	0.0240	0.00500	"	0.0333		72.0	30-120			
Benzo (a) anthracene	0.0237	0.00500	"	0.0333		71.2	30-120			
Benzo (a) pyrene	0.0206	0.00500	"	0.0333		61.9	30-120			
Benzo (b) fluoranthene	0.0203	0.00500	"	0.0333		60.8	30-120			
Benzo (k) fluoranthene	0.0203	0.00500	"	0.0333		60.8	30-120			
Chrysene	0.0233	0.00500	"	0.0333		69.8	30-120			
Dibenz (a,h) anthracene	0.0229	0.00500	"	0.0333		68.6	30-120			
Fluoranthene	0.0231	0.00500	"	0.0333		69.4	30-120			
Fluorene	0.0224	0.00500	"	0.0333		67.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0216	0.00500	"	0.0333		64.9	30-120			
Pyrene	0.0242	0.00500	"	0.0333		72.5	35-142			
1-Methylnaphthalene	0.0192	0.00500	"	0.0333		57.7	35-142			
2-Methylnaphthalene	0.0202	0.00500	"	0.0333		60.6	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.3	40-150			
Surrogate: Fluoranthene-d10	0.0228		"	0.0333		68.5	40-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHJ0669 - EPA 5030 Soil MS

Matrix Spike (BHJ0669-MS1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/19/24

Acenaphthene	0.0219	0.00500	mg/kg	0.0333	ND	65.8	31-137		
Anthracene	0.0232	0.00500	"	0.0333	ND	69.7	30-120		
Benzo (a) anthracene	0.0236	0.00500	"	0.0333	ND	70.9	30-120		
Benzo (a) pyrene	0.0210	0.00500	"	0.0333	ND	63.1	30-120		
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.2	30-120		
Benzo (k) fluoranthene	0.0230	0.00500	"	0.0333	ND	68.9	30-120		
Chrysene	0.0235	0.00500	"	0.0333	ND	70.6	30-120		
Dibenz (a,h) anthracene	0.0182	0.00500	"	0.0333	ND	54.5	30-120		
Fluoranthene	0.0229	0.00500	"	0.0333	ND	68.8	30-120		
Fluorene	0.0222	0.00500	"	0.0333	ND	66.6	30-120		
Indeno (1,2,3-cd) pyrene	0.0172	0.00500	"	0.0333	ND	51.7	30-120		
Pyrene	0.0252	0.00500	"	0.0333	ND	75.7	35-142		
1-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	53.9	15-130		
2-Methylnaphthalene	0.0178	0.00500	"	0.0333	ND	53.3	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0176		"	0.0333		52.9	40-150		
Surrogate: Fluoranthene-d10	0.0223		"	0.0333		66.9	40-150		

Matrix Spike Dup (BHJ0669-MSD1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/19/24

Acenaphthene	0.0188	0.00500	mg/kg	0.0333	ND	56.3	31-137	15.5	30
Anthracene	0.0234	0.00500	"	0.0333	ND	70.3	30-120	0.800	30
Benzo (a) anthracene	0.0237	0.00500	"	0.0333	ND	71.2	30-120	0.388	30
Benzo (a) pyrene	0.0215	0.00500	"	0.0333	ND	64.6	30-120	2.36	30
Benzo (b) fluoranthene	0.0230	0.00500	"	0.0333	ND	68.9	30-120	0.513	30
Benzo (k) fluoranthene	0.0229	0.00500	"	0.0333	ND	68.7	30-120	0.310	30
Chrysene	0.0237	0.00500	"	0.0333	ND	71.1	30-120	0.703	30
Dibenz (a,h) anthracene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	2.69	30
Fluoranthene	0.0231	0.00500	"	0.0333	ND	69.4	30-120	0.820	30
Fluorene	0.0189	0.00500	"	0.0333	ND	56.6	30-120	16.1	30
Indeno (1,2,3-cd) pyrene	0.0167	0.00500	"	0.0333	ND	50.2	30-120	2.85	30
Pyrene	0.0262	0.00500	"	0.0333	ND	78.6	35-142	3.77	30
1-Methylnaphthalene	0.0172	0.00500	"	0.0333	ND	51.5	15-130	4.50	50
2-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.6	15-130	2.50	50
Surrogate: 2-Methylnaphthalene-d10	0.0168		"	0.0333		50.5	40-150		
Surrogate: Fluoranthene-d10	0.0224		"	0.0333		67.1	40-150		

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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 BHJ0838 - EPA 3050B

Blank (BHJ0838-BLK1)

Prepared: 10/21/24 Analyzed: 10/22/24

Boron ND 2.00 mg/L

LCS (BHJ0838-BS1)

Prepared: 10/21/24 Analyzed: 10/22/24

Boron 5.35 2.00 mg/L 5.00 107 80-120

Duplicate (BHJ0838-DUP1)

Source: 2410250-01

Prepared: 10/21/24 Analyzed: 10/22/24

Boron 0.123 2.00 mg/L 0.176 35.2 20 QR-01

Matrix Spike (BHJ0838-MS1)

Source: 2410250-01

Prepared: 10/21/24 Analyzed: 10/22/24

Boron 5.02 2.00 mg/L 5.01 0.176 96.8 75-125

Matrix Spike Dup (BHJ0838-MSD1)

Source: 2410250-01

Prepared: 10/21/24 Analyzed: 10/22/24

Boron 5.00 2.00 mg/L 5.01 0.176 96.3 75-125 0.426 25

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHJ0832 - EPA 3050B

Blank (BHJ0832-BLK1)

Prepared: 10/21/24 Analyzed: 10/22/24

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 (BHJ0832-BS1)

Prepared: 10/21/24 Analyzed: 10/22/24

Arsenic	35.9	0.200	mg/kg wet	38.5	93.3	80-120
Barium	39.8	0.400	"	38.5	103	80-120
Cadmium	1.75	0.200	"	1.92	91.2	80-120
Copper	36.6	0.400	"	38.5	95.2	80-120
Lead	18.4	0.200	"	19.2	95.4	80-120
Nickel	36.9	0.400	"	38.5	95.9	80-120
Silver	1.79	0.0200	"	1.92	92.9	80-120
Zinc	37.1	0.400	"	38.5	96.4	80-120
Selenium	3.83	0.260	"	3.85	99.7	80-120

Duplicate (BHJ0832-DUP1)

Source: 2410248-16

Prepared: 10/21/24 Analyzed: 10/22/24

Arsenic	1.81	0.200	mg/kg dry	1.45	22.0	20	QR-01
Barium	92.8	0.400	"	85.8	7.90	20	
Cadmium	0.239	0.200	"	0.200	17.6	20	
Copper	8.67	0.400	"	8.92	2.80	20	
Lead	7.46	0.200	"	7.70	3.25	20	
Nickel	9.78	0.400	"	10.0	2.45	20	
Silver	0.0314	0.0200	"	0.0339	7.76	20	
Zinc	33.6	0.400	"	36.2	7.42	20	
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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 BHJ0832 - EPA 3050B

Matrix Spike (BHJ0832-MS1)			Source: 2410248-16		Prepared: 10/21/24		Analyzed: 10/22/24			
Arsenic	23.7	0.200	mg/kg dry	44.3	1.45	50.2	75-125			QM-05
Barium	138	0.400	"	44.3	85.8	118	75-125			
Cadmium	2.18	0.200	"	2.22	0.200	89.1	75-125			
Copper	48.3	0.400	"	44.3	8.92	88.8	75-125			
Lead	27.0	0.200	"	22.2	7.70	86.9	75-125			
Nickel	50.9	0.400	"	44.3	10.0	92.2	75-125			
Silver	1.94	0.0200	"	2.22	0.0339	86.1	75-125			
Zinc	75.7	0.400	"	44.3	36.2	88.9	75-125			
Selenium	3.45	0.260	"	4.43	ND	77.9	75-125			

Matrix Spike Dup (BHJ0832-MSD1)			Source: 2410248-16		Prepared: 10/21/24		Analyzed: 10/22/24			
Arsenic	25.3	0.200	mg/kg dry	47.6	1.45	50.1	75-125	6.52	25	QM-05
Barium	149	0.400	"	47.6	85.8	133	75-125	7.49	25	QM-05
Cadmium	2.23	0.200	"	2.38	0.200	85.3	75-125	2.48	25	
Copper	51.0	0.400	"	47.6	8.92	88.3	75-125	5.44	25	
Lead	27.6	0.200	"	23.8	7.70	83.6	75-125	2.43	25	
Nickel	53.5	0.400	"	47.6	10.0	91.2	75-125	4.91	25	
Silver	2.06	0.0200	"	2.38	0.0339	85.2	75-125	6.09	25	
Zinc	80.8	0.400	"	47.6	36.2	93.6	75-125	6.56	25	
Selenium	3.73	0.260	"	4.76	ND	78.3	75-125	7.61	25	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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 BHJ0680 - 3060A Mod

Blank (BHJ0680-BLK1)

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHJ0680-BS1)

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent 26.9 0.30 mg/kg wet 25.0 108 80-120

Duplicate (BHJ0680-DUP1)

Source: 2410219-01

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHJ0680-MS1)

Source: 2410219-01

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent 28.4 0.30 mg/kg dry 26.2 ND 108 75-125

Matrix Spike Dup (BHJ0680-MSD1)

Source: 2410219-01

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent 27.2 0.30 mg/kg dry 26.2 ND 104 75-125 4.16 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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

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

Batch BHJ0790 - General Preparation

Blank (BHJ0790-BLK1)

Prepared: 10/18/24 Analyzed: 10/22/24

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

LCS (BHJ0790-BS1)

Prepared: 10/18/24 Analyzed: 10/22/24

Calcium	4.79	0.0500	mg/L wet	5.00	95.9	70-130
Magnesium	4.64	0.0500	"	5.00	92.9	70-130
Sodium	4.68	0.0500	"	5.00	93.5	70-130

Summit Scientific

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Fremont Environmental	Project: Noble - McKay Federal AB02-14	
PO Box 1289	Project Number: UWRWE-A2604-ABN	Reported:
Wellington CO, 80549	Project Manager: Paul Henchan	10/23/24 09:32

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

Summit Scientific

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

Batch BHJ0664 - General Preparation

Duplicate (BHJ0664-DUP1)	Source: 2410223-01			Prepared & Analyzed: 10/17/24						
% Solids	82.1		%		82.7			0.728	20	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14

Project Number: UWRWE-A2604-ABN

Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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

Summit Scientific

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

Batch BHJ0791 - General Preparation

Blank (BHJ0791-BLK1)

Prepared: 10/18/24 Analyzed: 10/21/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHJ0791-BS1)

Prepared: 10/18/24 Analyzed: 10/21/24

Specific Conductance (EC) 0.158 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHJ0791-DUP1)

Source: 2410250-01

Prepared: 10/18/24 Analyzed: 10/21/24

Specific Conductance (EC) 0.109 0.0100 mmhos/cm 0.111 1.54 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14

Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

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

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

Batch BHJ0792 - General Preparation

LCS (BHJ0792-BS1)

Prepared: 10/18/24 Analyzed: 10/21/24

pH	9.20	pH Units	9.18	100	95-105
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Duplicate (BHJ0792-DUP1)

Source: 2410250-01

Prepared: 10/18/24 Analyzed: 10/21/24

pH	9.35	pH Units	9.35	0.00	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Federal AB02-14

Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/23/24 09:32

Notes and Definitions

QR-01	Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
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