

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,



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



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: McVay Federal AB02-14	PO/Billing Codes: UWRWE-A2604-ABN
Sampler Name: Stanley Gilbert		Project Number:	Contact: Mike Montoya

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions					
					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							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

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

S₂

Sample Receipt Checklist

S2 Work Order# 2410250

Client: Fremont Environmental Client Project ID: McKay Federal ABOZ-14

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

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

Temp (°C) 1.5° 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

GAC

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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SEP FL01 - 4FT
2410250-01 (Soil)

Summit Scientific

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

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SEP FL01 - 4FT
2410250-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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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10/23/24 09:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

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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 10/23/24 09:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHI0690 - EPA 5030 Soil MS

Matrix Spike Dup (BHI0690-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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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

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: <i>o</i> -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: <i>o</i> -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: <i>o</i> -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: <i>o</i> -Terphenyl	11.3		"	12.5		90.2	30-150			

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PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

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	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

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

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

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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 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		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

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

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 Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

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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 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 - Quality Control

Summit Scientific

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

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 Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

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	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

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

Duplicate (BHJ0792-DUP1)

Source: 2410250-01

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

pH 9.35 pH Units 9.35 0.00 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

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