

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 21, 2024

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - McKay Federal AB02-14

Work Order #2410249

Enclosed are the results of analyses for samples received by Summit Scientific on 10/16/24 17:18. 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, written in a professional style.

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:**  
10/21/24 08:28

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH FL02 - 4FT	2410249-01	Soil	10/16/24 00:00	10/16/24 17:18

Summit Scientific

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S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2410249

Client: Fremont Environmental Client Project ID: Mckay Federal A802-14

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

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

Temp (°C) 1.90 Thermometer # Ø2

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> 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? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , 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? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):				
<sup>(1)</sup> 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 17:18  
Date/Time



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**WH FL02 - 4FT**  
**2410249-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHJ0654	10/16/24	10/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.063</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.046</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>9.7</b>	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0427	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0484	121 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>2400</b>	50	mg/kg	1	BHJ0657	10/16/24	10/16/24	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>490</b>	50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.4	107 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**WH FL02 - 4FT**  
**2410249-01 (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	BHJ0666	10/17/24	10/18/24	EPA 8270D SIM	
<b>Anthracene</b>	<b>0.508</b>	0.250	"	50	"	"	10/18/24	"	
<b>Benzo (a) anthracene</b>	<b>0.895</b>	0.250	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.311</b>	0.250	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.597</b>	0.250	"	"	"	"	"	"	
<b>Benzo (k) fluoranthene</b>	<b>0.255</b>	0.00500	"	1	"	"	10/18/24	"	E
<b>Chrysene</b>	<b>1.00</b>	0.250	"	50	"	"	10/18/24	"	
<b>Dibenz (a,h) anthracene</b>	<b>0.101</b>	0.00500	"	1	"	"	10/18/24	"	
<b>Fluoranthene</b>	<b>2.85</b>	0.250	"	50	"	"	10/18/24	"	
<b>Fluorene</b>	<b>0.311</b>	0.250	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.267</b>	0.250	"	"	"	"	"	"	
<b>Pyrene</b>	<b>2.32</b>	0.250	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	1	"	"	10/18/24	"	
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	0.0279	83.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0507	152 %	40-150		"	"	"	"	S-02

**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	BHJ0670	10/17/24	10/18/24	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
<b>Arsenic</b>	<b>2.15</b>	0.200	mg/kg dry	1	BHJ0676	10/17/24	10/17/24	EPA 6020B	

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**WH FL02 - 4FT**  
**2410249-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Barium	50.5	0.400	mg/kg dry	1	BHJ0676	10/17/24	10/17/24	EPA 6020B	
Cadmium	0.262	0.200	"	"	"	"	"	"	
Copper	10.3	0.400	"	"	"	"	"	"	
Lead	13.8	0.200	"	"	"	"	"	"	
Nickel	6.15	0.400	"	"	"	"	"	"	
Silver	0.0702	0.0200	"	"	"	"	"	"	
Zinc	22.4	0.400	"	"	"	"	"	"	
Selenium	ND	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	BHJ0678	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	23.7	0.0500	mg/L dry	1	BHJ0653	10/16/24	10/17/24	EPA 6020B	
Magnesium	8.44	0.0500	"	"	"	"	"	"	
Sodium	16.1	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	0.723	0.00100	units	1	BHJ0757	10/18/24	10/18/24	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
% Solids	83.1		%	1	BHJ0664	10/17/24	10/17/24	Calculation	

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 10/21/24 08:28

**WH FL02 - 4FT**  
**2410249-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

**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)	<b>0.356</b>	0.0100	mmhos/cm	1	BHJ0658	10/16/24	10/17/24	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
<b>pH</b>	<b>9.23</b>		pH Units	1	BHJ0660	10/16/24	10/17/24	EPA 9045D	

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10/21/24 08:28

### 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 BHJ0654 - EPA 5030 Soil MS

##### Blank (BHJ0654-BLK1)

Prepared & Analyzed: 10/16/24

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	0.0388		"	0.0400		96.9	50-150			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		98.9	50-150			

##### LCS (BHJ0654-BS1)

Prepared: 10/16/24 Analyzed: 10/17/24

Benzene	0.0955	0.0020	mg/kg	0.100		95.5	70-130			
Toluene	0.0960	0.0050	"	0.100		96.0	70-130			
Ethylbenzene	0.0945	0.0050	"	0.100		94.5	70-130			
m,p-Xylene	0.193	0.010	"	0.200		96.6	70-130			
o-Xylene	0.100	0.0050	"	0.100		100	70-130			
1,2,4-Trimethylbenzene	0.0960	0.0050	"	0.100		96.0	70-130			
1,3,5-Trimethylbenzene	0.0957	0.0050	"	0.100		95.7	70-130			
Naphthalene	0.0911	0.0038	"	0.100		91.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.5	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150			

##### Matrix Spike (BHJ0654-MS1)

Source: 2410256-01

Prepared: 10/16/24 Analyzed: 10/17/24

Benzene	0.0872	0.0020	mg/kg	0.100	ND	87.2	70-130			
Toluene	0.0823	0.0050	"	0.100	ND	82.3	70-130			
Ethylbenzene	0.0718	0.0050	"	0.100	ND	71.8	70-130			
m,p-Xylene	0.142	0.010	"	0.200	0.00618	67.8	70-130			QM-05
o-Xylene	0.0723	0.0050	"	0.100	ND	72.3	70-130			
1,2,4-Trimethylbenzene	0.135	0.0050	"	0.100	0.0108	124	70-130			
1,3,5-Trimethylbenzene	0.0648	0.0050	"	0.100	ND	64.8	70-130			QM-05
Naphthalene	0.132	0.0038	"	0.100	ND	132	70-130			QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0407		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0470		"	0.0400		118	50-150			

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Project: Noble - McKay Federal AB02-14

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

**Reported:**  
 10/21/24 08:28

**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 BHJ0654 - EPA 5030 Soil MS**

Matrix Spike Dup (BHJ0654-MSD1)	Source: 2410256-01			Prepared: 10/16/24 Analyzed: 10/17/24						
Benzene	0.0747	0.0020	mg/kg	0.100	ND	74.7	70-130	15.5	30	
Toluene	0.0671	0.0050	"	0.100	ND	67.1	70-130	20.2	30	QM-05
Ethylbenzene	0.0548	0.0050	"	0.100	ND	54.8	70-130	27.0	30	QM-05
m,p-Xylene	0.108	0.010	"	0.200	0.00618	50.7	70-130	27.5	30	QM-05
o-Xylene	0.0555	0.0050	"	0.100	ND	55.5	70-130	26.2	30	QM-05
1,2,4-Trimethylbenzene	0.138	0.0050	"	0.100	0.0108	127	70-130	1.85	30	
1,3,5-Trimethylbenzene	0.0489	0.0050	"	0.100	ND	48.9	70-130	28.0	30	QM-05
Naphthalene	0.126	0.0038	"	0.100	ND	126	70-130	4.99	30	
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0503		"	0.0400		126	50-150			

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**Reported:**  
10/21/24 08:28

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BHJ0657 - EPA 3550A**

**Blank (BHJ0657-BLK1)**

Prepared: 10/16/24 Analyzed: 10/17/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.3		"	12.5		107	30-150				

**LCS (BHJ0657-BS1)**

Prepared: 10/16/24 Analyzed: 10/17/24

C10-C28 (DRO)	620	50	mg/kg	500		124	70-130				
Surrogate: <i>o</i> -Terphenyl	13.5		"	12.5		108	30-150				

**Matrix Spike (BHJ0657-MS1)**

Source: 2410256-03

Prepared: 10/16/24 Analyzed: 10/17/24

C10-C28 (DRO)	573	50	mg/kg	500	25.0	110	70-130				
Surrogate: <i>o</i> -Terphenyl	7.45		"	12.5		59.6	30-150				

**Matrix Spike Dup (BHJ0657-MSD1)**

Source: 2410256-03

Prepared: 10/16/24 Analyzed: 10/17/24

C10-C28 (DRO)	565	50	mg/kg	500	25.0	108	70-130	1.51	20		
Surrogate: <i>o</i> -Terphenyl	7.35		"	12.5		58.8	30-150				

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**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 BHJ0666 - EPA 5030 Soil MS**

**Blank (BHJ0666-BLK1)**

Prepared & Analyzed: 10/17/24

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	0.0183		"	0.0333		55.0	40-150			
Surrogate: Fluoranthene-d10	0.0255		"	0.0333		76.5	40-150			

**LCS (BHJ0666-BS1)**

Prepared & Analyzed: 10/17/24

Acenaphthene	0.0264	0.00500	mg/kg	0.0333		79.3	31-137			
Anthracene	0.0282	0.00500	"	0.0333		84.5	30-120			
Benzo (a) anthracene	0.0280	0.00500	"	0.0333		84.1	30-120			
Benzo (a) pyrene	0.0244	0.00500	"	0.0333		73.3	30-120			
Benzo (b) fluoranthene	0.0242	0.00500	"	0.0333		72.7	30-120			
Benzo (k) fluoranthene	0.0242	0.00500	"	0.0333		72.6	30-120			
Chrysene	0.0270	0.00500	"	0.0333		80.9	30-120			
Dibenz (a,h) anthracene	0.0223	0.00500	"	0.0333		66.9	30-120			
Fluoranthene	0.0274	0.00500	"	0.0333		82.1	30-120			
Fluorene	0.0266	0.00500	"	0.0333		79.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333		44.6	30-120			
Pyrene	0.0301	0.00500	"	0.0333		90.4	35-142			
1-Methylnaphthalene	0.0217	0.00500	"	0.0333		65.2	35-142			
2-Methylnaphthalene	0.0231	0.00500	"	0.0333		69.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0217		"	0.0333		65.1	40-150			
Surrogate: Fluoranthene-d10	0.0279		"	0.0333		83.7	40-150			

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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:**  
10/21/24 08:28

**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 BHJ0666 - EPA 5030 Soil MS**

<b>Matrix Spike (BHJ0666-MS1)</b>	<b>Source: 2410257-01</b>			<b>Prepared &amp; Analyzed: 10/17/24</b>						
Acenaphthene	0.0263	0.00500	mg/kg	0.0333	ND	79.0	31-137			
Anthracene	0.0302	0.00500	"	0.0333	ND	90.7	30-120			
Benzo (a) anthracene	0.0311	0.00500	"	0.0333	ND	93.3	30-120			
Benzo (a) pyrene	0.0234	0.00500	"	0.0333	ND	70.1	30-120			
Benzo (b) fluoranthene	0.0266	0.00500	"	0.0333	ND	79.9	30-120			
Benzo (k) fluoranthene	0.0221	0.00500	"	0.0333	ND	66.3	30-120			
Chrysene	0.0370	0.00500	"	0.0333	ND	111	30-120			
Dibenz (a,h) anthracene	0.0243	0.00500	"	0.0333	ND	73.0	30-120			
Fluoranthene	0.0224	0.00500	"	0.0333	ND	67.3	30-120			
Fluorene	0.0272	0.00500	"	0.0333	ND	81.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.4	30-120			
Pyrene	0.0378	0.00500	"	0.0333	ND	113	35-142			
1-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	56.9	15-130			
2-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.2	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0198</i>		<i>"</i>	<i>0.0333</i>		<i>59.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0221</i>		<i>"</i>	<i>0.0333</i>		<i>66.3</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BHJ0666-MSD1)</b>	<b>Source: 2410257-01</b>			<b>Prepared: 10/17/24 Analyzed: 10/18/24</b>						
Acenaphthene	0.0271	0.00500	mg/kg	0.0333	ND	81.3	31-137	2.95	30	
Anthracene	0.0319	0.00500	"	0.0333	ND	95.8	30-120	5.45	30	
Benzo (a) anthracene	0.0339	0.00500	"	0.0333	ND	102	30-120	8.52	30	
Benzo (a) pyrene	0.0263	0.00500	"	0.0333	ND	78.8	30-120	11.7	30	
Benzo (b) fluoranthene	0.0301	0.00500	"	0.0333	ND	90.4	30-120	12.4	30	
Benzo (k) fluoranthene	0.0248	0.00500	"	0.0333	ND	74.5	30-120	11.7	30	
Chrysene	0.0398	0.00500	"	0.0333	ND	119	30-120	7.33	30	
Dibenz (a,h) anthracene	0.0243	0.00500	"	0.0333	ND	73.0	30-120	0.0520	30	
Fluoranthene	0.0257	0.00500	"	0.0333	ND	77.0	30-120	13.4	30	
Fluorene	0.0285	0.00500	"	0.0333	ND	85.4	30-120	4.45	30	
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.4	30-120	0.00661	30	
Pyrene	0.0409	0.00500	"	0.0333	ND	123	35-142	7.89	30	
1-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.6	15-130	1.22	50	
2-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.7	15-130	2.47	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0202</i>		<i>"</i>	<i>0.0333</i>		<i>60.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0233</i>		<i>"</i>	<i>0.0333</i>		<i>70.0</i>	<i>40-150</i>			

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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:**  
 10/21/24 08:28

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

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

**Batch BHJ0670 - EPA 3050B**

**Blank (BHJ0670-BLK1)**

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

Boron ND 2.00 mg/L

**LCS (BHJ0670-BS1)**

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

Boron 4.86 2.00 mg/L 5.00 97.3 80-120

**Duplicate (BHJ0670-DUP1)**

Source: 2410249-01

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

Boron 0.442 2.00 mg/L 0.471 6.47 20

**Matrix Spike (BHJ0670-MS1)**

Source: 2410249-01

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

Boron 4.91 2.00 mg/L 5.02 0.471 88.5 75-125

**Matrix Spike Dup (BHJ0670-MSD1)**

Source: 2410249-01

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

Boron 5.21 2.00 mg/L 5.02 0.471 94.4 75-125 5.84 25

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:**  
10/21/24 08:28

**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 BHJ0676 - EPA 3050B**

**Blank (BHJ0676-BLK1)**

Prepared & Analyzed: 10/17/24

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 (BHJ0676-BS1)**

Prepared & Analyzed: 10/17/24

Arsenic	32.7	0.200	mg/kg wet	38.5	85.1	80-120
Barium	33.7	0.400	"	38.5	87.7	80-120
Cadmium	1.68	0.200	"	1.92	87.6	80-120
Copper	35.6	0.400	"	38.5	92.5	80-120
Lead	16.7	0.200	"	19.2	86.6	80-120
Nickel	35.3	0.400	"	38.5	91.9	80-120
Silver	1.68	0.0200	"	1.92	87.3	80-120
Zinc	35.6	0.400	"	38.5	92.6	80-120
Selenium	3.47	0.260	"	3.85	90.2	80-120

**Duplicate (BHJ0676-DUP1)**

Source: 2410249-01

Prepared & Analyzed: 10/17/24

Arsenic	2.28	0.200	mg/kg dry	2.15	5.89	20	
Barium	43.1	0.400	"	50.5	15.7	20	
Cadmium	0.505	0.200	"	0.262	63.5	20	QR-01
Copper	9.36	0.400	"	10.3	9.20	20	
Lead	26.3	0.200	"	13.8	62.5	20	QR-02
Nickel	6.41	0.400	"	6.15	4.16	20	
Silver	0.0635	0.0200	"	0.0702	10.0	20	
Zinc	23.6	0.400	"	22.4	5.21	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:**  
10/21/24 08:28

**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 BHJ0676 - EPA 3050B**

**Matrix Spike (BHJ0676-MS1)**

Source: 2410249-01

Prepared & Analyzed: 10/17/24

Arsenic	36.6	0.200	mg/kg dry	49.3	2.15	69.8	75-125				QM-05
Barium	91.8	0.400	"	49.3	50.5	83.8	75-125				
Cadmium	2.23	0.200	"	2.47	0.262	79.8	75-125				
Copper	27.2	0.400	"	49.3	10.3	34.3	75-125				QM-05
Lead	33.6	0.200	"	24.7	13.8	80.4	75-125				
Nickel	24.2	0.400	"	49.3	6.15	36.6	75-125				QM-05
Silver	1.94	0.0200	"	2.47	0.0702	75.6	75-125				
Zinc	39.8	0.400	"	49.3	22.4	35.3	75-125				QM-05
Selenium	3.08	0.260	"	4.93	ND	62.4	75-125				QM-05

**Matrix Spike Dup (BHJ0676-MSD1)**

Source: 2410249-01

Prepared & Analyzed: 10/17/24

Arsenic	38.0	0.200	mg/kg dry	47.7	2.15	75.0	75-125	3.73	25		
Barium	112	0.400	"	47.7	50.5	129	75-125	19.9	25		QM-05
Cadmium	2.26	0.200	"	2.39	0.262	83.7	75-125	1.40	25		
Copper	28.3	0.400	"	47.7	10.3	37.8	75-125	4.02	25		QM-05
Lead	28.3	0.200	"	23.9	13.8	60.9	75-125	17.1	25		QM-05
Nickel	23.8	0.400	"	47.7	6.15	37.0	75-125	1.71	25		QM-05
Silver	1.98	0.0200	"	2.39	0.0702	79.8	75-125	2.08	25		
Zinc	39.9	0.400	"	47.7	22.4	36.8	75-125	0.445	25		QM-05
Selenium	3.17	0.260	"	4.77	ND	66.5	75-125	3.14	25		QM-05

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 Wellington CO, 80549

Project: Noble - McKay Federal AB02-14

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

**Reported:**  
 10/21/24 08:28

**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 BHJ0678 - 3060A Mod**

**Blank (BHJ0678-BLK1)**

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent      ND      0.30 mg/kg wet

**LCS (BHJ0678-BS1)**

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent      27.2      0.30 mg/kg wet      25.0      109      80-120

**Duplicate (BHJ0678-DUP1)**

**Source: 2410249-01**

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent      ND      0.30 mg/kg dry      ND      20

**Matrix Spike (BHJ0678-MS1)**

**Source: 2410249-01**

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent      30.9      0.30 mg/kg dry      30.1      ND      103      75-125

**Matrix Spike Dup (BHJ0678-MSD1)**

**Source: 2410249-01**

Prepared & Analyzed: 10/17/24

Chromium, Hexavalent      32.5      0.30 mg/kg dry      30.1      ND      108      75-125      4.93      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:**  
 10/21/24 08:28

**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 BHJ0653 - General Preparation**

**Blank (BHJ0653-BLK1)**

Prepared: 10/16/24 Analyzed: 10/17/24

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

**LCS (BHJ0653-BS1)**

Prepared: 10/16/24 Analyzed: 10/17/24

Calcium	5.20	0.0500	mg/L wet	5.00		104	70-130			
Magnesium	4.96	0.0500	"	5.00		99.1	70-130			
Sodium	4.91	0.0500	"	5.00		98.2	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:**  
 10/21/24 08:28

**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 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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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:**  
 10/21/24 08:28

**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 BHJ0658 - General Preparation**

**Blank (BHJ0658-BLK1)**

Prepared: 10/16/24 Analyzed: 10/17/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHJ0658-BS1)**

Prepared: 10/16/24 Analyzed: 10/17/24

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BHJ0658-DUP1)**

Source: 2410249-01

Prepared: 10/16/24 Analyzed: 10/17/24

Specific Conductance (EC) 0.364 0.0100 mmhos/cm 0.356 2.44 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:**  
 10/21/24 08:28

**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 BHJ0660 - General Preparation**

**LCS (BHJ0660-BS1)**

Prepared: 10/16/24 Analyzed: 10/17/24

pH 9.21 pH Units 9.18 100 95-105

**Duplicate (BHJ0660-DUP1)**

Source: 2410249-01

Prepared: 10/16/24 Analyzed: 10/17/24

pH 9.23 pH Units 9.23 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:**  
10/21/24 08:28

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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. 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.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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