

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 24, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - McKay Fed T7N-R64W-S2 L01

Work Order #2410252

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



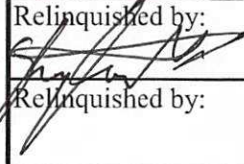
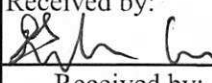
Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Noble - McKay Fed T7N-R64W-S2 L01 Project Number: UWRWE-A2604-ABN Project Manager: Paul Henchan	Reported: 10/24/24 10:19
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01 - 0.5FT	2410252-01	Soil	10/16/24 00:00	10/16/24 17:21
PWV S Wall - 3FT	2410252-02	Soil	10/16/24 00:00	10/16/24 17:21
PWV B Wall - 4FT	2410252-03	Soil	10/16/24 00:00	10/16/24 17:21
SEP DL - 3FT	2410252-04	Soil	10/16/24 00:00	10/16/24 17:21

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 Fed T7N-R64W-S201	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	AST01-0.5Ft	10/16/24		2			X			X			X	X	X	X	X			
2	pwv S Wall- 3Ft	I		I			I			I			I	I	I	I	I			
3	pwv B Wall- 4Ft	I		I			I			I			I	I	I	I	I			
4	SEP DL- 3Ft	I		I			I			I			I	I	I	I	I			
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by:	Date/Time:	Received by:	Date/Time:	TAT Business Days	Field DO	Notes:
	10/16/24 17:18		10/16/24 17:21	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: 2.8°C	Corrected Temperature	IR gun #: 02	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2410252Client: Farmington Environmental Client Project ID: Melby Fed T7N-264W-S2101Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: _____
☒ ☐ ☐ ☐ ☐

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

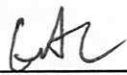
☐

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 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 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 Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

AST01 - 0.5FT
2410252-01 (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	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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0414	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.2 %	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
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.62	77.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2410252-01 (Soil)

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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	BHJ0668	10/17/24	10/19/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0213	64.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0219	65.8 %	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	BHJ0746	10/18/24	10/20/24	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

Reported:
10/24/24 10:19

AST01 - 0.5FT
2410252-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.34	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	99.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.73	0.400	"	"	"	"	"	"
Lead	7.19	0.200	"	"	"	"	"	"
Nickel	7.40	0.400	"	"	"	"	"	"
Silver	0.0291	0.0200	"	"	"	"	"	"
Zinc	27.6	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	BHJ0686	10/17/24	10/18/24	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	35.4	0.0500	mg/L dry	1	BHJ0839	10/21/24	10/23/24	EPA 6020B	
Magnesium	7.87	0.0500	"	"	"	"	"	"	
Sodium	0.539	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	0.0213	0.00100	units	1	BHJ1030	10/24/24	10/24/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Reported:
10/24/24 10:19

AST01 - 0.5FT
2410252-01 (Soil)

Summit Scientific

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	88.6		%	1	BHJ0761	10/18/24	10/18/24	Calculation	

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)	0.142	0.0100	mmhos/cm	1	BHJ0856	10/21/24	10/23/24	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	8.70		pH Units	1	BHJ0855	10/21/24	10/23/24	EPA 9045D	

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

Reported:
10/24/24 10:19

PWV S Wall - 3FT
2410252-02 (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	0.0436	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0434	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.8 %	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)	64	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	8.85	70.8 %	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	BHJ0668	10/17/24	10/19/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0183	54.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0189	56.7 %	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	BHJ0746	10/18/24	10/20/24	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: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

PWV S Wall - 3FT
2410252-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.49	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	125	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	8.06	0.400	"	"	"	"	"	"
Lead	6.98	0.200	"	"	"	"	"	"
Nickel	7.15	0.400	"	"	"	"	"	"
Silver	0.0269	0.0200	"	"	"	"	"	"
Zinc	29.7	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	BHJ0686	10/17/24	10/18/24	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	38.0	0.0500	mg/L dry	1	BHJ0839	10/21/24	10/23/24	EPA 6020B	
Magnesium	9.91	0.0500	"	"	"	"	"	"	
Sodium	2.59	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	0.0968	0.00100	units	1	BHJ1030	10/24/24	10/24/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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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	87.8		%	1	BHJ0761	10/18/24	10/18/24	Calculation	

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)	0.234	0.0100	mmhos/cm	1	BHJ0856	10/21/24	10/23/24	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	8.45		pH Units	1	BHJ0855	10/21/24	10/23/24	EPA 9045D	

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Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

PWV B Wall - 4FT
2410252-03 (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	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %	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	10.3	82.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Reported:
10/24/24 10:19

PWV B Wall - 4FT
2410252-03 (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	BHJ0668	10/17/24	10/19/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0170	51.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0193	57.9 %	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	BHJ0746	10/18/24	10/20/24	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

Reported:
10/24/24 10:19

PWV B Wall - 4FT
2410252-03 (Soil)

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Total Metals by EPA 6020B

Arsenic	2.21	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	58.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.61	0.400	"	"	"	"	"	"
Lead	6.40	0.200	"	"	"	"	"	"
Nickel	5.03	0.400	"	"	"	"	"	"
Silver	0.0220	0.0200	"	"	"	"	"	"
Zinc	20.6	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	BHJ0686	10/17/24	10/18/24	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	10.0	0.0500	mg/L dry	1	BHJ0839	10/21/24	10/23/24	EPA 6020B	
Magnesium	8.12	0.0500	"	"	"	"	"	"	
Sodium	75.5	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	4.30	0.00100	units	1	BHJ1030	10/24/24	10/24/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

PWV B Wall - 4FT
2410252-03 (Soil)

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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	92.8		%	1	BHJ0761	10/18/24	10/18/24	Calculation	

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)	0.483	0.0100	mmhos/cm	1	BHJ0856	10/21/24	10/23/24	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	9.09		pH Units	1	BHJ0855	10/21/24	10/23/24	EPA 9045D	

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Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

SEP DL - 3FT
2410252-04 (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	0.0411	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0430	108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	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)	160	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	64	50	"	"	"	"	"	"	

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.43	67.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A2604-ABN
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Reported:
10/24/24 10:19

SEP DL - 3FT
2410252-04 (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	BHJ0668	10/17/24	10/19/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0115	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0182	54.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.3 %	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	BHJ0746	10/18/24	10/20/24	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

Reported:
10/24/24 10:19

SEP DL - 3FT
2410252-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.58	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	82.0	0.400	"	"	"	"	"	"
Cadmium	0.203	0.200	"	"	"	"	"	"
Copper	8.48	0.400	"	"	"	"	"	"
Lead	7.55	0.200	"	"	"	"	"	"
Nickel	7.97	0.400	"	"	"	"	"	"
Silver	0.0250	0.0200	"	"	"	"	"	"
Zinc	32.0	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	BHJ0686	10/17/24	10/18/24	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	90.3	0.0500	mg/L dry	1	BHJ0839	10/21/24	10/23/24	EPA 6020B	
Magnesium	93.0	0.0500	"	"	"	"	"	"	
Sodium	152	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	2.68	0.00100	units	1	BHJ1030	10/24/24	10/24/24	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 DL - 3FT
2410252-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.5	%	1	BHJ0761	10/18/24	10/18/24	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)	0.425	0.0100	mmhos/cm	1	BHJ0856	10/21/24	10/23/24	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	9.42		pH Units	1	BHJ0855	10/21/24	10/23/24	EPA 9045D	

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Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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

Reported:
10/24/24 10:19

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 Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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 BHJ0668 - EPA 5030 Soil MS

Blank (BHJ0668-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	0.0261		"	0.0333		78.4	40-150			
Surrogate: Fluoranthene-d10	0.0293		"	0.0333		87.9	40-150			

LCS (BHJ0668-BS1)

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

Acenaphthene	0.0268	0.00500	mg/kg	0.0333	80.3	31-137
Anthracene	0.0278	0.00500	"	0.0333	83.3	30-120
Benzo (a) anthracene	0.0288	0.00500	"	0.0333	86.4	30-120
Benzo (a) pyrene	0.0251	0.00500	"	0.0333	75.2	30-120
Benzo (b) fluoranthene	0.0266	0.00500	"	0.0333	79.8	30-120
Benzo (k) fluoranthene	0.0261	0.00500	"	0.0333	78.2	30-120
Chrysene	0.0276	0.00500	"	0.0333	82.8	30-120
Dibenz (a,h) anthracene	0.0244	0.00500	"	0.0333	73.2	30-120
Fluoranthene	0.0276	0.00500	"	0.0333	82.7	30-120
Fluorene	0.0271	0.00500	"	0.0333	81.4	30-120
Indeno (1,2,3-cd) pyrene	0.0396	0.00500	"	0.0333	119	30-120
Pyrene	0.0267	0.00500	"	0.0333	80.1	35-142
1-Methylnaphthalene	0.0260	0.00500	"	0.0333	78.1	35-142
2-Methylnaphthalene	0.0271	0.00500	"	0.0333	81.4	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0260		"	0.0333	77.9	40-150
Surrogate: Fluoranthene-d10	0.0284		"	0.0333	85.1	40-150

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHJ0668 - EPA 5030 Soil MS

Matrix Spike (BHJ0668-MS1)

Source: 2410219-01

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

Acenaphthene	0.0242	0.00500	mg/kg	0.0333	ND	72.6	31-137		
Anthracene	0.0246	0.00500	"	0.0333	ND	73.8	30-120		
Benzo (a) anthracene	0.0252	0.00500	"	0.0333	ND	75.5	30-120		
Benzo (a) pyrene	0.0216	0.00500	"	0.0333	ND	64.9	30-120		
Benzo (b) fluoranthene	0.0223	0.00500	"	0.0333	ND	66.8	30-120		
Benzo (k) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.7	30-120		
Chrysene	0.0237	0.00500	"	0.0333	ND	71.0	30-120		
Dibenz (a,h) anthracene	0.0232	0.00500	"	0.0333	ND	69.6	30-120		
Fluoranthene	0.0247	0.00500	"	0.0333	ND	74.2	30-120		
Fluorene	0.0245	0.00500	"	0.0333	ND	73.4	30-120		
Indeno (1,2,3-cd) pyrene	0.0374	0.00500	"	0.0333	ND	112	30-120		
Pyrene	0.0245	0.00500	"	0.0333	ND	73.5	35-142		
1-Methylnaphthalene	0.0241	0.00500	"	0.0333	ND	72.2	15-130		
2-Methylnaphthalene	0.0248	0.00500	"	0.0333	ND	74.3	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0232		"	0.0333		69.6	40-150		
Surrogate: Fluoranthene-d10	0.0247		"	0.0333		74.1	40-150		

Matrix Spike Dup (BHJ0668-MSD1)

Source: 2410219-01

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

Acenaphthene	0.0229	0.00500	mg/kg	0.0333	ND	68.6	31-137	5.62	30
Anthracene	0.0235	0.00500	"	0.0333	ND	70.6	30-120	4.50	30
Benzo (a) anthracene	0.0245	0.00500	"	0.0333	ND	73.5	30-120	2.67	30
Benzo (a) pyrene	0.0208	0.00500	"	0.0333	ND	62.5	30-120	3.81	30
Benzo (b) fluoranthene	0.0214	0.00500	"	0.0333	ND	64.3	30-120	3.83	30
Benzo (k) fluoranthene	0.0203	0.00500	"	0.0333	ND	61.0	30-120	5.92	30
Chrysene	0.0227	0.00500	"	0.0333	ND	68.2	30-120	4.03	30
Dibenz (a,h) anthracene	0.0227	0.00500	"	0.0333	ND	68.2	30-120	2.01	30
Fluoranthene	0.0235	0.00500	"	0.0333	ND	70.5	30-120	5.16	30
Fluorene	0.0233	0.00500	"	0.0333	ND	69.9	30-120	4.87	30
Indeno (1,2,3-cd) pyrene	0.0365	0.00500	"	0.0333	ND	110	30-120	2.26	30
Pyrene	0.0225	0.00500	"	0.0333	ND	67.6	35-142	8.25	30
1-Methylnaphthalene	0.0230	0.00500	"	0.0333	ND	69.0	15-130	4.50	50
2-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.9	15-130	4.77	50
Surrogate: 2-Methylnaphthalene-d10	0.0228		"	0.0333		68.5	40-150		
Surrogate: Fluoranthene-d10	0.0236		"	0.0333		70.8	40-150		

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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

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

Batch BHJ0746 - EPA 3050B

Blank (BHJ0746-BLK1)

Prepared: 10/18/24 Analyzed: 10/20/24

Boron ND 2.00 mg/L

LCS (BHJ0746-BS1)

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 4.70 2.00 mg/L 5.00 93.9 80-120

Duplicate (BHJ0746-DUP1)

Source: 2410239-01

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 0.468 2.00 mg/L 0.485 3.47 20

Matrix Spike (BHJ0746-MS1)

Source: 2410239-01

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 4.53 2.00 mg/L 5.02 0.485 80.7 75-125

Matrix Spike Dup (BHJ0746-MSD1)

Source: 2410239-01

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 4.62 2.00 mg/L 5.02 0.485 82.4 75-125 1.96 25

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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 BHJ0763 - EPA 3050B

Blank (BHJ0763-BLK1)

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

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 (BHJ0763-BS1)

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

Arsenic	27.0	0.200	mg/kg wet	39.1	69.0	80-120	QM-05
Barium	30.5	0.400	"	39.1	78.0	80-120	QM-05
Cadmium	1.36	0.200	"	1.95	69.6	80-120	QM-05
Copper	29.0	0.400	"	39.1	74.4	80-120	QM-05
Lead	13.7	0.200	"	19.5	70.2	80-120	QM-05
Nickel	29.5	0.400	"	39.1	75.5	80-120	QM-05
Silver	1.38	0.0200	"	1.95	70.6	80-120	QM-05
Zinc	29.9	0.400	"	39.1	76.6	80-120	QM-05
Selenium	3.09	0.260	"	3.91	79.1	80-120	QM-05

Duplicate (BHJ0763-DUP1)

Source: 2410239-01

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

Arsenic	1.00	0.200	mg/kg dry	0.635	44.9	20	QR-01
Barium	56.7	0.400	"	33.6	51.1	20	QR-02
Cadmium	0.173	0.200	"	0.111	43.3	20	QR-01
Copper	7.99	0.400	"	7.42	7.32	20	
Lead	6.52	0.200	"	5.42	18.5	20	
Nickel	8.17	0.400	"	6.05	29.8	20	QR-02
Silver	0.0271	0.0200	"	0.0280	3.47	20	
Zinc	29.2	0.400	"	29.2	0.0130	20	
Selenium	ND	0.260	"	ND		20	

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PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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 BHJ0763 - EPA 3050B

Matrix Spike (BHJ0763-MS1)			Source: 2410239-01		Prepared: 10/18/24 Analyzed: 10/21/24					
Arsenic	28.4	0.200	mg/kg dry	46.6	0.635	59.6	75-125			QM-05
Barium	88.9	0.400	"	46.6	33.6	118	75-125			
Cadmium	2.37	0.200	"	2.33	0.111	96.7	75-125			
Copper	53.0	0.400	"	46.6	7.42	97.8	75-125			
Lead	27.1	0.200	"	23.3	5.42	92.8	75-125			
Nickel	53.0	0.400	"	46.6	6.05	101	75-125			
Silver	2.23	0.0200	"	2.33	0.0280	94.4	75-125			
Zinc	74.6	0.400	"	46.6	29.2	97.3	75-125			
Selenium	4.31	0.260	"	4.66	ND	92.4	75-125			

Matrix Spike Dup (BHJ0763-MSD1)			Source: 2410239-01		Prepared: 10/18/24 Analyzed: 10/21/24					
Arsenic	32.3	0.200	mg/kg dry	48.6	0.635	65.2	75-125	12.7	25	QM-05
Barium	98.9	0.400	"	48.6	33.6	134	75-125	10.7	25	QM-05
Cadmium	2.43	0.200	"	2.43	0.111	95.3	75-125	2.54	25	
Copper	56.3	0.400	"	48.6	7.42	101	75-125	5.98	25	
Lead	27.8	0.200	"	24.3	5.42	92.0	75-125	2.54	25	
Nickel	55.4	0.400	"	48.6	6.05	102	75-125	4.43	25	
Silver	2.31	0.0200	"	2.43	0.0280	93.8	75-125	3.36	25	
Zinc	77.2	0.400	"	48.6	29.2	98.8	75-125	3.43	25	
Selenium	4.40	0.260	"	4.86	ND	90.6	75-125	2.04	25	

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PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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 BHJ0686 - 3060A Mod

Blank (BHJ0686-BLK1)

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

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHJ0686-BS1)

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

Chromium, Hexavalent 27.6 0.30 mg/kg wet 25.0 111 80-120

Duplicate (BHJ0686-DUP1)

Source: 2410244-01

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

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHJ0686-MS1)

Source: 2410244-01

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

Chromium, Hexavalent 30.6 0.30 mg/kg dry 28.5 ND 108 75-125

Matrix Spike Dup (BHJ0686-MSD1)

Source: 2410244-01

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

Chromium, Hexavalent 29.7 0.30 mg/kg dry 28.5 ND 104 75-125 3.02 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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

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

Batch BHJ0839 - General Preparation

Blank (BHJ0839-BLK1)

Prepared: 10/21/24 Analyzed: 10/23/24

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

LCS (BHJ0839-BS1)

Prepared: 10/21/24 Analyzed: 10/23/24

Calcium	5.38	0.0500	mg/L wet	5.00	108	70-130
Magnesium	5.30	0.0500	"	5.00	106	70-130
Sodium	5.29	0.0500	"	5.00	106	70-130

Summit Scientific

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Fremont Environmental	Project: Noble - McKay Fed T7N-R64W-S2 L01	
PO Box 1289	Project Number: UWRWE-A2604-ABN	Reported:
Wellington CO, 80549	Project Manager: Paul Henchan	10/24/24 10:19

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

Summit Scientific

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

Batch BHJ0761 - General Preparation

Duplicate (BHJ0761-DUP1)	Source: 2410252-01	Prepared & Analyzed: 10/18/24
% Solids	88.9	% 88.6 0.240 20

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Project: Noble - McKay Fed T7N-R64W-S2 L01
Project Number: UWRWE-A2604-ABN
Project Manager: Paul Henchan

Reported:
10/24/24 10:19

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

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

Batch BHJ0856 - General Preparation

Blank (BHJ0856-BLK1)

Prepared: 10/21/24 Analyzed: 10/23/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHJ0856-BS1)

Prepared: 10/21/24 Analyzed: 10/23/24

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

Duplicate (BHJ0856-DUP1)

Source: 2410252-01

Prepared: 10/21/24 Analyzed: 10/23/24

Specific Conductance (EC) 0.141 0.0100 mmhos/cm 0.142 1.06 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01

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

Reported:
10/24/24 10:19

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 BHJ0855 - General Preparation

LCS (BHJ0855-BS1)

Prepared: 10/21/24 Analyzed: 10/23/24

pH	9.14	pH Units	9.18	99.6	95-105
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Duplicate (BHJ0855-DUP1)

Source: 2410252-01

Prepared: 10/21/24 Analyzed: 10/23/24

pH	8.71	pH Units	8.70	0.115	20
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - McKay Fed T7N-R64W-S2 L01

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

Reported:
10/24/24 10:19

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. 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