

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 26, 2023

Paul Henchan

Fremont Environmental

PO Box 1289

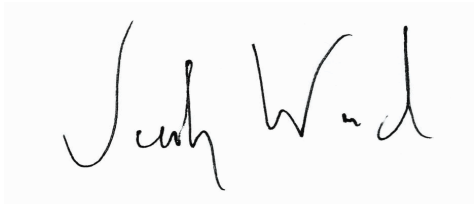
Wellington, CO 80549

RE: Noble - Barton C 15-29

Work Order #2310295

Enclosed are the results of analyses for samples received by Summit Scientific on 10/16/23 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29

Project Number: UWRWE-A2428-ABN

Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01 2FT	2310295-01	Soil	10/14/23 00:00	10/16/23 16:30

Summit Scientific

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# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2310295	

Send Data To:		Send Invoice To:	
Client: Fremont Environmental, Inc.	Project Manager: Henehan	Company: Chevron	
Address: 8305 6th St.,	E-Mail: Fremont Distribution List	Project Name/Location:	
City/State/Zip: Wellington, CO, 80549		AFE#:	
Phone: 603-477-6907	Project Name: Noble - Barton C 15-29	PO/Billing Codes: UWRWE-A2428-ABN	
Sampler Name: Ethan Black	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, Naphthalene, TMBs	TPH (C8-C36)	PAH	SAR, EC, pH, Boron	TDS, Chloride, Sulfate	Metals (915-1)		
1	FLOI 2FT	10/14/23		2			X			X			X	X	X	X		X		
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>Ethan Black</i>	Date/Time: 10/16/23 0630	Received by: S2	Date/Time: 10/16/23 0630	TAT Business Days	Field DO	Notes:
Relinquished by: S2	Date/Time: 10/16/23 1030	Received by: <i>[Signature]</i>	Date/Time: 10/16/23 1030	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 10.9	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2310295Client: FreemontClient Project ID: Noble-Barton C K-29Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #:                     

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 10.9Thermometer # 1

	Yes	No	N/A	Comments (If any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> 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"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>all good</u>
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 <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 checked="" type="checkbox"/>	<input type="checkbox"/>	<u>no time stamps</u>
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? 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)? <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.				

Custodian Printed Name

Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**FL01 2FT**  
**2310295-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0679	10/17/23	10/18/23	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: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0478	119 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0678	10/17/23	10/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.20	65.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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10/26/23 12:12

**FL01 2FT**  
**2310295-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0660	10/17/23	10/18/23	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: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0251	75.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0149	44.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/14/23 00:00**

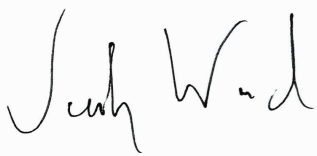
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0839	10/20/23	10/24/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**FL01 2FT**  
**2310295-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.28	0.200	mg/kg dry	1	BGJ0879	10/23/23	10/26/23	EPA 6020B
Barium	151	0.400	"	"	"	"	"	"
Cadmium	0.657	0.200	"	"	"	"	"	"
Copper	9.36	0.400	"	"	"	"	"	"
Lead	9.80	0.200	"	"	"	"	"	"
Nickel	4.70	0.400	"	"	"	"	"	"
Silver	0.0285	0.0200	"	"	"	"	"	"
Zinc	36.2	0.400	"	"	"	"	"	"
Selenium	0.354	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0744	10/18/23	10/18/23	EPA 7196A	

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

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.5	0.0500	mg/L dry	1	BGJ0842	10/20/23	10/24/23	EPA 6020B	
Magnesium	10.4	0.0500	"	"	"	"	"	"	
Sodium	76.6	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.64	0.00100	units	1	BGJ1015	10/25/23	10/25/23	Calculation	

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

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wellington CO, 80549

Project: Noble - Barton C 15-29  
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Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**FL01 2FT**  
**2310295-01 (Soil)**

**Summit Scientific**

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

% Solids	84.1	%	1	BGJ0973	10/25/23	10/25/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.682</b>	0.0100	mmhos/cm	1	BGJ0894	10/23/23	10/23/23	EPA 120.1	

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

Date Sampled: **10/14/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>7.95</b>		pH Units	1	BGJ0895	10/23/23	10/23/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

## 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 BGJ0679 - EPA 5030 Soil MS

##### Blank (BGJ0679-BLK1)

Prepared: 10/17/23 Analyzed: 10/18/23

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	0.0386		"	0.0400		96.4	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	50-150			

##### LCS (BGJ0679-BS1)

Prepared: 10/17/23 Analyzed: 10/18/23

Benzene	0.109	0.0020	mg/kg	0.100		109	70-130			
Toluene	0.108	0.0050	"	0.100		108	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.204	0.010	"	0.200		102	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.0962	0.0050	"	0.100		96.2	70-130			
1,3,5-Trimethylbenzene	0.0975	0.0050	"	0.100		97.5	70-130			
Naphthalene	0.0862	0.0038	"	0.100		86.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0385		"	0.0400		96.2	50-150			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.8	50-150			

##### Matrix Spike (BGJ0679-MS1)

Source: 2310291-01

Prepared: 10/17/23 Analyzed: 10/18/23

Benzene	0.0943	0.0020	mg/kg	0.100	ND	94.3	70-130			
Toluene	0.0846	0.0050	"	0.100	ND	84.6	70-130			
Ethylbenzene	0.0796	0.0050	"	0.100	ND	79.6	70-130			
m,p-Xylene	0.159	0.010	"	0.200	ND	79.3	70-130			
o-Xylene	0.0821	0.0050	"	0.100	ND	82.1	70-130			
1,2,4-Trimethylbenzene	0.0991	0.0050	"	0.100	ND	99.1	70-130			
1,3,5-Trimethylbenzene	0.0729	0.0050	"	0.100	ND	72.9	70-130			
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0463		"	0.0400		116	50-150			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	50-150			

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Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0679 - EPA 5030 Soil MS**

Matrix Spike Dup (BGJ0679-MSD1)		Source: 2310291-01			Prepared: 10/17/23 Analyzed: 10/18/23					
Benzene	0.0865	0.0020	mg/kg	0.100	ND	86.5	70-130	8.63	30	
Toluene	0.0752	0.0050	"	0.100	ND	75.2	70-130	11.8	30	
Ethylbenzene	0.0721	0.0050	"	0.100	ND	72.1	70-130	9.85	30	
m,p-Xylene	0.147	0.010	"	0.200	ND	73.5	70-130	7.58	30	
o-Xylene	0.0751	0.0050	"	0.100	ND	75.1	70-130	8.97	30	
1,2,4-Trimethylbenzene	0.0915	0.0050	"	0.100	ND	91.5	70-130	7.97	30	
1,3,5-Trimethylbenzene	0.0959	0.0050	"	0.100	ND	95.9	70-130	27.2	30	
Naphthalene	0.108	0.0038	"	0.100	ND	108	70-130	8.35	30	
Surrogate: 1,2-Dichloroethane-d4		0.0458	"	0.0400		114	50-150			
Surrogate: Toluene-d8		0.0394	"	0.0400		98.6	50-150			
Surrogate: 4-Bromofluorobenzene		0.0387	"	0.0400		96.8	50-150			

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Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0678 - EPA 3550A**

**Blank (BGJ0678-BLK1)**

Prepared: 10/17/23 Analyzed: 10/18/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.4		"	12.5		99.2	30-150			

**LCS (BGJ0678-BS1)**

Prepared: 10/17/23 Analyzed: 10/18/23

C10-C28 (DRO)	553	50	mg/kg	500		111	70-130			
Surrogate: o-Terphenyl	12.3		"	12.5		98.2	30-150			

**Matrix Spike (BGJ0678-MS1)**

Source: 2310291-01

Prepared: 10/17/23 Analyzed: 10/18/23

C10-C28 (DRO)	418	50	mg/kg	500	16.1	80.4	70-130			
Surrogate: o-Terphenyl	9.60		"	12.5		76.8	30-150			

**Matrix Spike Dup (BGJ0678-MSD1)**

Source: 2310291-01

Prepared: 10/17/23 Analyzed: 10/19/23

C10-C28 (DRO)	450	50	mg/kg	500	16.1	86.8	70-130	7.31	20	
Surrogate: o-Terphenyl	11.7		"	12.5		93.5	30-150			

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Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BGJ0660 - EPA 5030 Soil MS

##### Blank (BGJ0660-BLK1)

Prepared & Analyzed: 10/17/23

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	0.0390		"	0.0333		117	40-150			
Surrogate: Fluoranthene-d10	0.0250		"	0.0333		75.1	40-150			

##### LCS (BGJ0660-BS1)

Prepared & Analyzed: 10/17/23

Acenaphthene	0.0261	0.00500	mg/kg	0.0333		78.4	31-137			
Anthracene	0.0255	0.00500	"	0.0333		76.4	30-120			
Benzo (a) anthracene	0.0100	0.00500	"	0.0333		30.1	30-120			
Benzo (a) pyrene	0.0236	0.00500	"	0.0333		70.8	30-120			
Benzo (b) fluoranthene	0.0237	0.00500	"	0.0333		71.2	30-120			
Benzo (k) fluoranthene	0.0266	0.00500	"	0.0333		79.7	30-120			
Chrysene	0.0245	0.00500	"	0.0333		73.4	30-120			
Dibenz (a,h) anthracene	0.0237	0.00500	"	0.0333		71.0	30-120			
Fluoranthene	0.0259	0.00500	"	0.0333		77.7	30-120			
Fluorene	0.0260	0.00500	"	0.0333		78.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0241	0.00500	"	0.0333		72.3	30-120			
Pyrene	0.0253	0.00500	"	0.0333		75.9	35-142			
1-Methylnaphthalene	0.0199	0.00500	"	0.0333		59.7	35-142			
2-Methylnaphthalene	0.0241	0.00500	"	0.0333		72.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0245		"	0.0333		73.5	40-150			
Surrogate: Fluoranthene-d10	0.0259		"	0.0333		77.8	40-150			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BGJ0660 - EPA 5030 Soil MS

##### Matrix Spike (BGJ0660-MS1)

Source: 2310255-01

Prepared & Analyzed: 10/17/23

Acenaphthene	0.0208	0.00500	mg/kg	0.0333	ND	62.4	31-137		
Anthracene	0.0190	0.00500	"	0.0333	ND	57.1	30-120		
Benzo (a) anthracene	0.0158	0.00500	"	0.0333	ND	47.4	30-120		
Benzo (a) pyrene	0.0163	0.00500	"	0.0333	ND	48.8	30-120		
Benzo (b) fluoranthene	0.0160	0.00500	"	0.0333	ND	47.9	30-120		
Benzo (k) fluoranthene	0.0181	0.00500	"	0.0333	ND	54.3	30-120		
Chrysene	0.0207	0.00500	"	0.0333	ND	62.0	30-120		
Dibenz (a,h) anthracene	0.0158	0.00500	"	0.0333	ND	47.5	30-120		
Fluoranthene	0.0187	0.00500	"	0.0333	ND	56.1	30-120		
Fluorene	0.0193	0.00500	"	0.0333	ND	58.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0216	0.00500	"	0.0333	ND	64.9	30-120		
Pyrene	0.0217	0.00500	"	0.0333	ND	65.2	35-142		
1-Methylnaphthalene	0.0164	0.00500	"	0.0333	ND	49.1	15-130		
2-Methylnaphthalene	0.0170	0.00500	"	0.0333	ND	50.9	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0206		"	0.0333		61.8	40-150		
Surrogate: Fluoranthene-d10	0.0187		"	0.0333		56.1	40-150		

##### Matrix Spike Dup (BGJ0660-MSD1)

Source: 2310255-01

Prepared & Analyzed: 10/17/23

Acenaphthene	0.0203	0.00500	mg/kg	0.0333	ND	60.8	31-137	2.59	30
Anthracene	0.0185	0.00500	"	0.0333	ND	55.6	30-120	2.62	30
Benzo (a) anthracene	0.0166	0.00500	"	0.0333	ND	49.9	30-120	5.15	30
Benzo (a) pyrene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	8.06	30
Benzo (b) fluoranthene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	13.6	30
Benzo (k) fluoranthene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	9.93	30
Chrysene	0.0205	0.00500	"	0.0333	ND	61.4	30-120	1.01	30
Dibenz (a,h) anthracene	0.0161	0.00500	"	0.0333	ND	48.2	30-120	1.47	30
Fluoranthene	0.0197	0.00500	"	0.0333	ND	59.1	30-120	5.22	30
Fluorene	0.0205	0.00500	"	0.0333	ND	61.5	30-120	5.97	30
Indeno (1,2,3-cd) pyrene	0.0218	0.00500	"	0.0333	ND	65.4	30-120	0.800	30
Pyrene	0.0209	0.00500	"	0.0333	ND	62.7	35-142	3.89	30
1-Methylnaphthalene	0.0165	0.00500	"	0.0333	ND	49.4	15-130	0.587	50
2-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.6	15-130	6.86	50
Surrogate: 2-Methylnaphthalene-d10	0.0206		"	0.0333		61.7	40-150		
Surrogate: Fluoranthene-d10	0.0198		"	0.0333		59.3	40-150		

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

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

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

**Batch BGJ0839 - EPA 3050B**

**Blank (BGJ0839-BLK1)**

Prepared: 10/20/23 Analyzed: 10/24/23

Boron ND 2.00 mg/L

**LCS (BGJ0839-BS1)**

Prepared: 10/20/23 Analyzed: 10/24/23

Boron 4.81 2.00 mg/L 5.00 96.1 80-120

**Duplicate (BGJ0839-DUP1)**

**Source: 2310295-01**

Prepared: 10/20/23 Analyzed: 10/24/23

Boron 0.477 2.00 mg/L 0.489 2.45 20

**Matrix Spike (BGJ0839-MS1)**

**Source: 2310295-01**

Prepared: 10/20/23 Analyzed: 10/24/23

Boron 4.26 2.00 mg/L 5.00 0.489 75.4 75-125

**Matrix Spike Dup (BGJ0839-MSD1)**

**Source: 2310295-01**

Prepared: 10/20/23 Analyzed: 10/24/23

Boron 4.24 2.00 mg/L 5.00 0.489 75.0 75-125 0.460 25

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0879 - EPA 3050B**

**Blank (BGJ0879-BLK1)**

Prepared: 10/23/23 Analyzed: 10/25/23

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 (BGJ0879-BS1)**

Prepared: 10/23/23 Analyzed: 10/25/23

Arsenic	42.7	0.200	mg/kg wet	40.0	107	80-120
Barium	42.3	0.400	"	40.0	106	80-120
Cadmium	1.81	0.200	"	2.00	90.4	80-120
Copper	36.9	0.400	"	40.0	92.4	80-120
Lead	19.1	0.200	"	20.0	95.4	80-120
Nickel	37.1	0.400	"	40.0	92.7	80-120
Silver	1.82	0.0200	"	2.00	90.9	80-120
Zinc	36.0	0.400	"	40.0	90.1	80-120
Selenium	4.08	0.260	"	4.00	102	80-120

**Duplicate (BGJ0879-DUP1)**

Source: 2310294-01

Prepared: 10/23/23 Analyzed: 10/25/23

Arsenic	1.74	0.200	mg/kg dry	1.73	0.992	20
Barium	49.0	0.400	"	48.0	2.13	20
Cadmium	0.135	0.200	"	0.134	0.623	20
Copper	3.88	0.400	"	3.84	0.870	20
Lead	6.31	0.200	"	6.28	0.460	20
Nickel	2.54	0.400	"	2.60	2.17	20
Silver	0.0256	0.0200	"	0.0269	4.80	20
Zinc	17.6	0.400	"	17.9	1.90	20
Selenium	ND	0.260	"	ND		20

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0879 - EPA 3050B**

Matrix Spike (BGJ0879-MS1)		Source: 2310294-01			Prepared: 10/23/23		Analyzed: 10/25/23			
Arsenic	45.5	0.200	mg/kg dry	42.0	1.73	104	75-125			
Barium	89.7	0.400	"	42.0	48.0	99.5	75-125			
Cadmium	2.01	0.200	"	2.10	0.134	89.6	75-125			
Copper	31.4	0.400	"	42.0	3.84	65.7	75-125			QM-05
Lead	27.5	0.200	"	21.0	6.28	101	75-125			
Nickel	31.1	0.400	"	42.0	2.60	67.9	75-125			QM-05
Silver	1.88	0.0200	"	2.10	0.0269	88.1	75-125			
Zinc	45.6	0.400	"	42.0	17.9	66.1	75-125			QM-05
Selenium	6.29	0.260	"	4.20	ND	150	75-125			QM-05

Matrix Spike Dup (BGJ0879-MSD1)		Source: 2310294-01			Prepared: 10/23/23		Analyzed: 10/25/23			
Arsenic	46.9	0.200	mg/kg dry	42.0	1.73	108	75-125	3.03	25	
Barium	90.5	0.400	"	42.0	48.0	101	75-125	0.901	25	
Cadmium	2.06	0.200	"	2.10	0.134	91.9	75-125	2.33	25	
Copper	31.9	0.400	"	42.0	3.84	66.8	75-125	1.43	25	QM-05
Lead	28.1	0.200	"	21.0	6.28	104	75-125	1.84	25	
Nickel	31.5	0.400	"	42.0	2.60	69.0	75-125	1.39	25	QM-05
Silver	1.93	0.0200	"	2.10	0.0269	90.7	75-125	2.80	25	
Zinc	46.1	0.400	"	42.0	17.9	67.1	75-125	0.935	25	QM-05
Selenium	6.77	0.260	"	4.20	ND	161	75-125	7.28	25	QM-05

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0744 - 3060A Mod**

**Blank (BGJ0744-BLK1)**

Prepared & Analyzed: 10/18/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGJ0744-BS1)**

Prepared & Analyzed: 10/18/23

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

**Duplicate (BGJ0744-DUP1)**

**Source: 2310266-01**

Prepared & Analyzed: 10/18/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGJ0744-MS1)**

**Source: 2310266-01**

Prepared & Analyzed: 10/18/23

Chromium, Hexavalent 24.7 0.30 mg/kg dry 28.0 ND 88.4 75-125

**Matrix Spike Dup (BGJ0744-MSD1)**

**Source: 2310266-01**

Prepared & Analyzed: 10/18/23

Chromium, Hexavalent 24.5 0.30 mg/kg dry 28.0 ND 87.6 75-125 0.909 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0842 - General Preparation**

**Blank (BGJ0842-BLK1)**

Prepared: 10/20/23 Analyzed: 10/24/23

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

**LCS (BGJ0842-BS1)**

Prepared: 10/20/23 Analyzed: 10/24/23

Calcium	5.12	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.26	0.0500	"	5.00	105	70-130
Sodium	5.52	0.0500	"	5.00	110	70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29

Project Number: UWRWE-A2428-ABN

Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

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

**Summit Scientific**

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

**Batch BGJ0973 - General Preparation**

**Duplicate (BGJ0973-DUP1)**

**Source: 2310292-04**

Prepared & Analyzed: 10/25/23

% Solids	94.1	%	94.0	0.0636	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29  
Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0894 - General Preparation**

**Blank (BGJ0894-BLK1)**

Prepared & Analyzed: 10/23/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGJ0894-BS1)**

Prepared & Analyzed: 10/23/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BGJ0894-DUP1)**

**Source: 2310052-03**

Prepared & Analyzed: 10/23/23

Specific Conductance (EC) 1.99 0.0100 mmhos/cm 1.99 0.251 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29

Project Number: UWRWE-A2428-ABN

Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

**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 BGJ0895 - General Preparation**

**LCS (BGJ0895-BS1)**

Prepared & Analyzed: 10/23/23

pH	9.15	pH Units	9.18	99.7	95-105
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**Duplicate (BGJ0895-DUP1)**

Source: 2310292-04

Prepared & Analyzed: 10/23/23

pH	5.99	pH Units	6.02	0.500	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Barton C 15-29

Project Number: UWRWE-A2428-ABN  
Project Manager: Paul Henchan

**Reported:**  
10/26/23 12:12

### Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference