

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 13, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

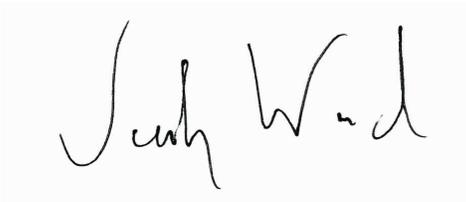
Wellington, CO 80549

RE: Noble - Farr T4N-R64W-S18 L01

Work Order #2407114

Enclosed are the results of analyses for samples received by Summit Scientific on 07/10/24 16:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B06@13.0'	2407114-01	Soil	07/10/24 00:00	07/10/24 16:38
S03@12.0'	2407114-02	Soil	07/10/24 00:00	07/10/24 16:38
W02@12.0'	2407114-03	Soil	07/10/24 00:00	07/10/24 16:38

### Case Narrative

Rerun analyses were performed by client request on 7/24/2024.  
The rerun results included in this report are denoted with "RE#."

This is a revision of the report originally sent on 7/15/2024 at 08:22 MT.

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# SUMMIT SCIENTIFIC

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

Lab ID Page 1 of 1  
**2407114**

		<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: <b>Fremont Env</b>	Project Manager: <b>Paul Henchen</b>		Company: <b>Noble</b>
Address:	E-Mail: <b>Paulh@fremontenv.com</b>		Project Name/Location:
City/State/Zip:	<b>jeff@fremontenv.com Ethanb@fremontenv.com</b>		AFE#:
Phone:	Project Name: <b>Furr TYN-R6YW-S18 Lot</b>		PO/Billing Codes:
Sampler Name: <b>JG</b>	Project Number:		Contact:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested						Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX+N	TMS (915)	DRO,ORO,GRD	PAHs (915)		EC-PH, SAR, Boron	Metals (915)
1	B06@13.0'	7/10/24		2			X						X	X	X	X	X	X	
2	S03@12.0'	↓		1			X						X	X	X	X	X	X	
3	W02@12.0'	↓		1			X						X	X	X	X	X	X	
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>[Signature]</i> Date/Time: <b>7/10/24</b>	Received by: <i>[Signature]</i> Date/Time: <b>7/10/24 16:38</b>	TAT Business Days	Field DO	<b>Notes:</b>
		Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Received by:	1 Day	Field ORP	
		2 Days	Field pH	
Relinquished by:	Received by:	3 Days	Field Temp.	
		Standard	Field Turb.	
Temperature Upon Receipt: <u>19.5</u>	Corrected Temperature	IR gun #: <u>2</u>	HNO3 lot #:	

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2407114

Client Fremont - Noble Client Project ID: Foxr T4N-R64W-S18 LOI

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

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

Temp (°C) 195 Thermometer # 2

	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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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"/>	<u>Same day</u>
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input type="checkbox"/>	<input checked="" 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.

AS  
Custodian Printed Name

7/10/24  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**B06@13.0'**  
**2407114-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0283	07/10/24	07/10/24	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: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0390	97.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0414	104 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0284	07/10/24	07/10/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.90	71.2 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**B06@13.0'**  
**2407114-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0293	07/11/24	07/11/24	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: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0161	48.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	60.1 %	40-150		"	"	"	"	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0297	07/11/24	07/12/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/10/24 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 - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**B06@13.0'**  
**2407114-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Barium	27.5	0.400	mg/kg dry	1	BHG0290	07/11/24	07/12/24	EPA 6020B	
Cadmium	0.299	0.200	"	"	"	"	"	"	
Copper	5.64	0.400	"	"	"	"	"	"	
Lead	11.6	0.200	"	"	"	"	"	"	
Nickel	7.51	0.400	"	"	"	"	"	"	
Silver	0.0395	0.0200	"	"	"	"	"	"	
Zinc	25.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0307	07/11/24	07/11/24	EPA 7196A	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.8	0.0500	mg/L dry	1	BHG0251	07/10/24	07/11/24	EPA 6020B	
Magnesium	15.3	0.0500	"	"	"	"	"	"	
Sodium	113	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.98	0.00100	units	1	BHG0350	07/12/24	07/12/24	Calculation	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.5		%	1	BHG0278	07/10/24	07/12/24	Calculation	

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**B06@13.0'**  
**2407114-01 (Soil)**

**Summit Scientific**

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

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.725</b>	0.0100	mmhos/cm	1	BHG0259	07/10/24	07/11/24	EPA 120.1	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.32</b>		pH Units	1	BHG0261	07/10/24	07/11/24	EPA 9045D	

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**B06@13.0'**  
**2407114-01RE1 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.63	0.200	mg/kg dry	1	BHH0024	08/01/24	08/06/24	EPA 6020B	

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**S03@12.0'**  
**2407114-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0283	07/10/24	07/10/24	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: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0449	112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0432	108 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0284	07/10/24	07/10/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.40	75.2 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**S03@12.0'**  
**2407114-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0293	07/11/24	07/11/24	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: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0180	53.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0172	51.5 %	40-150		"	"	"	"	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0297	07/11/24	07/12/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/10/24 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 - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**S03@12.0'**  
**2407114-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.208	0.200	mg/kg dry	1	BHG0290	07/11/24	07/12/24	EPA 6020B	
Copper	4.92	0.400	"	"	"	"	"	"	
Lead	8.55	0.200	"	"	"	"	"	"	
Nickel	5.29	0.400	"	"	"	"	"	"	
Silver	0.0248	0.0200	"	"	"	"	"	"	
Zinc	20.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0307	07/11/24	07/11/24	EPA 7196A	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.7	0.0500	mg/L dry	1	BHG0251	07/10/24	07/11/24	EPA 6020B	
Magnesium	41.9	0.0500	"	"	"	"	"	"	
Sodium	157	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.15	0.00100	units	1	BHG0350	07/12/24	07/12/24	Calculation	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.4		%	1	BHG0278	07/10/24	07/12/24	Calculation	

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**S03@12.0'**  
**2407114-02 (Soil)**

**Summit Scientific**

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.20	0.0100		mmhos/cm	1	BHG0259	07/10/24	07/11/24	EPA 120.1	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.17			pH Units	1	BHG0261	07/10/24	07/11/24	EPA 9045D	

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 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**S03@12.0'**  
**2407114-02RE1 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>3.85</b>	0.200	mg/kg dry	1	BHH0024	08/01/24	08/06/24	EPA 6020B	
<b>Barium</b>	<b>119</b>	0.400	"	"	"	"	"	"	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**W02@12.0'**  
**2407114-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0283	07/10/24	07/10/24	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: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0402	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0284	07/10/24	07/10/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.4	83.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
 PO Box 1289  
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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**W02@12.0'**  
**2407114-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0293	07/11/24	07/11/24	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: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0168	50.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	51.9 %	40-150		"	"	"	"	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0297	07/11/24	07/12/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **07/10/24 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 - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**W02@12.0'**  
**2407114-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.80	0.200	mg/kg dry	1	BHG0290	07/11/24	07/12/24	EPA 6020B	
Barium	102	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.93	0.400	"	"	"	"	"	"	
Lead	6.52	0.200	"	"	"	"	"	"	
Nickel	4.34	0.400	"	"	"	"	"	"	
Silver	0.0202	0.0200	"	"	"	"	"	"	
Zinc	15.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 07/10/24 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0307	07/11/24	07/11/24	EPA 7196A	

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

Date Sampled: 07/10/24 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.3	0.0500	mg/L dry	1	BHG0251	07/10/24	07/11/24	EPA 6020B	
Magnesium	21.8	0.0500	"	"	"	"	"	"	
Sodium	93.7	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 07/10/24 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.04	0.00100	units	1	BHG0350	07/12/24	07/12/24	Calculation	

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

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 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**W02@12.0'**  
**2407114-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.6		%	1	BHG0278	07/10/24	07/12/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **07/10/24 00:00**

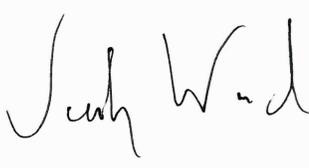
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.748	0.0100	mmhos/cm	1	BHG0259	07/10/24	07/11/24	EPA 120.1	

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

Date Sampled: **07/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20		pH Units	1	BHG0261	07/10/24	07/11/24	EPA 9045D	

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**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 BHG0283 - EPA 5030 Soil MS**

**Blank (BHG0283-BLK1)**

Prepared & Analyzed: 07/10/24

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0374		"	0.0400		93.6	50-150			
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		97.9	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0415		"	0.0400		104	50-150			

**LCS (BHG0283-BS1)**

Prepared & Analyzed: 07/10/24

Benzene	0.0964	0.0020	mg/kg	0.100		96.4	70-130			
Toluene	0.114	0.0050	"	0.100		114	70-130			
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130			
m,p-Xylene	0.211	0.010	"	0.200		106	70-130			
o-Xylene	0.106	0.0050	"	0.100		106	70-130			
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.105	0.0050	"	0.100		105	70-130			
Naphthalene	0.0861	0.0038	"	0.100		86.1	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0368		"	0.0400		92.1	50-150			
<i>Surrogate: Toluene-d8</i>	0.0411		"	0.0400		103	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0394		"	0.0400		98.5	50-150			

**Matrix Spike (BHG0283-MS1)**

Source: 2407114-01

Prepared & Analyzed: 07/10/24

Benzene	0.0814	0.0020	mg/kg	0.100	ND	81.4	70-130			
Toluene	0.0964	0.0050	"	0.100	ND	96.4	70-130			
Ethylbenzene	0.0910	0.0050	"	0.100	ND	91.0	70-130			
m,p-Xylene	0.183	0.010	"	0.200	ND	91.5	70-130			
o-Xylene	0.0915	0.0050	"	0.100	ND	91.5	70-130			
1,2,4-Trimethylbenzene	0.0880	0.0050	"	0.100	ND	88.0	70-130			
1,3,5-Trimethylbenzene	0.0885	0.0050	"	0.100	ND	88.5	70-130			
Naphthalene	0.0782	0.0038	"	0.100	ND	78.2	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0430		"	0.0400		108	50-150			
<i>Surrogate: Toluene-d8</i>	0.0420		"	0.0400		105	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0389		"	0.0400		97.3	50-150			

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 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**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 BHG0283 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BHG0283-MSD1)</b>	<b>Source: 2407114-01</b>			<b>Prepared &amp; Analyzed: 07/10/24</b>						
Benzene	0.0874	0.0020	mg/kg	0.100	ND	87.4	70-130	7.18	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	8.29	30	
Ethylbenzene	0.0964	0.0050	"	0.100	ND	96.4	70-130	5.73	30	
m,p-Xylene	0.188	0.010	"	0.200	ND	94.2	70-130	2.88	30	
o-Xylene	0.0943	0.0050	"	0.100	ND	94.3	70-130	3.07	30	
1,2,4-Trimethylbenzene	0.0925	0.0050	"	0.100	ND	92.5	70-130	4.95	30	
1,3,5-Trimethylbenzene	0.0946	0.0050	"	0.100	ND	94.6	70-130	6.68	30	
Naphthalene	0.0818	0.0038	"	0.100	ND	81.8	70-130	4.50	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0374</i>		<i>"</i>	<i>0.0400</i>		<i>93.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**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 BHG0284 - EPA 3550A**

**Blank (BHG0284-BLK1)**

Prepared & Analyzed: 07/10/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.4		"	12.5		108		30-150			

**LCS (BHG0284-BS1)**

Prepared & Analyzed: 07/10/24

C10-C28 (DRO)	621	50	mg/kg	500		124		70-130			
Surrogate: <i>o</i> -Terphenyl	13.3		"	12.5		107		30-150			

**Matrix Spike (BHG0284-MS1)**

Source: 2407114-01

Prepared & Analyzed: 07/10/24

C10-C28 (DRO)	538	50	mg/kg	500	ND	108		70-130			
Surrogate: <i>o</i> -Terphenyl	9.00		"	12.5		72.0		30-150			

**Matrix Spike Dup (BHG0284-MSD1)**

Source: 2407114-01

Prepared & Analyzed: 07/10/24

C10-C28 (DRO)	527	50	mg/kg	500	ND	105		70-130	2.01	20	
Surrogate: <i>o</i> -Terphenyl	9.72		"	12.5		77.8		30-150			

Summit Scientific

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

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

**Summit Scientific**

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

**Batch BHG0293 - EPA 5030 Soil MS**

**Blank (BHG0293-BLK1)**

Prepared & Analyzed: 07/11/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0254</i>		"	<i>0.0333</i>		<i>76.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0251</i>		"	<i>0.0333</i>		<i>75.3</i>	<i>40-150</i>			

**LCS (BHG0293-BS1)**

Prepared & Analyzed: 07/11/24

Acenaphthene	0.0240	0.00500	mg/kg	0.0333		72.1	31-137			
Anthracene	0.0240	0.00500	"	0.0333		72.1	30-120			
Benzo (a) anthracene	0.0251	0.00500	"	0.0333		75.4	30-120			
Benzo (a) pyrene	0.0229	0.00500	"	0.0333		68.6	30-120			
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333		70.8	30-120			
Benzo (k) fluoranthene	0.0245	0.00500	"	0.0333		73.4	30-120			
Chrysene	0.0242	0.00500	"	0.0333		72.7	30-120			
Dibenz (a,h) anthracene	0.0195	0.00500	"	0.0333		58.4	30-120			
Fluoranthene	0.0245	0.00500	"	0.0333		73.6	30-120			
Fluorene	0.0243	0.00500	"	0.0333		72.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0182	0.00500	"	0.0333		54.6	30-120			
Pyrene	0.0270	0.00500	"	0.0333		81.1	35-142			
1-Methylnaphthalene	0.0267	0.00500	"	0.0333		80.1	35-142			
2-Methylnaphthalene	0.0244	0.00500	"	0.0333		73.2	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0268</i>		"	<i>0.0333</i>		<i>80.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0255</i>		"	<i>0.0333</i>		<i>76.5</i>	<i>40-150</i>			

Summit Scientific

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**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 BHG0293 - EPA 5030 Soil MS**

**Matrix Spike (BHG0293-MS1)**

Source: 2406465-05

Prepared & Analyzed: 07/11/24

Acenaphthene	0.0176	0.00500	mg/kg	0.0333	ND	52.7	31-137			
Anthracene	0.0175	0.00500	"	0.0333	ND	52.4	30-120			
Benzo (a) anthracene	0.0177	0.00500	"	0.0333	ND	53.2	30-120			
Benzo (a) pyrene	0.0164	0.00500	"	0.0333	ND	49.3	30-120			
Benzo (b) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120			
Benzo (k) fluoranthene	0.0175	0.00500	"	0.0333	ND	52.6	30-120			
Chrysene	0.0167	0.00500	"	0.0333	ND	50.2	30-120			
Dibenz (a,h) anthracene	0.0141	0.00500	"	0.0333	ND	42.2	30-120			
Fluoranthene	0.0166	0.00500	"	0.0333	ND	49.8	30-120			
Fluorene	0.0172	0.00500	"	0.0333	ND	51.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0137	0.00500	"	0.0333	ND	41.2	30-120			
Pyrene	0.0203	0.00500	"	0.0333	ND	60.9	35-142			
1-Methylnaphthalene	0.0194	0.00500	"	0.0333	ND	58.1	15-130			
2-Methylnaphthalene	0.0169	0.00500	"	0.0333	ND	50.6	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0157		"	0.0333		47.0	40-150			
Surrogate: Fluoranthene-d10	0.0170		"	0.0333		50.9	40-150			

**Matrix Spike Dup (BHG0293-MSD1)**

Source: 2406465-05

Prepared & Analyzed: 07/11/24

Acenaphthene	0.0209	0.00500	mg/kg	0.0333	ND	62.8	31-137	17.6	30
Anthracene	0.0207	0.00500	"	0.0333	ND	62.1	30-120	16.8	30
Benzo (a) anthracene	0.0212	0.00500	"	0.0333	ND	63.6	30-120	17.9	30
Benzo (a) pyrene	0.0193	0.00500	"	0.0333	ND	57.8	30-120	15.9	30
Benzo (b) fluoranthene	0.0207	0.00500	"	0.0333	ND	62.0	30-120	18.2	30
Benzo (k) fluoranthene	0.0204	0.00500	"	0.0333	ND	61.1	30-120	14.9	30
Chrysene	0.0211	0.00500	"	0.0333	ND	63.3	30-120	23.1	30
Dibenz (a,h) anthracene	0.0162	0.00500	"	0.0333	ND	48.6	30-120	14.2	30
Fluoranthene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	13.4	30
Fluorene	0.0220	0.00500	"	0.0333	ND	66.0	30-120	24.6	30
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	23.0	30
Pyrene	0.0256	0.00500	"	0.0333	ND	76.9	35-142	23.2	30
1-Methylnaphthalene	0.0277	0.00500	"	0.0333	ND	83.2	15-130	35.6	50
2-Methylnaphthalene	0.0238	0.00500	"	0.0333	ND	71.4	15-130	34.1	50
Surrogate: 2-Methylnaphthalene-d10	0.0213		"	0.0333		63.9	40-150		
Surrogate: Fluoranthene-d10	0.0197		"	0.0333		59.0	40-150		

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**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 BHG0297 - EPA 3050B**

**Blank (BHG0297-BLK1)**

Prepared: 07/11/24 Analyzed: 07/12/24

Boron ND 2.00 mg/L

**LCS (BHG0297-BS1)**

Prepared: 07/11/24 Analyzed: 07/12/24

Boron 4.86 2.00 mg/L 5.00 97.2 80-120

**Duplicate (BHG0297-DUP1)**

Source: 2406465-05

Prepared: 07/11/24 Analyzed: 07/12/24

Boron 0.187 2.00 mg/L 0.243 26.0 20 QM-01

**Matrix Spike (BHG0297-MS1)**

Source: 2406465-05

Prepared: 07/11/24 Analyzed: 07/12/24

Boron 5.15 2.00 mg/L 5.00 0.243 98.2 75-125

**Matrix Spike Dup (BHG0297-MSD1)**

Source: 2406465-05

Prepared: 07/11/24 Analyzed: 07/12/24

Boron 5.47 2.00 mg/L 5.00 0.243 105 75-125 5.98 25

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BHG0290 - EPA 3050B**

**Blank (BHG0290-BLK1)**

Prepared: 07/11/24 Analyzed: 07/12/24

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 (BHG0290-BS1)**

Prepared: 07/11/24 Analyzed: 07/12/24

Arsenic	34.0	0.200	mg/kg wet	38.5	88.4	80-120
Barium	36.9	0.400	"	38.5	95.9	80-120
Cadmium	1.81	0.200	"	1.92	94.3	80-120
Copper	38.4	0.400	"	38.5	99.7	80-120
Lead	18.7	0.200	"	19.2	97.1	80-120
Nickel	38.2	0.400	"	38.5	99.2	80-120
Silver	1.83	0.0200	"	1.92	95.4	80-120
Zinc	37.1	0.400	"	38.5	96.4	80-120
Selenium	4.13	0.260	"	3.85	107	80-120

**Duplicate (BHG0290-DUP1)**

Source: 2406408-02

Prepared: 07/11/24 Analyzed: 07/12/24

Arsenic	4.34	0.200	mg/kg dry	3.68	16.5	20
Barium	122	0.400	"	116	4.76	20
Cadmium	0.355	0.200	"	0.285	21.8	20
Copper	5.76	0.400	"	5.72	0.838	20
Lead	8.80	0.200	"	8.77	0.323	20
Nickel	5.85	0.400	"	5.53	5.58	20
Silver	0.0386	0.0200	"	0.0419	8.18	20
Zinc	19.8	0.400	"	20.4	3.09	20
Selenium	0.400	0.260	"	0.364	9.48	20

QR-01

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**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 BHG0290 - EPA 3050B**

**Matrix Spike (BHG0290-MS1)**

Source: 2406408-02

Prepared: 07/11/24 Analyzed: 07/12/24

Arsenic	30.6	0.200	mg/kg dry	45.1	3.68	59.7	75-125				QM-07
Barium	140	0.400	"	45.1	116	52.4	75-125				QM-07
Cadmium	1.69	0.200	"	2.25	0.285	62.3	75-125				QM-07
Copper	21.1	0.400	"	45.1	5.72	34.0	75-125				QM-05
Lead	22.7	0.200	"	22.5	8.77	61.8	75-125				QM-07
Nickel	20.6	0.400	"	45.1	5.53	33.3	75-125				QM-05
Silver	1.43	0.0200	"	2.25	0.0419	61.5	75-125				QM-07
Zinc	35.3	0.400	"	45.1	20.4	33.0	75-125				QM-05
Selenium	3.08	0.260	"	4.51	0.364	60.3	75-125				QM-07

**Matrix Spike Dup (BHG0290-MSD1)**

Source: 2406408-02

Prepared: 07/11/24 Analyzed: 07/12/24

Arsenic	42.7	0.200	mg/kg dry	44.4	3.68	87.9	75-125	33.1	25		QM-07
Barium	130	0.400	"	44.4	116	31.6	75-125	7.11	25		QM-07
Cadmium	2.33	0.200	"	2.22	0.285	92.3	75-125	32.0	25		QM-07
Copper	29.0	0.400	"	44.4	5.72	52.4	75-125	31.6	25		QM-05
Lead	28.8	0.200	"	22.2	8.77	90.2	75-125	23.7	25		
Nickel	28.8	0.400	"	44.4	5.53	52.3	75-125	33.3	25		QM-05
Silver	2.13	0.0200	"	2.22	0.0419	94.3	75-125	39.7	25		QM-07
Zinc	44.4	0.400	"	44.4	20.4	54.0	75-125	22.9	25		QM-05
Selenium	4.37	0.260	"	4.44	0.364	90.3	75-125	34.7	25		QM-07

**Batch BHH0024 - EPA 3050B**

**Blank (BHH0024-BLK1)**

Prepared: 08/01/24 Analyzed: 08/06/24

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	"								

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

**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 BHH0024 - EPA 3050B**

**LCS (BHH0024-BS1)**

Prepared: 08/01/24 Analyzed: 08/06/24

Arsenic	39.8	0.200	mg/kg wet	36.5	109	80-120				
Barium	37.9	0.400	"	36.5	104	80-120				
Cadmium	1.95	0.200	"	1.82	107	80-120				
Copper	37.1	0.400	"	36.5	102	80-120				
Lead	19.0	0.200	"	18.2	104	80-120				
Nickel	37.6	0.400	"	36.5	103	80-120				
Silver	1.93	0.0200	"	1.82	106	80-120				
Zinc	37.5	0.400	"	36.5	103	80-120				
Selenium	3.84	0.260	"	3.65	105	80-120				

**Duplicate (BHH0024-DUP1)**

Source: 2406303-07RE1

Prepared: 08/01/24 Analyzed: 08/06/24

Arsenic	5.24	0.200	mg/kg wet	4.46	16.0	20				
Barium	238	0.400	"	91.9	88.4	20				QR-02
Cadmium	0.316	0.200	"	0.256	21.1	20				QR-01
Copper	5.40	0.400	"	5.18	4.14	20				
Lead	9.62	0.200	"	8.37	13.9	20				
Nickel	5.48	0.400	"	5.31	3.30	20				
Silver	0.0548	0.0200	"	0.0429	24.4	20				QR-01
Zinc	15.9	0.400	"	16.9	6.39	20				
Selenium	0.219	0.260	"	ND	200	20				QR-01

**Matrix Spike (BHH0024-MS1)**

Source: 2406303-07RE1

Prepared: 08/01/24 Analyzed: 08/06/24

Arsenic	43.6	0.181	mg/kg wet	36.2	4.46	108	75-125			
Barium	219	0.362	"	36.2	91.9	351	75-125			QM-07
Cadmium	2.26	0.181	"	1.81	0.256	110	75-125			
Copper	26.6	0.362	"	36.2	5.18	59.1	75-125			QM-05
Lead	27.0	0.181	"	18.1	8.37	103	75-125			
Nickel	27.4	0.362	"	36.2	5.31	61.0	75-125			QM-05
Silver	1.95	0.0181	"	1.81	0.0429	105	75-125			
Zinc	39.1	0.362	"	36.2	16.9	61.1	75-125			QM-05
Selenium	3.33	0.236	"	3.62	0.159	87.5	75-125			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**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 BHH0024 - EPA 3050B**

<b>Matrix Spike Dup (BHH0024-MSD1)</b>	<b>Source: 2406303-07RE1</b>			Prepared: 08/01/24		Analyzed: 08/06/24				
Arsenic	45.5	0.200	mg/kg wet	38.5	4.46	107	75-125	4.32	25	
Barium	180	0.400	"	38.5	91.9	229	75-125	19.7	25	QM-07
Cadmium	2.36	0.200	"	1.92	0.256	110	75-125	4.61	25	
Copper	28.7	0.400	"	38.5	5.18	61.1	75-125	7.45	25	QM-05
Lead	28.9	0.200	"	19.2	8.37	107	75-125	6.85	25	
Nickel	29.4	0.400	"	38.5	5.31	62.7	75-125	7.16	25	QM-05
Silver	2.07	0.0200	"	1.92	0.0429	105	75-125	5.95	25	
Zinc	41.6	0.400	"	38.5	16.9	64.1	75-125	6.25	25	QM-05
Selenium	3.73	0.260	"	3.85	ND	97.0	75-125	11.4	25	

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BHG0307 - 3060A Mod**

**Blank (BHG0307-BLK1)**

Prepared & Analyzed: 07/11/24

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BHG0307-BS1)**

Prepared & Analyzed: 07/11/24

Chromium, Hexavalent      24.4      0.30    mg/kg wet      25.0      97.6      80-120

**Duplicate (BHG0307-DUP1)**

**Source: 2407114-01**

Prepared & Analyzed: 07/11/24

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BHG0307-MS1)**

**Source: 2407114-01**

Prepared & Analyzed: 07/11/24

Chromium, Hexavalent      28.2      0.30    mg/kg dry      29.2      ND      96.4      75-125

**Matrix Spike Dup (BHG0307-MSD1)**

**Source: 2407114-01**

Prepared & Analyzed: 07/11/24

Chromium, Hexavalent      27.6      0.30    mg/kg dry      29.2      ND      94.4      75-125      2.10      20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**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 BHG0251 - General Preparation**

**Blank (BHG0251-BLK1)**

Prepared: 07/10/24 Analyzed: 07/11/24

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

**LCS (BHG0251-BS1)**

Prepared: 07/10/24 Analyzed: 07/11/24

Calcium	5.55	0.0500	mg/L wet	5.00		111	70-130			
Magnesium	4.60	0.0500	"	5.00		92.1	70-130			
Sodium	4.70	0.0500	"	5.00		94.1	70-130			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

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

**Summit Scientific**

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

**Batch BHG0278 - General Preparation**

**Duplicate (BHG0278-DUP1)**

**Source: 2406379-03**

Prepared: 07/10/24 Analyzed: 07/12/24

% Solids	79.3		%		79.4			0.211	20	
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Summit Scientific



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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

**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 BHG0259 - General Preparation**

**Blank (BHG0259-BLK1)**

Prepared: 07/10/24 Analyzed: 07/11/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHG0259-BS1)**

Prepared: 07/10/24 Analyzed: 07/11/24

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

**Duplicate (BHG0259-DUP1)**

Source: 2407103-01

Prepared: 07/10/24 Analyzed: 07/11/24

Specific Conductance (EC) 2.95 0.0100 mmhos/cm 2.89 2.12 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 08/13/24 12:02

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

**Summit Scientific**

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

**Batch BHG0261 - General Preparation**

<b>LCS (BHG0261-BS1)</b>										
					Prepared: 07/10/24 Analyzed: 07/11/24					
pH	9.19		pH Units	9.18	100	95-105				
<b>Duplicate (BHG0261-DUP1)</b>										
					Source: 2407103-01 Prepared: 07/10/24 Analyzed: 07/11/24					
pH	8.10		pH Units	8.06		0.495			20	

**Batch BHG0817 - General Preparation**

<b>LCS (BHG0817-BS1)</b>										
					Prepared & Analyzed: 07/29/24					
pH	9.23		pH Units	9.18	101	95-105				
<b>Duplicate (BHG0817-DUP1)</b>										
					Source: 2407114-01RE1 Prepared & Analyzed: 07/29/24					
pH	8.88		pH Units	8.78		1.13			20	

Summit Scientific



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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
08/13/24 12:02

### 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 less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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