

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 16, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Farr T4N-R64W-S18 L01

Work Order #2407137

Enclosed are the results of analyses for samples received by Summit Scientific on 07/11/24 16:27. 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 - Farr T4N-R64W-S18 L01 Project Number: [none] Project Manager: Paul Henchan	Reported: 07/16/24 09:21
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Backfill	2407137-01	Soil	07/11/24 00:00	07/11/24 16:27

SUMMIT SCIENTIFIC

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

Lab ID	Page <u>1</u> of <u>1</u>
2407137	

Send Data To:		Send Invoice To:	
Client: <u>Fremont Env</u>	Project Manager: <u>Paul Henehan</u>	Company: <u>Noble</u>	
Address:	E-Mail: <u>Paulh@fremontenv.com</u>	Project Name/Location:	
City/State/Zip:	<u>Jeff@fremontenv.com Ethem@fremontenv.com</u>	AFE#:	
Phone:	Project Name: <u>Farr TYN-R64W-S18 L01</u>	PO/Billing Codes:	
Sampler Name: <u>J6</u>	Project Number:	Contact:	

					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+N	TMBs(915)	DRO,ORO,GRO	PAHs(915)	EC-pH,SAR, <small>Fluoride</small>	Metals(915)			
1	Backfill	7/11/24		2			X			X			X	X	X	X	X	X			
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <u>[Signature]</u> 7/11/24	Date/Time: <u>7/11/24 16:27</u>	Received by: <u>[Signature]</u>	Date/Time: <u>7/11/24 16:27</u>	TAT Business Days	Field DO	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <u>X</u>	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <u>5.4</u>	Corrected Temperature	IR gun #: <u>2</u>	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2407137Client: Fremont - NobleClient Project ID: Favv T4N-R64 W-S18 L01Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #: ☐
☐ ☐ ☐ ☐ ☐

Matrix (Check all that apply)

Air ☐Soil/Solid ☒Water ☐Other ☐

Temp (°C)

5.6

Thermometer #

2

	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"/>	
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 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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input type="checkbox"/>	<input checked="" 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.				


 Custodian Printed Name

7/11/24
 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:
07/16/24 09:21

Backfill
2407137-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0327	07/11/24	07/11/24	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: **07/11/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0405	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0419	105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0329	07/11/24	07/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.69	53.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
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2407137-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0331	07/12/24	07/12/24	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: **07/11/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0216	64.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0206	61.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0340	07/12/24	07/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: [none]
Project Manager: Paul Henehan

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2407137-01 (Soil)

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Total Metals by EPA 6020B

Arsenic	0.927	0.200	mg/kg dry	1	BHG0330	07/12/24	07/12/24	EPA 6020B
Barium	69.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.58	0.400	"	"	"	"	"	"
Lead	5.21	0.200	"	"	"	"	"	"
Nickel	1.81	0.400	"	"	"	"	"	"
Silver	0.0578	0.0200	"	"	"	"	"	"
Zinc	6.74	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 07/11/24 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0347	07/12/24	07/12/24	EPA 7196A	

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

Date Sampled: 07/11/24 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	74.9	0.0500	mg/L dry	1	BHG0314	07/11/24	07/13/24	EPA 6020B	
Magnesium	18.2	0.0500	"	"	"	"	"	"	
Sodium	4.52	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 07/11/24 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.122	0.00100	units	1	BHG0377	07/15/24	07/15/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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2407137-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	77.5			%	1	BHG0337	07/12/24	07/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.140	0.0100		mmhos/cm	1	BHG0316	07/11/24	07/12/24	EPA 120.1	

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

Date Sampled: **07/11/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.75			pH Units	1	BHG0315	07/11/24	07/12/24	EPA 9045D	

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]
Project Manager: Paul Henchan

Reported:
07/16/24 09:21

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHG0327 - EPA 5030 Soil MS

Blank (BHG0327-BLK1)

Prepared & Analyzed: 07/11/24

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	0.0394		"	0.0400		98.6	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		105	50-150			

LCS (BHG0327-BS1)

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

Benzene	0.0959	0.0020	mg/kg	0.100		95.9	70-130			
Toluene	0.114	0.0050	"	0.100		114	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.212	0.010	"	0.200		106	70-130			
o-Xylene	0.106	0.0050	"	0.100		106	70-130			
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
1,3,5-Trimethylbenzene	0.104	0.0050	"	0.100		104	70-130			
Naphthalene	0.0875	0.0038	"	0.100		87.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0432		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.4	50-150			

Matrix Spike (BHG0327-MS1)

Source: 2407137-01

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

Benzene	0.0934	0.0020	mg/kg	0.100	ND	93.4	70-130			
Toluene	0.113	0.0050	"	0.100	ND	113	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130			
o-Xylene	0.100	0.0050	"	0.100	ND	100	70-130			
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100	ND	100	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
Naphthalene	0.0818	0.0038	"	0.100	ND	81.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0388		"	0.0400		96.9	50-150			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	50-150			

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]
Project Manager: Paul Henchan

Reported:
07/16/24 09:21

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 BHG0327 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0327-MSD1)	Source: 2407137-01			Prepared: 07/11/24 Analyzed: 07/12/24						
Benzene	0.104	0.0020	mg/kg	0.100	ND	104	70-130	11.0	30	
Toluene	0.127	0.0050	"	0.100	ND	127	70-130	11.8	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	11.8	30	
m,p-Xylene	0.227	0.010	"	0.200	ND	114	70-130	8.98	30	
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130	13.1	30	
1,2,4-Trimethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130	9.77	30	
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130	13.2	30	
Naphthalene	0.0874	0.0038	"	0.100	ND	87.4	70-130	6.67	30	
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0426		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	50-150			

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]
Project Manager: Paul Henchan

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07/16/24 09:21

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 BHG0329 - EPA 3550A

Blank (BHG0329-BLK1)

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

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.3		"	12.5		98.0	30-150			

LCS (BHG0329-BS1)

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

C10-C28 (DRO)	506	50	mg/kg	500		101	70-130			
Surrogate: o-Terphenyl	12.0		"	12.5		96.4	30-150			

Matrix Spike (BHG0329-MS1)

Source: 2407137-01

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

C10-C28 (DRO)	461	50	mg/kg	500	ND	92.1	70-130			
Surrogate: o-Terphenyl	7.95		"	12.5		63.6	30-150			

Matrix Spike Dup (BHG0329-MSD1)

Source: 2407137-01

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

C10-C28 (DRO)	469	50	mg/kg	500	ND	93.8	70-130	1.84	20	
Surrogate: o-Terphenyl	6.83		"	12.5		54.6	30-150			

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Project: Noble - Farr T4N-R64W-S18 L01

Project Number: [none]
Project Manager: Paul Henchan

Reported:
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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 BHG0331 - EPA 5030 Soil MS

Blank (BHG0331-BLK1)

Prepared & Analyzed: 07/12/24

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	0.0302	"	0.0333	90.5	40-150
Surrogate: Fluoranthene-d10	0.0276	"	0.0333	82.8	40-150

LCS (BHG0331-BS1)

Prepared & Analyzed: 07/12/24

Acenaphthene	0.0263	0.00500	mg/kg	0.0333	78.8	31-137
Anthracene	0.0254	0.00500	"	0.0333	76.3	30-120
Benzo (a) anthracene	0.0267	0.00500	"	0.0333	80.2	30-120
Benzo (a) pyrene	0.0237	0.00500	"	0.0333	71.1	30-120
Benzo (b) fluoranthene	0.0238	0.00500	"	0.0333	71.5	30-120
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333	74.2	30-120
Chrysene	0.0267	0.00500	"	0.0333	80.1	30-120
Dibenz (a,h) anthracene	0.0220	0.00500	"	0.0333	66.1	30-120
Fluoranthene	0.0253	0.00500	"	0.0333	75.9	30-120
Fluorene	0.0263	0.00500	"	0.0333	79.0	30-120
Indeno (1,2,3-cd) pyrene	0.0217	0.00500	"	0.0333	65.2	30-120
Pyrene	0.0329	0.00500	"	0.0333	98.8	35-142
1-Methylnaphthalene	0.0295	0.00500	"	0.0333	88.5	35-142
2-Methylnaphthalene	0.0281	0.00500	"	0.0333	84.2	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0293	"	0.0333	87.8	40-150
Surrogate: Fluoranthene-d10	0.0262	"	0.0333	78.6	40-150

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:
07/16/24 09:21

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 BHG0331 - EPA 5030 Soil MS

Matrix Spike (BHG0331-MS1)

Source: 2407125-01

Prepared & Analyzed: 07/12/24

Acenaphthene	0.0183	0.00500	mg/kg	0.0333	ND	54.8	31-137		
Anthracene	0.0191	0.00500	"	0.0333	ND	57.4	30-120		
Benzo (a) anthracene	0.0191	0.00500	"	0.0333	ND	57.3	30-120		
Benzo (a) pyrene	0.0170	0.00500	"	0.0333	ND	50.9	30-120		
Benzo (b) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.2	30-120		
Benzo (k) fluoranthene	0.0169	0.00500	"	0.0333	ND	50.6	30-120		
Chrysene	0.0187	0.00500	"	0.0333	ND	56.1	30-120		
Dibenz (a,h) anthracene	0.0144	0.00500	"	0.0333	ND	43.3	30-120		
Fluoranthene	0.0169	0.00500	"	0.0333	ND	50.6	30-120		
Fluorene	0.0187	0.00500	"	0.0333	ND	56.1	30-120		
Indeno (1,2,3-cd) pyrene	0.0154	0.00500	"	0.0333	ND	46.1	30-120		
Pyrene	0.0210	0.00500	"	0.0333	ND	63.0	35-142		
1-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.2	15-130		
2-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.8	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0198		"	0.0333		59.4	40-150		
Surrogate: Fluoranthene-d10	0.0174		"	0.0333		52.2	40-150		

Matrix Spike Dup (BHG0331-MSD1)

Source: 2407125-01

Prepared & Analyzed: 07/12/24

Acenaphthene	0.0195	0.00500	mg/kg	0.0333	ND	58.5	31-137	6.44	30
Anthracene	0.0198	0.00500	"	0.0333	ND	59.3	30-120	3.18	30
Benzo (a) anthracene	0.0194	0.00500	"	0.0333	ND	58.1	30-120	1.37	30
Benzo (a) pyrene	0.0171	0.00500	"	0.0333	ND	51.2	30-120	0.476	30
Benzo (b) fluoranthene	0.0165	0.00500	"	0.0333	ND	49.6	30-120	0.714	30
Benzo (k) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.4	30-120	0.443	30
Chrysene	0.0188	0.00500	"	0.0333	ND	56.3	30-120	0.333	30
Dibenz (a,h) anthracene	0.0171	0.00500	"	0.0333	ND	51.3	30-120	17.1	30
Fluoranthene	0.0193	0.00500	"	0.0333	ND	57.8	30-120	13.3	30
Fluorene	0.0195	0.00500	"	0.0333	ND	58.6	30-120	4.35	30
Indeno (1,2,3-cd) pyrene	0.0160	0.00500	"	0.0333	ND	48.1	30-120	4.29	30
Pyrene	0.0216	0.00500	"	0.0333	ND	64.8	35-142	2.90	30
1-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.7	15-130	16.1	50
2-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.8	15-130	8.26	50
Surrogate: 2-Methylnaphthalene-d10	0.0222		"	0.0333		66.6	40-150		
Surrogate: Fluoranthene-d10	0.0201		"	0.0333		60.4	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:
07/16/24 09:21

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

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

Batch BHG0340 - EPA 3050B

Blank (BHG0340-BLK1)

Prepared: 07/12/24 Analyzed: 07/13/24

Boron ND 2.00 mg/L

LCS (BHG0340-BS1)

Prepared: 07/12/24 Analyzed: 07/13/24

Boron 4.98 2.00 mg/L 5.00 99.6 80-120

Duplicate (BHG0340-DUP1)

Source: 2407137-01

Prepared: 07/12/24 Analyzed: 07/13/24

Boron 0.0521 2.00 mg/L 0.106 67.8 20 QR-01

Matrix Spike (BHG0340-MS1)

Source: 2407137-01

Prepared: 07/12/24 Analyzed: 07/13/24

Boron 5.08 2.00 mg/L 5.02 0.106 99.0 75-125

Matrix Spike Dup (BHG0340-MSD1)

Source: 2407137-01

Prepared: 07/12/24 Analyzed: 07/13/24

Boron 5.34 2.00 mg/L 5.02 0.106 104 75-125 4.96 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:
07/16/24 09:21

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 BHG0330 - EPA 3050B

Blank (BHG0330-BLK1)

Prepared: 07/12/24 Analyzed: 07/15/24

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 (BHG0330-BS1)

Prepared: 07/12/24 Analyzed: 07/15/24

Arsenic	38.1	0.200	mg/kg wet	36.5	104	80-120
Barium	34.4	0.400	"	36.5	94.2	80-120
Cadmium	1.80	0.200	"	1.82	98.5	80-120
Copper	33.3	0.400	"	36.5	91.1	80-120
Lead	17.4	0.200	"	18.2	95.6	80-120
Nickel	38.2	0.400	"	36.5	105	80-120
Silver	1.77	0.0200	"	1.82	97.1	80-120
Zinc	37.0	0.400	"	36.5	101	80-120
Selenium	3.89	0.260	"	3.65	107	80-120

Duplicate (BHG0330-DUP1)

Source: 2406108-04

Prepared: 07/12/24 Analyzed: 07/15/24

Arsenic	0.917	0.200	mg/kg dry	0.940	2.41	20	
Barium	42.9	0.400	"	37.0	14.7	20	
Cadmium	0.415	0.200	"	0.310	28.9	20	QR-01
Copper	6.45	0.400	"	7.47	14.6	20	
Lead	15.5	0.200	"	11.7	28.2	20	QR-04
Nickel	3.49	0.400	"	2.68	26.3	20	QR-04
Silver	0.0588	0.0200	"	0.0606	3.10	20	
Zinc	11.9	0.400	"	12.3	3.54	20	
Selenium	ND	0.260	"	ND		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:
07/16/24 09:21

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 BHG0330 - EPA 3050B

Matrix Spike (BHG0330-MS1)		Source: 2406108-04			Prepared: 07/12/24 Analyzed: 07/15/24						
Arsenic	8.62	0.200	mg/kg dry	43.9	0.940	17.5	75-125				QM-05
Barium	77.7	0.400	"	43.9	37.0	92.7	75-125				
Cadmium	2.35	0.200	"	2.19	0.310	92.9	75-125				
Copper	23.9	0.400	"	43.9	7.47	37.4	75-125				QM-05
Lead	26.8	0.200	"	21.9	11.7	69.2	75-125				QM-07
Nickel	10.9	0.400	"	43.9	2.68	18.8	75-125				QM-05
Silver	2.09	0.0200	"	2.19	0.0606	92.4	75-125				
Zinc	19.7	0.400	"	43.9	12.3	16.9	75-125				QM-05
Selenium	3.40	0.260	"	4.39	ND	77.6	75-125				

Matrix Spike Dup (BHG0330-MSD1)		Source: 2406108-04			Prepared: 07/12/24 Analyzed: 07/15/24						
Arsenic	8.54	0.200	mg/kg dry	45.6	0.940	16.7	75-125	0.921	25		QM-05
Barium	76.0	0.400	"	45.6	37.0	85.5	75-125	2.24	25		
Cadmium	2.39	0.200	"	2.28	0.310	91.1	75-125	1.57	25		
Copper	24.6	0.400	"	45.6	7.47	37.7	75-125	3.02	25		QM-05
Lead	29.0	0.200	"	22.8	11.7	76.1	75-125	7.74	25		
Nickel	10.4	0.400	"	45.6	2.68	16.9	75-125	4.74	25		QM-05
Silver	2.15	0.0200	"	2.28	0.0606	91.9	75-125	3.13	25		
Zinc	20.3	0.400	"	45.6	12.3	17.6	75-125	3.20	25		QM-05
Selenium	3.40	0.260	"	4.56	ND	74.6	75-125	0.0884	25		QM-07

Post Spike (BHG0330-PS1)		Source: 2406108-04			Prepared: 07/12/24 Analyzed: 07/15/24						
Arsenic	19.3		ug/l	100	2.00	17.3	75-125				QM-01
Barium	188		"	100	78.8	109	75-125				
Cadmium	5.82		"	5.00	0.660	103	75-125				
Copper	55.6		"	100	15.9	39.7	75-125				QM-01
Lead	66.0		"	50.0	24.8	82.5	75-125				
Nickel	23.5		"	100	5.70	17.8	75-125				QM-01
Silver	5.21		"	5.00	0.129	102	75-125				
Zinc	43.6		"	100	26.2	17.4	75-125				QM-01
Selenium	8.81		"	10.0	0.247	85.6	75-125				

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:
07/16/24 09:21

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 BHG0347 - 3060A Mod

Blank (BHG0347-BLK1)

Prepared & Analyzed: 07/12/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHG0347-BS1)

Prepared & Analyzed: 07/12/24

Chromium, Hexavalent 24.2 0.30 mg/kg wet 25.0 96.8 80-120

Duplicate (BHG0347-DUP1)

Source: 2407123-01

Prepared & Analyzed: 07/12/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHG0347-MS1)

Source: 2407123-01

Prepared & Analyzed: 07/12/24

Chromium, Hexavalent 24.4 0.30 mg/kg dry 25.6 ND 95.2 75-125

Matrix Spike Dup (BHG0347-MSD1)

Source: 2407123-01

Prepared & Analyzed: 07/12/24

Chromium, Hexavalent 24.8 0.30 mg/kg dry 25.6 ND 96.8 75-125 1.67 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:
07/16/24 09:21

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

Summit Scientific

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

Batch BHG0314 - General Preparation

Blank (BHG0314-BLK1)

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

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

LCS (BHG0314-BS1)

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

Calcium	5.15	0.0500	mg/L wet	5.00	103	70-130
Magnesium	4.72	0.0500	"	5.00	94.4	70-130
Sodium	4.63	0.0500	"	5.00	92.6	70-130

Summit Scientific

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Fremont Environmental	Project: Noble - Farr T4N-R64W-S18 L01	
PO Box 1289	Project Number: [none]	Reported:
Wellington CO, 80549	Project Manager: Paul Henchan	07/16/24 09:21

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 BHG0337 - General Preparation

Duplicate (BHG0337-DUP1)	Source: 2406108-04			Prepared & Analyzed: 07/12/24						
% Solids	84.3		%		85.1			0.905	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:
07/16/24 09:21

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

Summit Scientific

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

Batch BHG0316 - General Preparation

Blank (BHG0316-BLK1)

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

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHG0316-BS1)

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

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BHG0316-DUP1)

Source: 2406465-05

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

Specific Conductance (EC) 0.292 0.0100 mmhos/cm 0.303 3.73 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:
07/16/24 09:21

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 BHG0315 - General Preparation

LCS (BHG0315-BS1)

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

pH	9.18	pH Units	9.18	100	95-105
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Duplicate (BHG0315-DUP1)

Source: 2406408-05

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

pH	7.82	pH Units	7.80	0.256	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:
07/16/24 09:21

Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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