

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

July 06, 2023

Paul Henehan

Fremont Environmental

PO Box 1289

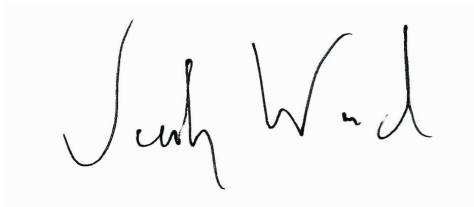
Wellington, CO 80549

RE: Noble - 31-4-64 SENE Tank Battery

Work Order # 2305459

Enclosed are the results of analyses for samples received by Summit Scientific on 05/18/23 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jacob Wood". The signature is written in a cursive, flowing style. The first name "Jacob" is written with a large, looped 'J' and a small 'a'. The last name "Wood" is written with a large 'W' and a small 'd'.

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@6.0"	2305459-01	Soil	05/17/23 00:00	05/18/23 16:30
AST02@6.0"	2305459-02	Soil	05/17/23 00:00	05/18/23 16:30
SEP01@4.5'	2305459-03	Soil	05/17/23 00:00	05/18/23 16:30
PWVB01@6.0'	2305459-04	Soil	05/17/23 00:00	05/18/23 16:30
PWVN01@5.0'	2305459-05	Soil	05/17/23 00:00	05/18/23 16:30
BKG01@6.0"	2305459-06	Soil	05/17/23 00:00	05/18/23 16:30

#### Case Narrative

Jeff G requested Metals be added to SEP01@4.5' on 6/26/2023. This report includes those results.

Summit Scientific

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# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
<b>2305459</b>	

Client: <u>Fremont Env</u>		Send Data To:		Send Invoice To:	
Address:		Project Manager: <u>Paul Henehan</u>		Company: <u>Noble</u>	
City/State/Zip:		E-Mail: <u>Paulh@fremontenv.com</u>		Project Name/Location:	
Phone:		<u>jeffg@fremontenv.com</u> <u>Ethomb@fremontenv.com</u>		AFE#:	
Sampler Name: <u>JG</u>		Project Name: <u>31-4-64 SENE Tank Battery</u>		PO/Billing Codes:	
		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	TMBs (915)	DRO,ORO,GRO	PAHs (915)	EC,pH,SAR, Boron	Metals (915)			
1	AST01@6.0"	5/17/23		2			X			X				X	X	X	X	X			
2	AST02@6.0"	↓		1			↓			↓				↓	↓	↓	↓	↓			
3	SEP01@4.5'	↓		1			↓			↓				↓	↓	↓	↓	↓			
4	PWVB01@6.0'	↓		1			↓			↓				↓	↓	↓	↓	↓			
5	PWVN01@5.0'	↓		2			↓			↓				X	X	X	X	↓			
6	BKG01@6.0"	↓		1			↓			↓								X	X		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <u>[Signature]</u>	Date/Time: <u>5/18/23 13:57</u>	Received by: <u>Summit North</u>	Date/Time: <u>5/18/23 13:57</u>	TAT Business Days	Field DO	Notes:  <u>Bill to Noble</u>
Relinquished by: <u>52</u>	Date/Time: <u>5/18/23 1630</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/18/23 1630</u>	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard <input checked="" type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: <u>11.3</u>	Corrected Temperature: <u>0</u>	IR gun #: <u>1</u>	HNO3 lot #:			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2305459Client: FremontClient Project ID: 3-4-64 SENE Tank BatteryShipped 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)

11.3

Thermometer #

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"/>	<u>none</u>
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? 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): <u>Samples didn't have project name, neither did the sploek they came in</u>				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS

Custodian Printed Name

5/18/23

Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**AST01@6.0"**  
**2305459-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGE0794	05/23/23	05/24/23	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: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		101 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0797	05/23/23	05/23/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		117 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**AST01@6.0"**  
**2305459-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGE0785	05/23/23	05/23/23	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: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.0 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		71.4 %		40-150		"	"	"	"	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.211</b>	0.0100		mg/L	1	BGE0838	05/24/23	05/25/23	EPA 6020B	

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

Date Sampled: **05/17/23 00:00**

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

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**AST01@6.0"**  
**2305459-01 (Soil)**

**Summit Scientific**

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

Calcium	88.8	0.0529	mg/L dry	1	BGE0874	05/24/23	05/27/23	EPA 6020B
Magnesium	18.9	0.0529	"	"	"	"	"	"
Sodium	3.19	0.0529	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0802	0.00100		units	1	BGE1005	05/29/23	05/29/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.5			%	1	BGE0863	05/24/23	05/24/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.157	0.0100		mmhos/cm	1	BGE0902	05/25/23	05/25/23	EPA 120.1	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.91			pH Units	1	BGE0903	05/25/23	05/25/23	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**AST02@6.0"**  
**2305459-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGE0794	05/23/23	05/24/23	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: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		99.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		97.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0797	05/23/23	05/23/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		113 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**AST02@6.0"**  
**2305459-02 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGE0785	05/23/23	05/23/23	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: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		61.5 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.0 %		40-150		"	"	"	"	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.109</b>	0.0100		mg/L	1	BGE0838	05/24/23	05/25/23	EPA 6020B	

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

Date Sampled: **05/17/23 00:00**

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

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**AST02@6.0"**  
**2305459-02 (Soil)**

**Summit Scientific**

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

Calcium	56.2	0.0566	mg/L dry	1	BGE0874	05/24/23	05/27/23	EPA 6020B
Magnesium	12.7	0.0566	"	"	"	"	"	"
Sodium	4.10	0.0566	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.129	0.00100		units	1	BGE1005	05/29/23	05/29/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.4			%	1	BGE0863	05/24/23	05/24/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0526	0.0100		mmhos/cm	1	BGE0902	05/25/23	05/25/23	EPA 120.1	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	5.56			pH Units	1	BGE0903	05/25/23	05/25/23	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**SEP01@4.5'**  
**2305459-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGE0794	05/23/23	05/24/23	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: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		98.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		99.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0797	05/23/23	05/23/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		113 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**SEP01@4.5'**  
**2305459-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.00973	0.00500		mg/kg	1	BGE0785	05/23/23	05/23/23	EPA 8270D SIM	
Anthracene	0.0178	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	0.0317	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	0.0196	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0249	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0100	0.00500		"	"	"	"	"	"	
Chrysene	0.0276	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	0.0846	0.00500		"	"	"	"	"	"	
Fluorene	0.0119	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.0135	0.00500		"	"	"	"	"	"	
Pyrene	0.0675	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.1 %		40-150		"	"	"	"	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.232	0.0100		mg/L	1	BGE0838	05/24/23	05/25/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/17/23 00:00**

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

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**SEP01@4.5'**  
**2305459-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.06	0.232		mg/kg dry	1	BGF1008	06/28/23	07/02/23	EPA 6020B	
Barium	68.1	0.463		"	"	"	"	"	"	
Cadmium	ND	0.232		"	"	"	"	"	"	
Copper	ND	0.463		"	"	"	"	"	"	
Lead	5.22	0.232		"	"	"	"	"	"	
Nickel	4.44	0.463		"	"	"	"	"	"	
Selenium	ND	0.301	0.203	"	"	"	"	"	"	
Silver	0.0301	0.0232		"	"	"	"	"	"	
Zinc	14.6	0.463		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF1098	06/30/23	06/30/23	EPA 7196A	I-02

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	47.9	0.0579		mg/L dry	1	BGE0874	05/24/23	05/27/23	EPA 6020B	
Magnesium	8.31	0.0579		"	"	"	"	"	"	
Sodium	3.59	0.0579		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.126	0.00100		units	1	BGE1005	05/29/23	05/29/23	Calculation	

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

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**SEP01@4.5'**  
**2305459-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.4			%	1	BGE0863	05/24/23	05/24/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.258	0.0100		mmhos/cm	1	BGE0902	05/25/23	05/25/23	EPA 120.1	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.76			pH Units	1	BGE0903	05/25/23	05/25/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**PWVB01@6.0'**  
**2305459-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGE0794	05/23/23	05/24/23	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: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		97.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0797	05/23/23	05/23/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		112 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**PWVB01@6.0'**  
**2305459-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGE0785	05/23/23	05/23/23	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: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		60.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.6 %		40-150		"	"	"	"	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.218</b>	0.0100		mg/L	1	BGE0838	05/24/23	05/25/23	EPA 6020B	

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

Date Sampled: **05/17/23 00:00**

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

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**PWVB01@6.0'**  
**2305459-04 (Soil)**

**Summit Scientific**

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

Calcium	121	0.0569	mg/L dry	1	BGE0874	05/24/23	05/27/23	EPA 6020B
Magnesium	27.0	0.0569	"	"	"	"	"	"
Sodium	48.7	0.0569	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.04	0.00100		units	1	BGE1005	05/29/23	05/29/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.8			%	1	BGE0863	05/24/23	05/24/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.29	0.0100		mmhos/cm	1	BGE0902	05/25/23	05/25/23	EPA 120.1	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.67			pH Units	1	BGE0903	05/25/23	05/25/23	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**PWVN01@5.0'**  
**2305459-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGE0794	05/23/23	05/24/23	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: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		100 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0797	05/23/23	05/23/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		117 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**PWVN01@5.0'**  
**2305459-05 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGE0785	05/23/23	05/23/23	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: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.0 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.2 %		40-150		"	"	"	"	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0983</b>	0.0100		mg/L	1	BGE0838	05/24/23	05/25/23	EPA 6020B	

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

Date Sampled: **05/17/23 00:00**

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

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**PWVN01@5.0'**  
**2305459-05 (Soil)**

**Summit Scientific**

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

Calcium	55.0	0.0600	mg/L dry	1	BGE0874	05/24/23	05/27/23	EPA 6020B
Magnesium	16.2	0.0600	"	"	"	"	"	"
Sodium	2.82	0.0600	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0859	0.00100		units	1	BGE1005	05/29/23	05/29/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.3			%	1	BGE0863	05/24/23	05/24/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.527	0.0100		mmhos/cm	1	BGE0902	05/25/23	05/25/23	EPA 120.1	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73			pH Units	1	BGE0903	05/25/23	05/25/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**BKG01@6.0"**  
**2305459-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Boron	0.104	0.0100			mg/L	1	BGE0838	05/24/23	05/25/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Arsenic	0.430	0.225			mg/kg dry	1	BGE0784	05/23/23	05/24/23	EPA 6020B	
Barium	49.2	0.451			"	"	"	"	"	"	
Cadmium	ND	0.225			"	"	"	"	"	"	
Copper	1.31	0.451			"	"	"	"	"	"	
Lead	4.48	0.225			"	"	"	"	"	"	
Nickel	1.50	0.451			"	"	"	"	"	"	
Selenium	ND	0.293	0.197		"	"	"	"	"	"	
Silver	ND	0.0225			"	"	"	"	"	"	
Zinc	4.74	0.451			"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Chromium, Hexavalent	ND	0.30			mg/kg dry	1	BGE0685	05/19/23	05/19/23	EPA 7196A	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Calcium	69.2	0.0564			mg/L dry	1	BGE0874	05/24/23	05/27/23	EPA 6020B	
Magnesium	18.0	0.0564			"	"	"	"	"	"	
Sodium	1.74	0.0564			"	"	"	"	"	"	

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PO Box 1289  
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Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**BKG01@6.0"**  
**2305459-06 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0482	0.00100		units	1	BGE1005	05/29/23	05/29/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.7			%	1	BGE0863	05/24/23	05/24/23	Calculation	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.103	0.0100		mmhos/cm	1	BGE0902	05/25/23	05/25/23	EPA 120.1	

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

Date Sampled: **05/17/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.20			pH Units	1	BGE0903	05/25/23	05/25/23	EPA 9045D	

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Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

## 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 BGE0794 - EPA 5030 Soil MS

##### Blank (BGE0794-BLK1)

Prepared & Analyzed: 05/23/23

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	0.0435		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	50-150			

##### LCS (BGE0794-BS1)

Prepared: 05/23/23 Analyzed: 05/24/23

Benzene	0.145	0.0020	mg/kg	0.150		96.8	70-130			
Toluene	0.158	0.0050	"	0.150		106	70-130			
Ethylbenzene	0.152	0.0050	"	0.150		101	70-130			
m,p-Xylene	0.305	0.010	"	0.300		102	70-130			
o-Xylene	0.149	0.0050	"	0.150		99.5	70-130			
1,2,4-Trimethylbenzene	0.142	0.0050	"	0.150		94.4	70-130			
1,3,5-Trimethylbenzene	0.143	0.0050	"	0.150		95.6	70-130			
Naphthalene	0.133	0.0038	"	0.150		88.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0402		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	50-150			

##### Matrix Spike (BGE0794-MS1)

Source: 2305459-01

Prepared: 05/23/23 Analyzed: 05/24/23

Benzene	0.131	0.0020	mg/kg	0.150	ND	87.5	70-130			
Toluene	0.142	0.0050	"	0.150	ND	94.7	70-130			
Ethylbenzene	0.139	0.0050	"	0.150	ND	92.7	70-130			
m,p-Xylene	0.274	0.010	"	0.300	ND	91.4	70-130			
o-Xylene	0.133	0.0050	"	0.150	ND	89.0	70-130			
1,2,4-Trimethylbenzene	0.127	0.0050	"	0.150	ND	84.7	70-130			
1,3,5-Trimethylbenzene	0.129	0.0050	"	0.150	ND	86.1	70-130			
Naphthalene	0.118	0.0038	"	0.150	ND	78.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.4	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5	50-150			

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PO Box 1289  
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Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0794 - EPA 5030 Soil MS**

Matrix Spike Dup (BGE0794-MSD1)		Source: 2305459-01			Prepared: 05/23/23 Analyzed: 05/24/23					
Benzene	0.136	0.0020	mg/kg	0.150	ND	90.7	70-130	3.62	30	
Toluene	0.149	0.0050	"	0.150	ND	99.2	70-130	4.58	30	
Ethylbenzene	0.143	0.0050	"	0.150	ND	95.6	70-130	3.08	30	
m,p-Xylene	0.287	0.010	"	0.300	ND	95.7	70-130	4.62	30	
o-Xylene	0.138	0.0050	"	0.150	ND	92.0	70-130	3.34	30	
1,2,4-Trimethylbenzene	0.131	0.0050	"	0.150	ND	87.3	70-130	3.00	30	
1,3,5-Trimethylbenzene	0.134	0.0050	"	0.150	ND	89.2	70-130	3.49	30	
Naphthalene	0.119	0.0038	"	0.150	ND	79.3	70-130	0.912	30	
Surrogate: 1,2-Dichloroethane-d4		0.0384	"	0.0400		96.1	50-150			
Surrogate: Toluene-d8		0.0399	"	0.0400		99.8	50-150			
Surrogate: 4-Bromofluorobenzene		0.0398	"	0.0400		99.5	50-150			

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Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0797 - EPA 3550A**

**Blank (BGE0797-BLK1)**

Prepared & Analyzed: 05/23/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	15.0		"	12.5		120	30-150			

**LCS (BGE0797-BS1)**

Prepared & Analyzed: 05/23/23

C10-C28 (DRO)	459	50	mg/kg	500		91.9	70-130			
Surrogate: o-Terphenyl	15.3		"	12.5		122	30-150			

**Matrix Spike (BGE0797-MS1)**

Source: 2305459-01

Prepared & Analyzed: 05/23/23

C10-C28 (DRO)	523	50	mg/kg	500	ND	105	70-130			
Surrogate: o-Terphenyl	14.9		"	12.5		119	30-150			


**Matrix Spike Dup (BGE0797-MSD1)**

Source: 2305459-01

Prepared & Analyzed: 05/23/23

C10-C28 (DRO)	514	50	mg/kg	500	ND	103	70-130	1.78	20	
Surrogate: o-Terphenyl	14.4		"	12.5		115	30-150			

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Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

## 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 BGE0785 - EPA 5030 Soil MS

##### Blank (BGE0785-BLK1)

Prepared & Analyzed: 05/23/23

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	0.0365	"	0.0333	109	40-150
Surrogate: Fluoranthene-d10	0.0278	"	0.0333	83.3	40-150

##### LCS (BGE0785-BS1)

Prepared & Analyzed: 05/23/23

Acenaphthene	0.0306	0.00500	mg/kg	0.0333	91.9	31-137
Anthracene	0.0289	0.00500	"	0.0333	86.7	30-120
Benzo (a) anthracene	0.0271	0.00500	"	0.0333	81.2	30-120
Benzo (a) pyrene	0.0252	0.00500	"	0.0333	75.6	30-120
Benzo (b) fluoranthene	0.0227	0.00500	"	0.0333	68.1	30-120
Benzo (k) fluoranthene	0.0288	0.00500	"	0.0333	86.4	30-120
Chrysene	0.0317	0.00500	"	0.0333	95.0	30-120
Dibenz (a,h) anthracene	0.0204	0.00500	"	0.0333	61.1	30-120
Fluoranthene	0.0296	0.00500	"	0.0333	88.8	30-120
Fluorene	0.0303	0.00500	"	0.0333	91.0	30-120
Indeno (1,2,3-cd) pyrene	0.0166	0.00500	"	0.0333	49.8	30-120
Pyrene	0.0306	0.00500	"	0.0333	91.7	35-142
1-Methylnaphthalene	0.0264	0.00500	"	0.0333	79.1	35-142
2-Methylnaphthalene	0.0282	0.00500	"	0.0333	84.6	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0295	"	0.0333	88.5	40-150
Surrogate: Fluoranthene-d10	0.0301	"	0.0333	90.2	40-150

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PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

## 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 BGE0785 - EPA 5030 Soil MS

##### Matrix Spike (BGE0785-MS1)

Source: 2305459-01

Prepared & Analyzed: 05/23/23

Acenaphthene	0.0221	0.00500	mg/kg	0.0333	ND	66.3	31-137		
Anthracene	0.0207	0.00500	"	0.0333	ND	62.1	30-120		
Benzo (a) anthracene	0.0207	0.00500	"	0.0333	ND	62.0	30-120		
Benzo (a) pyrene	0.0185	0.00500	"	0.0333	ND	55.6	30-120		
Benzo (b) fluoranthene	0.0155	0.00500	"	0.0333	ND	46.6	30-120		
Benzo (k) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.5	30-120		
Chrysene	0.0219	0.00500	"	0.0333	ND	65.7	30-120		
Dibenz (a,h) anthracene	0.0144	0.00500	"	0.0333	ND	43.3	30-120		
Fluoranthene	0.0198	0.00500	"	0.0333	ND	59.3	30-120		
Fluorene	0.0221	0.00500	"	0.0333	ND	66.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0139	0.00500	"	0.0333	ND	41.6	30-120		
Pyrene	0.0222	0.00500	"	0.0333	ND	66.6	35-142		
1-Methylnaphthalene	0.0200	0.00500	"	0.0333	ND	60.1	15-130		
2-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.8	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0214		"	0.0333		64.2	40-150		
Surrogate: Fluoranthene-d10	0.0210		"	0.0333		62.9	40-150		

##### Matrix Spike Dup (BGE0785-MSD1)

Source: 2305459-01

Prepared & Analyzed: 05/23/23

Acenaphthene	0.0168	0.00500	mg/kg	0.0333	ND	50.5	31-137	27.1	30
Anthracene	0.0163	0.00500	"	0.0333	ND	48.8	30-120	23.9	30
Benzo (a) anthracene	0.0165	0.00500	"	0.0333	ND	49.6	30-120	22.2	30
Benzo (a) pyrene	0.0153	0.00500	"	0.0333	ND	46.0	30-120	19.0	30
Benzo (b) fluoranthene	0.0140	0.00500	"	0.0333	ND	42.0	30-120	10.4	30
Benzo (k) fluoranthene	0.0167	0.00500	"	0.0333	ND	50.0	30-120	10.5	30
Chrysene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	25.4	30
Dibenz (a,h) anthracene	0.0154	0.00500	"	0.0333	ND	46.1	30-120	6.37	30
Fluoranthene	0.0158	0.00500	"	0.0333	ND	47.4	30-120	22.4	30
Fluorene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	26.3	30
Indeno (1,2,3-cd) pyrene	0.0135	0.00500	"	0.0333	ND	40.4	30-120	2.93	30
Pyrene	0.0167	0.00500	"	0.0333	ND	50.1	35-142	28.4	30
1-Methylnaphthalene	0.0169	0.00500	"	0.0333	ND	50.8	15-130	16.7	50
2-Methylnaphthalene	0.0168	0.00500	"	0.0333	ND	50.5	15-130	23.2	50
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.5	40-150		
Surrogate: Fluoranthene-d10	0.0167		"	0.0333		50.1	40-150		

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0838 - EPA 3050B**

**Blank (BGE0838-BLK1)**

Prepared: 05/24/23 Analyzed: 05/25/23

Boron ND 0.0100 mg/L

**LCS (BGE0838-BS1)**

Prepared: 05/24/23 Analyzed: 05/25/23

Boron 4.13 0.0100 mg/L 5.00 82.7 80-120

**Duplicate (BGE0838-DUP1)**

**Source: 2305459-01**

Prepared: 05/24/23 Analyzed: 05/25/23

Boron 0.194 0.0100 mg/L 0.211 8.35 20

**Matrix Spike (BGE0838-MS1)**

**Source: 2305459-01**

Prepared: 05/24/23 Analyzed: 05/25/23

Boron 4.16 0.0100 mg/L 5.00 0.211 79.0 75-125

**Matrix Spike Dup (BGE0838-MSD1)**

**Source: 2305459-01**

Prepared: 05/24/23 Analyzed: 05/25/23

Boron 4.48 0.0100 mg/L 5.00 0.211 85.3 75-125 7.27 25

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PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0784 - EPA 3050B**

**Blank (BGE0784-BLK1)**

Prepared: 05/23/23 Analyzed: 05/24/23

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	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

**LCS (BGE0784-BS1)**

Prepared: 05/23/23 Analyzed: 05/24/23

Arsenic	32.2	0.200	mg/kg wet	40.0	80.6	80-120
Barium	34.4	0.400	"	40.0	86.1	80-120
Cadmium	1.75	0.200	"	2.00	87.5	80-120
Copper	32.8	0.400	"	40.0	82.1	80-120
Lead	16.5	0.200	"	20.0	82.4	80-120
Nickel	32.3	0.400	"	40.0	80.7	80-120
Selenium	3.57	0.260	"	4.00	89.2	80-120
Silver	1.80	0.0200	"	2.00	90.2	80-120
Zinc	32.0	0.400	"	40.0	80.1	80-120

**Duplicate (BGE0784-DUP1)**

Source: 2305451-01

Prepared: 05/23/23 Analyzed: 05/24/23

Arsenic	0.606	0.244	mg/kg dry	0.540	11.6	20
Barium	110	0.487	"	99.2	10.2	20
Cadmium	0.125	0.244	"	0.120	3.98	20
Copper	2.14	0.487	"	2.01	6.30	20
Lead	7.17	0.244	"	7.02	2.14	20
Nickel	2.05	0.487	"	1.96	4.30	20
Selenium	ND	0.317	"	ND		20
Silver	0.0477	0.0244	"	0.0390	20.2	20
Zinc	7.98	0.487	"	7.08	11.9	20

QR-01

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0784 - EPA 3050B**

Matrix Spike (BGE0784-MS1)		Source: 2305451-01			Prepared: 05/23/23 Analyzed: 05/24/23					
Arsenic	9.57	0.244	mg/kg dry	48.7	0.540	18.5	75-125			QM-07
Barium	157	0.487	"	48.7	99.2	119	75-125			
Cadmium	2.20	0.244	"	2.44	0.120	85.5	75-125			
Copper	12.0	0.487	"	48.7	2.01	20.5	75-125			QM-07
Lead	26.2	0.244	"	24.4	7.02	78.6	75-125			
Nickel	12.1	0.487	"	48.7	1.96	20.7	75-125			QM-07
Selenium	3.89	0.317	"	4.87	ND	80.0	75-125			
Silver	2.24	0.0244	"	2.44	0.0390	90.5	75-125			
Zinc	18.3	0.487	"	48.7	7.08	23.0	75-125			QM-07

Matrix Spike Dup (BGE0784-MSD1)		Source: 2305451-01			Prepared: 05/23/23 Analyzed: 05/24/23					
Arsenic	9.80	0.244	mg/kg dry	48.7	0.540	19.0	75-125	2.37	25	QM-07
Barium	143	0.487	"	48.7	99.2	89.9	75-125	9.40	25	
Cadmium	2.02	0.244	"	2.44	0.120	78.1	75-125	8.56	25	
Copper	12.3	0.487	"	48.7	2.01	21.1	75-125	2.30	25	QM-07
Lead	24.3	0.244	"	24.4	7.02	71.1	75-125	7.25	25	QM-07
Nickel	12.5	0.487	"	48.7	1.96	21.6	75-125	3.50	25	QM-07
Selenium	3.82	0.317	"	4.87	ND	78.4	75-125	2.02	25	
Silver	2.03	0.0244	"	2.44	0.0390	81.7	75-125	10.1	25	
Zinc	19.0	0.487	"	48.7	7.08	24.5	75-125	3.80	25	QM-07

**Batch BGF1008 - EPA 3050B**

Blank (BGF1008-BLK1)		Prepared: 06/28/23 Analyzed: 07/02/23								
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	"							
Selenium	ND	0.260	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGF1008 - EPA 3050B**

**LCS (BGF1008-BS1)**

Prepared: 06/28/23 Analyzed: 07/02/23

Arsenic	38.1	0.200	mg/kg wet	40.0		95.1	80-120
Barium	40.3	0.400	"	40.0		101	80-120
Cadmium	1.60	0.200	"	2.00		80.2	80-120
Copper	42.6	0.400	"	40.0		107	80-120
Lead	22.4	0.200	"	20.0		112	80-120
Nickel	38.4	0.400	"	40.0		96.0	80-120
Selenium	4.01	0.260	"	4.00		100	80-120
Silver	2.36	0.0200	"	2.00		118	80-120
Zinc	41.2	0.400	"	40.0		103	80-120

**Duplicate (BGF1008-DUP1)**

Source: 2305459-03

Prepared: 06/28/23 Analyzed: 07/02/23

Arsenic	4.58	0.232	mg/kg dry		2.06		75.7	20	QR-04
Barium	73.9	0.463	"		68.1		8.16	20	
Cadmium	0.216	0.232	"		0.166		25.9	20	QR-01
Copper	ND	0.463	"		ND			20	
Lead	8.33	0.232	"		5.22		45.9	20	QR-04
Nickel	5.72	0.463	"		4.44		25.1	20	QR-04
Selenium	ND	0.301	"		ND			20	
Silver	0.0329	0.0232	"		0.0301		8.82	20	
Zinc	22.9	0.463	"		14.6		44.5	20	QR-04

**Matrix Spike (BGF1008-MS1)**

Source: 2305459-03

Prepared: 06/28/23 Analyzed: 07/02/23

Arsenic	12.2	0.232	mg/kg dry	46.3	2.06	21.8	75-125		QM-07
Barium	113	0.463	"	46.3	68.1	97.6	75-125		
Cadmium	0.822	0.232	"	2.32	0.166	28.3	75-125		QM-07
Copper	2.09	0.463	"	46.3	ND	4.52	75-125		QM-07
Lead	14.3	0.232	"	23.2	5.22	39.2	75-125		QM-07
Nickel	14.0	0.463	"	46.3	4.44	20.5	75-125		QM-07
Selenium	0.732	0.301	"	4.63	ND	15.8	75-125		QM-07
Silver	0.493	0.0232	"	2.32	0.0301	20.0	75-125		QM-07
Zinc	32.5	0.463	"	46.3	14.6	38.7	75-125		QM-07

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGF1008 - EPA 3050B**

Matrix Spike Dup (BGF1008-MSD1)		Source: 2305459-03			Prepared: 06/28/23 Analyzed: 07/02/23					
Arsenic	10.4	0.232	mg/kg dry	46.3	2.06	17.9	75-125	16.2	25	QM-07
Barium	87.6	0.463	"	46.3	68.1	42.2	75-125	25.6	25	QM-07
Cadmium	0.638	0.232	"	2.32	0.166	20.4	75-125	25.3	25	QM-07
Copper	0.796	0.463	"	46.3	ND	1.72	75-125	89.7	25	QM-07
Lead	10.3	0.232	"	23.2	5.22	21.8	75-125	32.9	25	QM-07
Nickel	11.6	0.463	"	46.3	4.44	15.4	75-125	18.8	25	QM-07
Selenium	0.893	0.301	"	4.63	ND	19.3	75-125	19.9	25	QM-07
Silver	0.460	0.0232	"	2.32	0.0301	18.6	75-125	6.90	25	QM-07
Zinc	24.1	0.463	"	46.3	14.6	20.5	75-125	29.8	25	QM-07

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0685 - 3060A Mod**

**Blank (BGE0685-BLK1)**

Prepared & Analyzed: 05/19/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGE0685-BS1)**

Prepared & Analyzed: 05/19/23

Chromium, Hexavalent 24.1 0.30 mg/kg wet 25.0 96.4 80-120

**Duplicate (BGE0685-DUP1)**

**Source: 2305435-01**

Prepared & Analyzed: 05/19/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGE0685-MS1)**

**Source: 2305435-01**

Prepared & Analyzed: 05/19/23

Chromium, Hexavalent 27.0 0.30 mg/kg dry 28.7 ND 94.2 75-125

**Matrix Spike Dup (BGE0685-MSD1)**

**Source: 2305435-01**

Prepared & Analyzed: 05/19/23

Chromium, Hexavalent 27.1 0.30 mg/kg dry 28.7 ND 94.4 75-125 0.212 20

**Batch BGF1098 - 3060A Mod**

**Blank (BGF1098-BLK1)**

Prepared & Analyzed: 06/30/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGF1098-BS1)**

Prepared & Analyzed: 06/30/23

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

**Duplicate (BGF1098-DUP1)**

**Source: 2305459-03**

Prepared & Analyzed: 06/30/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGF1098-MS1)**

**Source: 2305459-03**

Prepared & Analyzed: 06/30/23

Chromium, Hexavalent 27.6 0.30 mg/kg dry 28.9 ND 95.2 75-125

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

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

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

**Batch BGF1098 - 3060A Mod**

**Matrix Spike Dup (BGF1098-MSD1)**

**Source: 2305459-03**

Prepared & Analyzed: 06/30/23

Chromium, Hexavalent	27.6	0.30	mg/kg dry	28.9	ND	95.2	75-125	0.00	20
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0874 - General Preparation**

**Blank (BGE0874-BLK1)**

Prepared: 05/24/23 Analyzed: 05/27/23

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

**LCS (BGE0874-BS1)**

Prepared: 05/24/23 Analyzed: 05/27/23

Calcium	4.70	0.0500	mg/L wet	5.00	94.0	70-130
Magnesium	4.60	0.0500	"	5.00	92.0	70-130
Sodium	4.58	0.0500	"	5.00	91.5	70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

### 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 BGE0863 - General Preparation

Duplicate (BGE0863-DUP1)		Source: 2305455-01			Prepared & Analyzed: 05/24/23					
% Solids	73.8		%		76.1		3.00		20	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0902 - General Preparation**

**Blank (BGE0902-BLK1)**

Prepared & Analyzed: 05/25/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGE0902-BS1)**

Prepared & Analyzed: 05/25/23

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

**Duplicate (BGE0902-DUP1)**

**Source: 2305456-01**

Prepared & Analyzed: 05/25/23

Specific Conductance (EC) 0.609 0.0100 mmhos/cm 0.615 0.931 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

**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 BGE0903 - General Preparation**

**LCS (BGE0903-BS1)**

Prepared & Analyzed: 05/25/23

pH	8.99	pH Units	9.18	97.9	95-105
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**Duplicate (BGE0903-DUP1)**

**Source: 2305456-01**

Prepared & Analyzed: 05/25/23

pH	7.73	pH Units	7.77	0.516	20
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - 31-4-64 SENE Tank Battery

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/06/23 11:10

### 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.
I-02	This sample was analyzed outside of the recommended holding time.
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