

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 12, 2023

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Richter USXAB 27-13 FL

Work Order #2306626

Enclosed are the results of analyses for samples received by Summit Scientific on 06/29/23 15:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a small "w" at the end of the last name.

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01 4feet	2306626-01	Soil	06/29/23 12:12	06/29/23 15:46
FL03 3feet	2306626-02	Soil	06/29/23 12:15	06/29/23 15:46
FL06 4feet	2306626-03	Soil	06/29/23 11:26	06/29/23 15:46

Summit Scientific

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

Lab ID  
 Page 1 of 1  
 2306626

Client: Fremont Environmental		Project Manager: Paul Henehan		Company: <u>Nahle</u>	
Address:		E-Mail: Fremont Distribution List		Project Name/Location: <u>Richter USX AB 27-13 FL</u>	
City/State/Zip:				AFE#:	
Phone: 303-261-6246		Project Name: <u>Richter USX AB 27-13 FL</u>		PO/Billing Codes: <u>UWRWE - A2763-ABN</u>	
Sampler Name: Stanley Gilbert		Project Number:		Contact: <u>Mike Montoya</u>	

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, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)		TDS, Chloride, Sulfate	HOLD
1	FLO1 4 feet	6/29/23	12:12	2			X			X			X	X	X	X				
2	FLO3 3 feet	I	12:15	I			I			I			I	I	I	I				
3	FLO6 4 feet	I	11:26	I			I			I			I	I	I	I				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>6/29/23 15:46</u>	Received by: <u>Summit North</u>	Date/Time: <u>6/29/23 15:46</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>82</u>	Date/Time: <u>6/29/23 15:46</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/29/23 15:46</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <u>13.0</u>	Corrected Temperature: <u>0</u>	IR gun #: <u>1</u>	HNO3 lot #:			





Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL01 4feet**  
**2306626-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGF1129	06/30/23	07/02/23	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: **06/29/23 12:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0384	95.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0448	112 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0456	114 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGF1134	06/30/23	06/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.4	82.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL01 4feet**  
**2306626-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF1104	06/30/23	07/01/23	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: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0140	42.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	51.1 %	40-150		"	"	"	"	

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

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.240</b>	0.0100	mg/L	1	BGF1107	06/30/23	07/02/23	EPA 6020B	

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

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Richter USXAB 27-13 FL  
Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL01 4feet**  
**2306626-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	0.324	0.0581	mg/L dry	1	BGG0166	07/07/23	07/11/23	EPA 6020B	
Magnesium	ND	0.0581	"	"	"	"	"	"	
Sodium	5.77	0.0581	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.49	0.00100	units	1	BGG0293	07/11/23	07/11/23	Calculation	

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

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.1		%	1	BGG0029	07/03/23	07/03/23	Calculation	

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

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.306	0.0100	mmhos/cm	1	BGG0227	07/10/23	07/10/23	EPA 120.1	

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

Date Sampled: **06/29/23 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.96		pH Units	1	BGG0225	07/10/23	07/10/23	EPA 9045D	

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL03 3feet**  
**2306626-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGF1129	06/30/23	07/02/23	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: **06/29/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0398	99.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0451	113 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0448	112 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGF1134	06/30/23	06/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.2	89.3 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL03 3feet**  
**2306626-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF1104	06/30/23	07/01/23	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: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0205	61.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0210	63.1 %	40-150		"	"	"	"	

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

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.153</b>	0.0100	mg/L	1	BGF1107	06/30/23	07/02/23	EPA 6020B	

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

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Richter USXAB 27-13 FL  
Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL03 3feet**  
**2306626-02 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.5	0.0529	mg/L dry	1	BGG0166	07/07/23	07/11/23	EPA 6020B	
Magnesium	10.1	0.0529	"	"	"	"	"	"	
Sodium	20.5	0.0529	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.859	0.00100	units	1	BGG0293	07/11/23	07/11/23	Calculation	

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

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.5		%	1	BGG0029	07/03/23	07/03/23	Calculation	

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

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.567	0.0100	mmhos/cm	1	BGG0227	07/10/23	07/10/23	EPA 120.1	

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

Date Sampled: **06/29/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.89		pH Units	1	BGG0225	07/10/23	07/10/23	EPA 9045D	

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL06 4feet**  
**2306626-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGF1129	06/30/23	07/02/23	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: **06/29/23 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0434	109 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0455	114 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGF1134	06/30/23	06/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.7	85.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**FL06 4feet**  
**2306626-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF1104	06/30/23	07/01/23	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: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0173	51.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.4 %	40-150		"	"	"	"	

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

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.215</b>	0.0100	mg/L	1	BGF1107	06/30/23	07/02/23	EPA 6020B	

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

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Richter USXAB 27-13 FL  
 Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

**FL06 4feet**  
**2306626-03 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	0.189	0.0575	mg/L dry	1	BGG0166	07/07/23	07/11/23	EPA 6020B	
Magnesium	0.0877	0.0575	"	"	"	"	"	"	
Sodium	1.00	0.0575	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.477	0.00100	units	1	BGG0293	07/11/23	07/11/23	Calculation	

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

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.9		%	1	BGG0029	07/03/23	07/03/23	Calculation	

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

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.299	0.0100	mmhos/cm	1	BGG0227	07/10/23	07/10/23	EPA 120.1	

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

Date Sampled: **06/29/23 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BGG0225	07/10/23	07/10/23	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

### 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 BGF1129 - EPA 5030 Soil MS

##### Blank (BGF1129-BLK1)

Prepared: 06/30/23 Analyzed: 07/01/23

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	0.0387		"	0.0400		96.7	50-150			
Surrogate: Toluene-d8	0.0445		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0460		"	0.0400		115	50-150			

##### LCS (BGF1129-BS1)

Prepared: 06/30/23 Analyzed: 07/01/23

Benzene	0.112	0.0020	mg/kg	0.125		89.4	70-130			
Toluene	0.154	0.0050	"	0.125		123	70-130			
Ethylbenzene	0.150	0.0050	"	0.125		120	70-130			
m,p-Xylene	0.304	0.010	"	0.250		122	70-130			
o-Xylene	0.142	0.0050	"	0.125		114	70-130			
1,2,4-Trimethylbenzene	0.151	0.0050	"	0.125		121	70-130			
1,3,5-Trimethylbenzene	0.152	0.0050	"	0.125		122	70-130			
Naphthalene	0.129	0.0038	"	0.125		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0442		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0437		"	0.0400		109	50-150			

##### Matrix Spike (BGF1129-MS1)

Source: 2306373-01

Prepared: 06/30/23 Analyzed: 07/01/23

Benzene	0.112	0.0020	mg/kg	0.125	ND	89.9	70-130			
Toluene	0.155	0.0050	"	0.125	ND	124	70-130			
Ethylbenzene	0.154	0.0050	"	0.125	ND	123	70-130			
m,p-Xylene	0.313	0.010	"	0.250	ND	125	70-130			
o-Xylene	0.150	0.0050	"	0.125	ND	120	70-130			
1,2,4-Trimethylbenzene	0.155	0.0050	"	0.125	ND	124	70-130			
1,3,5-Trimethylbenzene	0.153	0.0050	"	0.125	ND	123	70-130			
Naphthalene	0.144	0.0038	"	0.125	ND	115	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0400		98.4	50-150			
Surrogate: Toluene-d8	0.0436		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0442		"	0.0400		110	50-150			

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Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

**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		

**Batch BGF1129 - EPA 5030 Soil MS**

Matrix Spike Dup (BGF1129-MSD1)	Source: 2306373-01			Prepared: 06/30/23 Analyzed: 07/01/23					
Benzene	0.109	0.0020	mg/kg	0.125	ND	87.5	70-130	2.76	30
Toluene	0.153	0.0050	"	0.125	ND	122	70-130	1.36	30
Ethylbenzene	0.147	0.0050	"	0.125	ND	118	70-130	4.29	30
m,p-Xylene	0.300	0.010	"	0.250	ND	120	70-130	4.12	30
o-Xylene	0.140	0.0050	"	0.125	ND	112	70-130	6.89	30
1,2,4-Trimethylbenzene	0.156	0.0050	"	0.125	ND	124	70-130	0.503	30
1,3,5-Trimethylbenzene	0.151	0.0050	"	0.125	ND	121	70-130	1.30	30
Naphthalene	0.138	0.0038	"	0.125	ND	110	70-130	4.66	30
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.4	50-150		
Surrogate: Toluene-d8	0.0441		"	0.0400		110	50-150		
Surrogate: 4-Bromofluorobenzene	0.0436		"	0.0400		109	50-150		

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 Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

**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 BGF1134 - EPA 3550A**

**Blank (BGF1134-BLK1)**

Prepared & Analyzed: 06/30/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	10.2		"	12.5	81.8	30-150					

**LCS (BGF1134-BS1)**

Prepared & Analyzed: 06/30/23

C10-C28 (DRO)	363	50	mg/kg	500	72.6	70-130					
Surrogate: <i>o</i> -Terphenyl	12.3		"	12.5	98.2	30-150					

**Matrix Spike (BGF1134-MS1)**

Source: 2306373-01

Prepared & Analyzed: 06/30/23

C10-C28 (DRO)	393	50	mg/kg	500	37.3	71.1	70-130				
Surrogate: <i>o</i> -Terphenyl	11.9		"	12.5	95.2	30-150					

**Matrix Spike Dup (BGF1134-MSD1)**

Source: 2306373-01

Prepared & Analyzed: 06/30/23

C10-C28 (DRO)	406	50	mg/kg	500	37.3	73.7	70-130	3.20	20		
Surrogate: <i>o</i> -Terphenyl	12.4		"	12.5	99.5	30-150					

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**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 BGF1104 - EPA 5030 Soil MS**

**Blank (BGF1104-BLK1)**

Prepared & Analyzed: 06/30/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0372		"	0.0333	112	40-150				
<i>Surrogate: Fluoranthene-d10</i>	0.0375		"	0.0333	112	40-150				

**LCS (BGF1104-BS1)**

Prepared & Analyzed: 06/30/23

Acenaphthene	0.0339	0.00500	mg/kg	0.0333	102	31-137				
Anthracene	0.0348	0.00500	"	0.0333	104	30-120				
Benzo (a) anthracene	0.0318	0.00500	"	0.0333	95.5	30-120				
Benzo (a) pyrene	0.0323	0.00500	"	0.0333	97.0	30-120				
Benzo (b) fluoranthene	0.0273	0.00500	"	0.0333	81.8	30-120				
Benzo (k) fluoranthene	0.0303	0.00500	"	0.0333	90.9	30-120				
Chrysene	0.0349	0.00500	"	0.0333	105	30-120				
Dibenz (a,h) anthracene	0.0267	0.00500	"	0.0333	80.1	30-120				
Fluoranthene	0.0310	0.00500	"	0.0333	92.9	30-120				
Fluorene	0.0332	0.00500	"	0.0333	99.7	30-120				
Indeno (1,2,3-cd) pyrene	0.0374	0.00500	"	0.0333	112	30-120				
Pyrene	0.0376	0.00500	"	0.0333	113	35-142				
1-Methylnaphthalene	0.0317	0.00500	"	0.0333	95.1	35-142				
2-Methylnaphthalene	0.0306	0.00500	"	0.0333	91.9	35-142				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0308		"	0.0333	92.4	40-150				
<i>Surrogate: Fluoranthene-d10</i>	0.0312		"	0.0333	93.7	40-150				

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

**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 BGF1104 - EPA 5030 Soil MS**

<b>Matrix Spike (BGF1104-MS1)</b>	<b>Source: 2306593-01</b>			<b>Prepared &amp; Analyzed: 06/30/23</b>						
Acenaphthene	0.0242	0.00500	mg/kg	0.0333	ND	72.5	31-137			
Anthracene	0.0245	0.00500	"	0.0333	ND	73.6	30-120			
Benzo (a) anthracene	0.0252	0.00500	"	0.0333	ND	75.6	30-120			
Benzo (a) pyrene	0.0218	0.00500	"	0.0333	ND	65.5	30-120			
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.2	30-120			
Benzo (k) fluoranthene	0.0211	0.00500	"	0.0333	ND	63.2	30-120			
Chrysene	0.0247	0.00500	"	0.0333	ND	74.1	30-120			
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.7	30-120			
Fluoranthene	0.0263	0.00500	"	0.0333	ND	79.0	30-120			
Fluorene	0.0237	0.00500	"	0.0333	ND	71.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0212	0.00500	"	0.0333	ND	63.5	30-120			
Pyrene	0.0251	0.00500	"	0.0333	ND	75.2	35-142			
1-Methylnaphthalene	0.0261	0.00500	"	0.0333	ND	78.2	15-130			
2-Methylnaphthalene	0.0241	0.00500	"	0.0333	ND	72.4	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0235</i>		<i>"</i>	<i>0.0333</i>		<i>70.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0272</i>		<i>"</i>	<i>0.0333</i>		<i>81.6</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BGF1104-MSD1)</b>	<b>Source: 2306593-01</b>			<b>Prepared &amp; Analyzed: 06/30/23</b>						
Acenaphthene	0.0196	0.00500	mg/kg	0.0333	ND	58.8	31-137	20.8	30	
Anthracene	0.0197	0.00500	"	0.0333	ND	59.0	30-120	22.0	30	
Benzo (a) anthracene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	24.4	30	
Benzo (a) pyrene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	20.7	30	
Benzo (b) fluoranthene	0.0208	0.00500	"	0.0333	ND	62.4	30-120	10.3	30	
Benzo (k) fluoranthene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	15.6	30	
Chrysene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	25.7	30	
Dibenz (a,h) anthracene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	4.11	30	
Fluoranthene	0.0211	0.00500	"	0.0333	ND	63.3	30-120	22.0	30	
Fluorene	0.0229	0.00500	"	0.0333	ND	68.8	30-120	3.26	30	
Indeno (1,2,3-cd) pyrene	0.0182	0.00500	"	0.0333	ND	54.7	30-120	14.8	30	
Pyrene	0.0207	0.00500	"	0.0333	ND	62.0	35-142	19.3	30	
1-Methylnaphthalene	0.0169	0.00500	"	0.0333	ND	50.6	15-130	42.9	50	
2-Methylnaphthalene	0.0147	0.00500	"	0.0333	ND	44.1	15-130	48.6	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0148</i>		<i>"</i>	<i>0.0333</i>		<i>44.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0185</i>		<i>"</i>	<i>0.0333</i>		<i>55.6</i>	<i>40-150</i>			

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Fremont Environmental  
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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

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

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

**Batch BGF1107 - EPA 3050B**

**Blank (BGF1107-BLK1)**

Prepared: 06/30/23 Analyzed: 07/02/23

Boron ND 0.0100 mg/L

**LCS (BGF1107-BS1)**

Prepared: 06/30/23 Analyzed: 07/02/23

Boron 5.50 0.0100 mg/L 5.00 110 80-120

**Duplicate (BGF1107-DUP1)**

Source: 2306586-01

Prepared: 06/30/23 Analyzed: 07/02/23

Boron 0.148 0.0100 mg/L 0.166 11.1 20

**Matrix Spike (BGF1107-MS1)**

Source: 2306586-01

Prepared: 06/30/23 Analyzed: 07/02/23

Boron 5.95 0.0100 mg/L 5.00 0.166 116 75-125

**Matrix Spike Dup (BGF1107-MSD1)**

Source: 2306586-01

Prepared: 06/30/23 Analyzed: 07/02/23

Boron 6.24 0.0100 mg/L 5.00 0.166 121 75-125 4.75 25

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

**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 BGG0166 - General Preparation**

**Blank (BGG0166-BLK1)**

Prepared: 07/07/23 Analyzed: 07/11/23

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

**LCS (BGG0166-BS1)**

Prepared: 07/07/23 Analyzed: 07/11/23

Calcium	5.88	0.0500	mg/L wet	5.00		118	70-130			
Magnesium	5.81	0.0500	"	5.00		116	70-130			
Sodium	5.97	0.0500	"	5.00		119	70-130			

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

**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 BGG0029 - General Preparation**

**Duplicate (BGG0029-DUP1)**

**Source: 2306586-01**

Prepared & Analyzed: 07/03/23

% Solids	84.2		%		84.4			0.272		20	
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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

**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 BGG0227 - General Preparation**

**Blank (BGG0227-BLK1)**

Prepared & Analyzed: 07/10/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGG0227-BS1)**

Prepared & Analyzed: 07/10/23

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 102 95-105

**Duplicate (BGG0227-DUP1)**

Source: 2306373-04

Prepared & Analyzed: 07/10/23

Specific Conductance (EC) 0.396 0.0100 mmhos/cm 0.399 0.931 20

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 07/12/23 08:50

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

**Summit Scientific**

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

**Batch BGG0225 - General Preparation**

**LCS (BGG0225-BS1)**

Prepared & Analyzed: 07/10/23

pH	9.16	pH Units	9.18	99.8	95-105
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**Duplicate (BGG0225-DUP1)**

Source: 2306373-04

Prepared & Analyzed: 07/10/23

pH	8.19	pH Units	8.18	0.122	20
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Summit Scientific

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Project: Noble - Richter USXAB 27-13 FL

Project Number: UWRWE-A2763-ABN  
Project Manager: Paul Henchan

**Reported:**  
07/12/23 08:50

### Notes and Definitions

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