

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 21, 2023

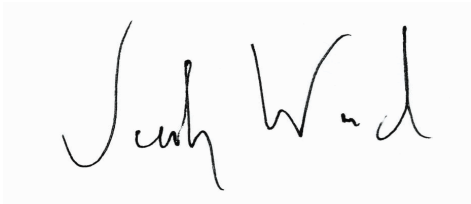
Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Jepsen 1

Work Order #2308189

Enclosed are the results of analyses for samples received by Summit Scientific on 08/08/23 16:15. 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 large initial "J" and a long horizontal stroke at the end.

Jacob Wood For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 1  
Project Number: UWRWE-A3009-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/21/23 14:55

**ANALYTICAL REPORT FOR SAMPLES**

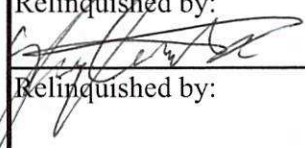

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01 6'	2308189-01	Soil	08/08/23 13:33	08/08/23 16:15

Summit Scientific

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		<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: Fremont Environmental		Project Manager: Paul Henehan	Company: Noble
Address:		E-Mail: Fremont Distribution List	Project Name/Location: JEPSEN 1
City/State/Zip:			AFE#:
Phone: 303-261-6246		Project Name: JEPSEN 1	PO/Billing Codes: UWRWE-A3009-ABN
Sampler Name: Stanley Gilbert		Project Number:	Contact: Mike Montoya

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil			BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)	TDS, Chloride, Sulfate	
1	SEP01 6'	8/8/23	13:33	2			X			X			X	X	X	X			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: 	Date/Time: 8/8/23 16:20	Received by: 	Date/Time: 8/8/23 16:20	TAT Business Days	Field DO	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 11.7	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:	Standard	<input checked="" type="checkbox"/> Field Turb.	





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Wellington CO, 80549

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08/21/23 14:55

**SEP01 6'**  
**2308189-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGH0405	08/10/23	08/11/23	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: **08/08/23 13:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0458	114 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.1 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGH0408	08/10/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	5.83	46.7 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**SEP01 6'**  
**2308189-01 (Soil)**

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**PAH by EPA Method 8270D SIM**

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0465	08/11/23	08/12/23	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: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0165	49.5 %	40-150		"	"	"	"	

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

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>1.05</b>	0.0100	mg/L	1	BGH0497	08/11/23	08/12/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**SEP01 6'**  
**2308189-01 (Soil)**

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**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.366	0.200	mg/kg dry	1	BGH0328	08/09/23	08/10/23	EPA 6020B	
Barium	32.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.696	0.400	"	"	"	"	"	"	
Lead	1.94	0.200	"	"	"	"	"	"	
Nickel	0.776	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	2.90	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0462	08/11/23	08/11/23	EPA 7196A	

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

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	60.8	0.0535	mg/L dry	1	BGH0552	08/14/23	08/16/23	EPA 6020B	
Magnesium	16.9	0.0535	"	"	"	"	"	"	
Sodium	2.02	0.0535	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0591	0.00100	units	1	BGH0692	08/17/23	08/17/23	Calculation	

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

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**2308189-01 (Soil)**

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

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.5		%	1	BGH0499	08/11/23	08/11/23	Calculation	

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

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.220	0.0100	mmhos/cm	1	BGH0605	08/15/23	08/15/23	EPA 120.1	

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

Date Sampled: **08/08/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.44		pH Units	1	BGH0608	08/15/23	08/15/23	EPA 9045D	

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### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BGH0405 - EPA 5030 Soil MS

##### Blank (BGH0405-BLK1)

Prepared & Analyzed: 08/10/23

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	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0478		"	0.0400		119	50-150				
<i>Surrogate: Toluene-d8</i>	0.0400		"	0.0400		100	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0437		"	0.0400		109	50-150				

##### LCS (BGH0405-BS1)

Prepared & Analyzed: 08/10/23

Benzene	0.121	0.0020	mg/kg	0.100		121	70-130				
Toluene	0.111	0.0050	"	0.100		111	70-130				
Ethylbenzene	0.118	0.0050	"	0.100		118	70-130				
m,p-Xylene	0.238	0.010	"	0.200		119	70-130				
o-Xylene	0.101	0.0050	"	0.100		101	70-130				
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100		110	70-130				
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100		108	70-130				
Naphthalene	0.0881	0.0038	"	0.100		88.1	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0428		"	0.0400		107	50-150				
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.6	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0377		"	0.0400		94.2	50-150				

##### Matrix Spike (BGH0405-MS1)

Source: 2308181-01

Prepared & Analyzed: 08/10/23

Benzene	0.132	0.0020	mg/kg	0.100	ND	132	70-130				QM-07
Toluene	0.121	0.0050	"	0.100	ND	121	70-130				
Ethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130				
m,p-Xylene	0.248	0.010	"	0.200	ND	124	70-130				
o-Xylene	0.106	0.0050	"	0.100	ND	106	70-130				
1,2,4-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130				
1,3,5-Trimethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130				
Naphthalene	0.0962	0.0038	"	0.100	ND	96.2	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0464		"	0.0400		116	50-150				
<i>Surrogate: Toluene-d8</i>	0.0407		"	0.0400		102	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0386		"	0.0400		96.6	50-150				

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 08/21/23 14:55

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch BGH0405 - EPA 5030 Soil MS**

Matrix Spike Dup (BGH0405-MSD1)	Source: 2308181-01			Prepared & Analyzed: 08/10/23						
Benzene	0.123	0.0020	mg/kg	0.100	ND	123	70-130	6.52	30	
Toluene	0.114	0.0050	"	0.100	ND	114	70-130	5.94	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	5.71	30	
m,p-Xylene	0.236	0.010	"	0.200	ND	118	70-130	5.15	30	
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130	4.42	30	
1,2,4-Trimethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130	5.63	30	
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	4.83	30	
Naphthalene	0.0959	0.0038	"	0.100	ND	95.9	70-130	0.250	30	
Surrogate: 1,2-Dichloroethane-d4	0.0446		"	0.0400		111	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0372		"	0.0400		93.0	50-150			

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**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BGH0408 - EPA 3550A**

**Blank (BGH0408-BLK1)**

Prepared: 08/10/23 Analyzed: 08/11/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		88.0		30-150		

**LCS (BGH0408-BS1)**

Prepared: 08/10/23 Analyzed: 08/11/23

C10-C28 (DRO)	398	50	mg/kg	500		79.6		70-130		
Surrogate: <i>o</i> -Terphenyl	10.6		"	12.5		84.6		30-150		

**Matrix Spike (BGH0408-MS1)**

Source: 2308181-01

Prepared: 08/10/23 Analyzed: 08/11/23

C10-C28 (DRO)	402	50	mg/kg	500	6.28	79.2		70-130		
Surrogate: <i>o</i> -Terphenyl	10.6		"	12.5		84.7		30-150		

**Matrix Spike Dup (BGH0408-MSD1)**

Source: 2308181-01

Prepared: 08/10/23 Analyzed: 08/11/23

C10-C28 (DRO)	413	50	mg/kg	500	6.28	81.4		70-130	2.75	20
Surrogate: <i>o</i> -Terphenyl	10.4		"	12.5		82.9		30-150		

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**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 BGH0465 - EPA 5030 Soil MS**

**Blank (BGH0465-BLK1)**

Prepared: 08/11/23 Analyzed: 08/12/23

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	0.0199		"	0.0333		59.7	40-150			
Surrogate: Fluoranthene-d10	0.0209		"	0.0333		62.6	40-150			

**LCS (BGH0465-BS1)**

Prepared: 08/11/23 Analyzed: 08/12/23

Acenaphthene	0.0213	0.00500	mg/kg	0.0333		63.9	31-137			
Anthracene	0.0216	0.00500	"	0.0333		64.8	30-120			
Benzo (a) anthracene	0.0183	0.00500	"	0.0333		54.8	30-120			
Benzo (a) pyrene	0.0208	0.00500	"	0.0333		62.5	30-120			
Benzo (b) fluoranthene	0.0206	0.00500	"	0.0333		61.7	30-120			
Benzo (k) fluoranthene	0.0201	0.00500	"	0.0333		60.4	30-120			
Chrysene	0.0228	0.00500	"	0.0333		68.3	30-120			
Dibenz (a,h) anthracene	0.0218	0.00500	"	0.0333		65.4	30-120			
Fluoranthene	0.0212	0.00500	"	0.0333		63.7	30-120			
Fluorene	0.0214	0.00500	"	0.0333		64.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0218	0.00500	"	0.0333		65.3	30-120			
Pyrene	0.0248	0.00500	"	0.0333		74.5	35-142			
1-Methylnaphthalene	0.0183	0.00500	"	0.0333		54.9	35-142			
2-Methylnaphthalene	0.0221	0.00500	"	0.0333		66.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0228		"	0.0333		68.5	40-150			
Surrogate: Fluoranthene-d10	0.0234		"	0.0333		70.2	40-150			

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

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

**Batch BGH0465 - EPA 5030 Soil MS**

**Matrix Spike (BGH0465-MS1)**

Source: 2308180-01

Prepared: 08/11/23 Analyzed: 08/12/23

Acenaphthene	0.0150	0.00500	mg/kg	0.0333	ND	45.1	31-137			
Anthracene	0.0156	0.00500	"	0.0333	ND	46.9	30-120			
Benzo (a) anthracene	0.0153	0.00500	"	0.0333	ND	45.9	30-120			
Benzo (a) pyrene	0.0156	0.00500	"	0.0333	ND	46.9	30-120			
Benzo (b) fluoranthene	0.0159	0.00500	"	0.0333	ND	47.6	30-120			
Benzo (k) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.4	30-120			
Chrysene	0.0167	0.00500	"	0.0333	ND	50.0	30-120			
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333	ND	46.7	30-120			
Fluoranthene	0.0159	0.00500	"	0.0333	ND	47.8	30-120			
Fluorene	0.0162	0.00500	"	0.0333	ND	48.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0162	0.00500	"	0.0333	ND	48.7	30-120			
Pyrene	0.0176	0.00500	"	0.0333	ND	52.8	35-142			
1-Methylnaphthalene	0.0149	0.00500	"	0.0333	ND	44.8	15-130			
2-Methylnaphthalene	0.0163	0.00500	"	0.0333	ND	48.8	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0179		"	0.0333		53.8	40-150			
Surrogate: Fluoranthene-d10	0.0178		"	0.0333		53.3	40-150			

**Matrix Spike Dup (BGH0465-MSD1)**

Source: 2308180-01

Prepared: 08/11/23 Analyzed: 08/12/23

Acenaphthene	0.0133	0.00500	mg/kg	0.0333	ND	40.0	31-137	11.9	30
Anthracene	0.0145	0.00500	"	0.0333	ND	43.4	30-120	7.60	30
Benzo (a) anthracene	0.0148	0.00500	"	0.0333	ND	44.3	30-120	3.51	30
Benzo (a) pyrene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	7.57	30
Benzo (b) fluoranthene	0.0148	0.00500	"	0.0333	ND	44.4	30-120	6.97	30
Benzo (k) fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120	1.86	30
Chrysene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	9.70	30
Dibenz (a,h) anthracene	0.0134	0.00500	"	0.0333	ND	40.3	30-120	14.8	30
Fluoranthene	0.0142	0.00500	"	0.0333	ND	42.5	30-120	11.8	30
Fluorene	0.0152	0.00500	"	0.0333	ND	45.5	30-120	6.52	30
Indeno (1,2,3-cd) pyrene	0.0144	0.00500	"	0.0333	ND	43.3	30-120	11.7	30
Pyrene	0.0142	0.00500	"	0.0333	ND	42.7	35-142	21.2	30
1-Methylnaphthalene	0.0160	0.00500	"	0.0333	ND	47.9	15-130	6.80	50
2-Methylnaphthalene	0.0152	0.00500	"	0.0333	ND	45.7	15-130	6.61	50
Surrogate: 2-Methylnaphthalene-d10	0.0137		"	0.0333		41.1	40-150		
Surrogate: Fluoranthene-d10	0.0149		"	0.0333		44.8	40-150		

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 1  
 Project Number: UWRWE-A3009-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/21/23 14:55

**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 BGH0497 - EPA 3050B**

**Blank (BGH0497-BLK1)**

Prepared: 08/11/23 Analyzed: 08/12/23

Boron ND 0.0100 mg/L

**LCS (BGH0497-BS1)**

Prepared: 08/11/23 Analyzed: 08/12/23

Boron 5.63 0.0100 mg/L 5.00 113 80-120

**Duplicate (BGH0497-DUP1)**

Source: 2308184-01

Prepared: 08/11/23 Analyzed: 08/12/23

Boron 1.26 0.0100 mg/L 1.27 0.574 20

**Matrix Spike (BGH0497-MS1)**

Source: 2308184-01

Prepared: 08/11/23 Analyzed: 08/12/23

Boron 6.11 0.0100 mg/L 5.00 1.27 96.7 75-125

**Matrix Spike Dup (BGH0497-MSD1)**

Source: 2308184-01

Prepared: 08/11/23 Analyzed: 08/12/23

Boron 6.41 0.0100 mg/L 5.00 1.27 103 75-125 4.85 25

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 1  
Project Number: UWRWE-A3009-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/21/23 14:55

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

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

**Batch BGH0328 - EPA 3050B**

**Blank (BGH0328-BLK1)**

Prepared & Analyzed: 08/09/23

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Cadmium	ND	0.200	"							
Copper	ND	0.400	"							
Lead	ND	0.200	"							
Nickel	ND	0.400	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							
Selenium	ND	0.260	"							

**LCS (BGH0328-BS1)**

Prepared & Analyzed: 08/09/23

Arsenic	40.1	0.200	mg/kg wet	40.0	100	80-120
Barium	41.1	0.400	"	40.0	103	80-120
Cadmium	2.01	0.200	"	2.00	101	80-120
Copper	40.6	0.400	"	40.0	101	80-120
Lead	20.7	0.200	"	20.0	103	80-120
Nickel	39.4	0.400	"	40.0	98.5	80-120
Silver	1.98	0.0200	"	2.00	99.0	80-120
Zinc	40.4	0.400	"	40.0	101	80-120

**Duplicate (BGH0328-DUP1)**

Source: 2307355-06RE1

Prepared & Analyzed: 08/09/23

Arsenic	0.479	0.200	mg/kg wet	0.591	20.9	20	QR-01
Barium	149	0.400	"	152	1.61	20	
Cadmium	0.142	0.200	"	0.0940	40.7	20	QR-01
Copper	2.00	0.400	"	2.31	14.2	20	
Lead	9.61	0.200	"	8.95	7.09	20	
Nickel	1.87	0.400	"	2.16	14.3	20	
Silver	0.0680	0.0200	"	0.0584	15.2	20	
Zinc	8.04	0.400	"	9.43	15.9	20	
Selenium	0.312	0.260	"	0.279	11.1	200	

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 1

Project Number: UWRWE-A3009-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/21/23 14:55

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

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

**Batch BGH0328 - EPA 3050B**

**Matrix Spike (BGH0328-MS1)**

Source: 2307355-06RE1 Prepared & Analyzed: 08/09/23

Arsenic	6.03	0.200	mg/kg wet	40.0	0.591	13.6	75-125				QM-07
Barium	197	0.400	"	40.0	152	113	75-125				
Cadmium	2.13	0.200	"	2.00	0.0940	102	75-125				
Copper	7.88	0.400	"	40.0	2.31	13.9	75-125				QM-07
Lead	24.4	0.200	"	20.0	8.95	77.4	75-125				
Nickel	7.58	0.400	"	40.0	2.16	13.5	75-125				QM-07
Silver	1.89	0.0200	"	2.00	0.0584	91.5	75-125				
Zinc	13.4	0.400	"	40.0	9.43	9.87	75-125				QM-07

**Matrix Spike Dup (BGH0328-MSD1)**

Source: 2307355-06RE1 Prepared: 08/09/23 Analyzed: 08/10/23

Arsenic	6.05	0.200	mg/kg wet	40.0	0.591	13.6	75-125	0.278	25		QM-07
Barium	199	0.400	"	40.0	152	118	75-125	0.915	25		
Cadmium	2.18	0.200	"	2.00	0.0940	105	75-125	2.67	25		
Copper	7.90	0.400	"	40.0	2.31	14.0	75-125	0.299	25		QM-07
Lead	24.8	0.200	"	20.0	8.95	79.5	75-125	1.71	25		
Nickel	7.63	0.400	"	40.0	2.16	13.7	75-125	0.647	25		QM-07
Silver	1.94	0.0200	"	2.00	0.0584	94.2	75-125	2.86	25		
Zinc	13.4	0.400	"	40.0	9.43	10.0	75-125	0.483	25		QM-07

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Project: Noble - Jepsen 1  
 Project Number: UWRWE-A3009-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/21/23 14:55

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

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

**Batch BGH0462 - 3060A Mod**

**Blank (BGH0462-BLK1)**

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BGH0462-BS1)**

Prepared & Analyzed: 08/11/23

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

**Duplicate (BGH0462-DUP1)**

**Source: 2308038-08**

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BGH0462-MS1)**

**Source: 2308038-08**

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent      31.6      0.30    mg/kg dry      31.2      ND      101      75-125

**Matrix Spike Dup (BGH0462-MSD1)**

**Source: 2308038-08**

Prepared & Analyzed: 08/11/23

Chromium, Hexavalent      32.6      0.30    mg/kg dry      31.2      ND      104      75-125      2.92      20

Summit Scientific

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Project: Noble - Jepsen 1  
 Project Number: UWRWE-A3009-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/21/23 14:55

**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 BGH0552 - General Preparation**

**Blank (BGH0552-BLK1)**

Prepared: 08/14/23 Analyzed: 08/16/23

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

**LCS (BGH0552-BS1)**

Prepared: 08/14/23 Analyzed: 08/16/23

Calcium	4.98	0.0500	mg/L wet	5.00	99.7	70-130				
Magnesium	5.46	0.0500	"	5.00	109	70-130				
Sodium	5.42	0.0500	"	5.00	108	70-130				

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 1

Project Number: UWRWE-A3009-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/21/23 14:55

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

**Summit Scientific**

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

**Batch BGH0499 - General Preparation**

**Duplicate (BGH0499-DUP1)**

**Source: 2308182-01**

Prepared & Analyzed: 08/11/23

% Solids	81.4		%		80.2			1.44	20	
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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 1  
 Project Number: UWRWE-A3009-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/21/23 14:55

**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 BGH0605 - General Preparation**

**Blank (BGH0605-BLK1)**

Prepared & Analyzed: 08/15/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGH0605-BS1)**

Prepared & Analyzed: 08/15/23

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BGH0605-DUP1)**

Source: 2308183-01

Prepared & Analyzed: 08/15/23

Specific Conductance (EC) 0.659 0.0100 mmhos/cm 0.669 1.51 20

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 1

Project Number: UWRWE-A3009-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/21/23 14:55

**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 BGH0608 - General Preparation**

**LCS (BGH0608-BS1)**

Prepared & Analyzed: 08/15/23

pH	9.08	pH Units	9.18	98.9	95-105
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**Duplicate (BGH0608-DUP1)**

Source: 2308183-01

Prepared & Analyzed: 08/15/23

pH	7.74	pH Units	7.73	0.129	20
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 1

Project Number: UWRWE-A3009-ABN

Project Manager: Paul Henchan

**Reported:**  
08/21/23 14:55

### Notes and Definitions

- 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.
- 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