

TABLE 1  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
JEPSEN-63N65W, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-220

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl-Benzene (mg/kg)	1,3,5-Trimethyl-Benzene (mg/kg)	Naphthalene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500**		
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500**		
AST01 0.5'	08/08/2023	0.5'	<0.0020	0.0074	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
AST02 0.5'	08/08/2023	0.5'	<b>0.012</b>	0.38	0.73	3.4	<b>1.1</b>	<b>0.73</b>	<b>0.14</b>	140	35	<50
E Wall 4'	08/08/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
FLOOR 5'	08/08/2023	5'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50
N Wall 4'	08/08/2023	4'	<0.020	<0.050	0.15	0.41	<b>2.7</b>	<b>2.5</b>	<b>0.033</b>	<b>350</b>	<b>250</b>	<50

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Indicates laboratory minimum detection limit in excess of SSL

\*\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

NA - Not analyzed

TABLE 2  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
JEPSEN-63N65W, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-220

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
AST01 0.5'	08/08/2023	0.5'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST02 0.5'	08/08/2023	0.5'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0152	<0.00500	<0.00500	<b>1.02</b>	<b>0.411</b>
E Wall 4'	08/08/2023	4'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FLOOR 5'	08/08/2023	5'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
N Wall 4'	08/08/2023	4'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00991	<0.00500	<0.00500	<b>1.11</b>	<b>0.511</b>

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

**TABLE 3**  
**SUMMARY OF METALS IN SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**JEPSEN-63N65W, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C023-220**

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
AST01 0.5'	08/08/2023	0.5'	6.26	<b>5.33</b>	0.0697	1.06
AST02 0.5'	08/08/2023	0.5'	<b>4.96</b>	0.438	0.0509	1.03
E Wall 4'	08/08/2023	4'	8.23	0.26	1.46	1.06
FLOOR 5'	08/08/2023	5'	6.3	0.188	2.7	1.07
N Wall 4'	08/08/2023	4'	6.66	0.277	<b>9.96</b>	1.13

Bold faced values exceed the COGCC Table 915-1 concentrations

Yellow highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

NA - Not analyzed

TABLE 4  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
JEPSEN-63N65W, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-220

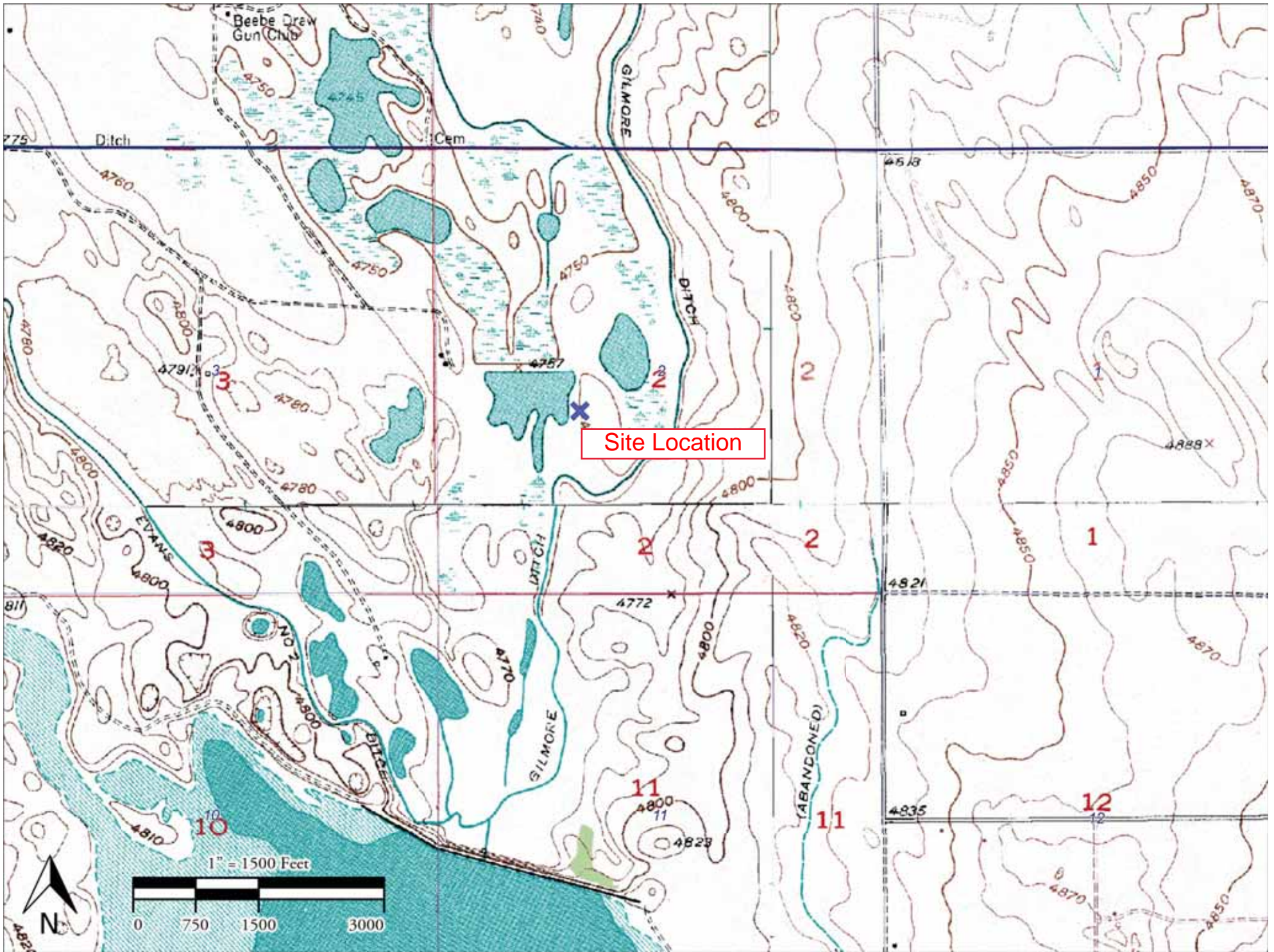
Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
AST01 0.5'	08/08/2023	0.5'	<b>0.694</b>	51.1	<0.200	<0.30	1.71	2.35	1.4	<0.260	<0.0200	5.05
AST02 0.5'	08/08/2023	0.5'	<b>0.446</b>	26.5	<0.200	<0.30	2.06	12.4	0.966	<0.260	<0.0200	5.51
E Wall 4'	08/08/2023	4'	<b>0.665</b>	28.7	<0.200	<0.30	1.44	3.93	1.17	<0.260	<0.0200	4.38
FLOOR 5'	08/08/2023	5'	<b>0.498</b>	38.2	<0.200	<0.30	1.19	4.71	1.13	<0.260	<0.0200	4.81
N Wall 4'	08/08/2023	4'	<b>0.424</b>	32.7	<0.200	<0.30	1.31	4.52	0.998	<0.260	<0.0200	5.03

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed



# Jepsen-63N65W

API#/Facility#:332956

Legal Description: NESW Sec: 2, T3N, R65W

Latitude/Longitude: 40.252977, -104.6336087 / 40.2530663, -104.6336565

Fremont No. C023-220

Remediation #27984

Proposed  
Background  
Sample Locations  
(x5)

Proposed  
Excavation Extent:  
10'x10'x1' deep

AST02 0.5'

PWV N WALL 4'

Proposed  
Excavation Extent:  
15'x15'x5' deep

# Photo Log



*Description:*

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# Photo Log



*Description:*

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# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 22, 2023

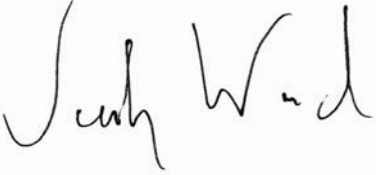
Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Jepsen 63N65W

Work Order #2308190

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

Jacob Wood For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01 0.5'	2308190-01	Soil	08/08/23 12:43	08/08/23 16:15
AST02 0.5'	2308190-02	Soil	08/08/23 12:45	08/08/23 16:15
E Wall 4'	2308190-03	Soil	08/08/23 12:32	08/08/23 16:15
FLOOR 5'	2308190-04	Soil	08/08/23 12:34	08/08/23 16:15
N Wall 4'	2308190-05	Soil	08/08/23 12:36	08/08/23 16:15

Summit Scientific

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

		<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: Fremont Environmental		Project Manager: Paul Henehan	Company: <u>Noble</u>
Address:		E-Mail: Fremont Distribution List	Project Name/Location: <u>JEPSEN 63N65W</u>
City/State/Zip:			AFE#:
Phone: 303-261-6246		Project Name: <u>JEPSEN 63N65W</u>	PO/Billing Codes: <u>UWRWE-A3172-ABN</u>
Sampler Name: Stanley Gilbert		Project Number:	Contact: <u>Dan Peterson</u> <sup>SR</sup> <u>Mike Mantoya</u>

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested					HOLD	Special Instructions
					HCl	HNO3	None	Other	Water	Soil			BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)		
1	ASTO2 0.5'	8/8/23	12:43	2			X			X		X	X	X	X				
2	ASTO2 0.5'		12:45																
3	E Wall 4'		12:32																
4	FLOOR 5'		12:34																
5	N Wall 4'		12:36																
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <u>[Signature]</u>	Date/Time: <u>8/8/23 16:15</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8/8/23 16:15</u>	TAT Business Days	Field DO	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	<input checked="" type="checkbox"/> Field Turb.	
Temperature Upon Receipt: <u>11.7</u>	Corrected Temperature: <u>0</u>	IR gun #: <u>1</u>	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2208190

Client: Fremont Client Project ID: Jeosen 1

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

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

Temp (°C)  Thermometer #

	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"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON ICE
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NO TIME STAMPS ON JE-S
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):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

Josh

Custodian Printed Name

08/08/23

Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**AST01 0.5'**  
**2308190-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:43**

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	
<b>Toluene</b>	<b>0.0074</b>	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 12:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0440	110 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.7 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/08/23 12:43**

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 12:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.98	71.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**AST01 0.5'**  
**2308190-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0503	08/11/23	08/15/23	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 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0151	45.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0166	49.7 %	40-150		"	"	"	"	

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

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>1.06</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 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**AST01 0.5'**  
**2308190-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.694	0.200	mg/kg dry	1	BGH0328	08/09/23	08/10/23	EPA 6020B	
Barium	51.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.71	0.400	"	"	"	"	"	"	
Lead	2.35	0.200	"	"	"	"	"	"	
Nickel	1.40	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.05	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0375	08/09/23	08/09/23	EPA 7196A	

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

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	292	0.0559	mg/L dry	1	BGH0508	08/11/23	08/14/23	EPA 6020B	
Magnesium	50.0	0.0559	"	"	"	"	"	"	
Sodium	4.90	0.0559	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0697	0.00100	units	1	BGH0580	08/15/23	08/15/23	Calculation	

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

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**AST01 0.5'**  
**2308190-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.5		%	1	BGH0499	08/11/23	08/11/23	Calculation	

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

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.33	0.0100	mmhos/cm	1	BGH0544	08/14/23	08/14/23	EPA 120.1	

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

Date Sampled: **08/08/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.26		pH Units	1	BGH0543	08/14/23	08/14/23	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**AST02 0.5'**  
**2308190-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.012	0.0020	mg/kg	1	BGH0405	08/10/23	08/11/23	EPA 8260B	
Toluene	0.38	0.050	"	10	"	"	08/11/23	"	
Ethylbenzene	0.73	0.0050	"	1	"	"	08/11/23	"	
Xylenes (total)	3.4	0.10	"	10	"	"	08/11/23	"	
1,2,4-Trimethylbenzene	1.1	0.050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.73	0.050	"	"	"	"	"	"	
Naphthalene	0.14	0.0038	"	1	"	"	08/11/23	"	
Gasoline Range Hydrocarbons	35	5.0	"	10	"	"	08/11/23	"	

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0468	117 %	50-150		"	"	08/11/23	"	
Surrogate: Toluene-d8	0.0391	97.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0793	198 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	140	50	mg/kg	1	BGH0408	08/10/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.34	58.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**AST02 0.5'**  
**2308190-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0503	08/11/23	08/15/23	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	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0152</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>1.02</b>	0.00500	"	"	"	"	"	"	E
<b>2-Methylnaphthalene</b>	<b>0.411</b>	0.00500	"	"	"	"	"	"	E

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0372	112 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0152	45.5 %	40-150		"	"	"	"	

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

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>1.03</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 12:45**

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

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**AST02 0.5'**  
**2308190-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.446	0.200	mg/kg dry	1	BGH0328	08/09/23	08/10/23	EPA 6020B	
Barium	26.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.06	0.400	"	"	"	"	"	"	
Lead	12.4	0.200	"	"	"	"	"	"	
Nickel	0.966	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.51	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0375	08/09/23	08/09/23	EPA 7196A	

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

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	230	0.0594	mg/L dry	1	BGH0508	08/11/23	08/14/23	EPA 6020B	
Magnesium	40.1	0.0594	"	"	"	"	"	"	
Sodium	3.18	0.0594	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0509	0.00100	units	1	BGH0580	08/15/23	08/15/23	Calculation	

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

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 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**AST02 0.5'**  
**2308190-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>84.1</b>		%	1	BGH0499	08/11/23	08/11/23	Calculation	

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

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.438</b>	0.0100	mmhos/cm	1	BGH0544	08/14/23	08/14/23	EPA 120.1	

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

Date Sampled: **08/08/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>4.96</b>		pH Units	1	BGH0543	08/14/23	08/14/23	EPA 9045D	

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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**E Wall 4'**  
**2308190-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0457	114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0421	105 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.32	66.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Jepsen 63N65W  
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Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**E Wall 4'**  
**2308190-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0503	08/11/23	08/15/23	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 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0160	48.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0143	43.0 %	40-150		"	"	"	"	

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

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>1.06</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 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**E Wall 4'**  
**2308190-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.665	0.200	mg/kg dry	1	BGH0328	08/09/23	08/10/23	EPA 6020B	
Barium	28.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.44	0.400	"	"	"	"	"	"	
Lead	3.93	0.200	"	"	"	"	"	"	
Nickel	1.17	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.38	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0375	08/09/23	08/09/23	EPA 7196A	

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

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.5	0.0539	mg/L dry	1	BGH0508	08/11/23	08/14/23	EPA 6020B	
Magnesium	16.4	0.0539	"	"	"	"	"	"	
Sodium	47.4	0.0539	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.46	0.00100	units	1	BGH0580	08/15/23	08/15/23	Calculation	

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

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 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**E Wall 4'**  
**2308190-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.8		%	1	BGH0499	08/11/23	08/11/23	Calculation	

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

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.260	0.0100	mmhos/cm	1	BGH0544	08/14/23	08/14/23	EPA 120.1	

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

Date Sampled: **08/08/23 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BGH0543	08/14/23	08/14/23	EPA 9045D	

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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**FLOOR 5'**  
**2308190-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0434	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.2	81.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Jepsen 63N65W  
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Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**FLOOR 5'**  
**2308190-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0503	08/11/23	08/15/23	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 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0137	41.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0160	48.1 %	40-150		"	"	"	"	

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

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>1.07</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 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**FLOOR 5'**  
**2308190-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.498	0.200	mg/kg dry	1	BGH0328	08/09/23	08/10/23	EPA 6020B	
Barium	38.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.19	0.400	"	"	"	"	"	"	
Lead	4.71	0.200	"	"	"	"	"	"	
Nickel	1.13	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.81	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0375	08/09/23	08/09/23	EPA 7196A	

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

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	71.9	0.0558	mg/L dry	1	BGH0508	08/11/23	08/14/23	EPA 6020B	
Magnesium	56.6	0.0558	"	"	"	"	"	"	
Sodium	126	0.0558	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.70	0.00100	units	1	BGH0580	08/15/23	08/15/23	Calculation	

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

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**FLOOR 5'**  
**2308190-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BGH0499	08/11/23	08/11/23	Calculation	

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

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.188	0.0100	mmhos/cm	1	BGH0544	08/14/23	08/14/23	EPA 120.1	

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

Date Sampled: **08/08/23 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.30		pH Units	1	BGH0543	08/14/23	08/14/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**N Wall 4'**  
**2308190-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.020	mg/kg	10	BGH0405	08/10/23	08/11/23	EPA 8260B	
Toluene	ND	0.050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.15</b>	0.0050	"	1	"	"	08/11/23	"	
<b>Xylenes (total)</b>	<b>0.41</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>2.7</b>	0.050	"	10	"	"	08/11/23	"	
<b>1,3,5-Trimethylbenzene</b>	<b>2.5</b>	0.050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.033</b>	0.0038	"	1	"	"	08/11/23	"	
<b>Gasoline Range Hydrocarbons</b>	<b>250</b>	5.0	"	10	"	"	08/11/23	"	

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0410	102 %	50-150		"	"	08/11/23	"	
Surrogate: Toluene-d8	0.198	495 %	50-150		"	"	"	"	S-02
Surrogate: 4-Bromofluorobenzene	0.209	523 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>350</b>	50	mg/kg	1	BGH0408	08/10/23	08/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.2	81.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**N Wall 4'**  
**2308190-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0503	08/11/23	08/15/23	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	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.00991</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>1.11</b>	0.00500	"	"	"	"	"	"	E
<b>2-Methylnaphthalene</b>	<b>0.511</b>	0.00500	"	"	"	"	"	"	E

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0255	76.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.5 %	40-150		"	"	"	"	

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

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>1.13</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 12:36**

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

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**N Wall 4'**  
**2308190-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.424	0.200	mg/kg dry	1	BGH0328	08/09/23	08/10/23	EPA 6020B
Barium	32.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.31	0.400	"	"	"	"	"	"
Lead	4.52	0.200	"	"	"	"	"	"
Nickel	0.998	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.03	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0375	08/09/23	08/09/23	EPA 7196A	

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

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2320	0.0563	mg/L dry	1	BGH0508	08/11/23	08/14/23	EPA 6020B	
Magnesium	213	0.0563	"	"	"	"	"	"	
Sodium	1870	0.0563	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.96	0.00100	units	1	BGH0580	08/15/23	08/15/23	Calculation	

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

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Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**N Wall 4'**  
**2308190-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.8		%	1	BGH0499	08/11/23	08/11/23	Calculation	

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

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.277	0.0100	mmhos/cm	1	BGH0544	08/14/23	08/14/23	EPA 120.1	

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

Date Sampled: **08/08/23 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.66		pH Units	1	BGH0543	08/14/23	08/14/23	EPA 9045D	

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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

### 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 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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 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**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 BGH0405 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGH0405-MSD1)</b>	<b>Source: 2308181-01</b>			<b>Prepared &amp; Analyzed: 08/10/23</b>						
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	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0446</i>		<i>"</i>	<i>0.0400</i>		<i>111</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0408</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0372</i>		<i>"</i>	<i>0.0400</i>		<i>93.0</i>	<i>50-150</i>			

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Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

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

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

**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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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**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 BGH0503 - EPA 5030 Soil MS**

**Blank (BGH0503-BLK1)**

Prepared: 08/11/23 Analyzed: 08/15/23

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>	<i>0.0217</i>		<i>"</i>	<i>0.0333</i>		<i>65.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0190</i>		<i>"</i>	<i>0.0333</i>		<i>57.1</i>	<i>40-150</i>			

**LCS (BGH0503-BS1)**

Prepared: 08/11/23 Analyzed: 08/15/23

Acenaphthene	0.0220	0.00500	mg/kg	0.0333		66.0	31-137			
Anthracene	0.0214	0.00500	"	0.0333		64.3	30-120			
Benzo (a) anthracene	0.0201	0.00500	"	0.0333		60.2	30-120			
Benzo (a) pyrene	0.0387	0.00500	"	0.0333		116	30-120			
Benzo (b) fluoranthene	0.0396	0.00500	"	0.0333		119	30-120			
Benzo (k) fluoranthene	0.0400	0.00500	"	0.0333		120	30-120			
Chrysene	0.0230	0.00500	"	0.0333		68.9	30-120			
Dibenz (a,h) anthracene	0.0366	0.00500	"	0.0333		110	30-120			
Fluoranthene	0.0218	0.00500	"	0.0333		65.3	30-120			
Fluorene	0.0219	0.00500	"	0.0333		65.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0370	0.00500	"	0.0333		111	30-120			
Pyrene	0.0245	0.00500	"	0.0333		73.5	35-142			
1-Methylnaphthalene	0.0225	0.00500	"	0.0333		67.6	35-142			
2-Methylnaphthalene	0.0219	0.00500	"	0.0333		65.6	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0251</i>		<i>"</i>	<i>0.0333</i>		<i>75.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0219</i>		<i>"</i>	<i>0.0333</i>		<i>65.7</i>	<i>40-150</i>			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**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 BGH0503 - EPA 5030 Soil MS**

**Matrix Spike (BGH0503-MS1)**

Source: 2308190-01

Prepared: 08/11/23 Analyzed: 08/15/23

Acenaphthene	0.0181	0.00500	mg/kg	0.0333	ND	54.4	31-137			
Anthracene	0.0164	0.00500	"	0.0333	ND	49.3	30-120			
Benzo (a) anthracene	0.0172	0.00500	"	0.0333	ND	51.5	30-120			
Benzo (a) pyrene	0.0304	0.00500	"	0.0333	ND	91.2	30-120			
Benzo (b) fluoranthene	0.0228	0.00500	"	0.0333	ND	68.3	30-120			
Benzo (k) fluoranthene	0.0305	0.00500	"	0.0333	ND	91.4	30-120			
Chrysene	0.0171	0.00500	"	0.0333	ND	51.4	30-120			
Dibenz (a,h) anthracene	0.0261	0.00500	"	0.0333	ND	78.3	30-120			
Fluoranthene	0.0179	0.00500	"	0.0333	ND	53.7	30-120			
Fluorene	0.0189	0.00500	"	0.0333	ND	56.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0311	0.00500	"	0.0333	ND	93.3	30-120			
Pyrene	0.0169	0.00500	"	0.0333	ND	50.7	35-142			
1-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.2	15-130			
2-Methylnaphthalene	0.0200	0.00500	"	0.0333	ND	59.9	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0174		"	0.0333		52.3	40-150			
Surrogate: Fluoranthene-d10	0.0182		"	0.0333		54.5	40-150			

**Matrix Spike Dup (BGH0503-MSD1)**

Source: 2308190-01

Prepared: 08/11/23 Analyzed: 08/15/23

Acenaphthene	0.0177	0.00500	mg/kg	0.0333	ND	53.1	31-137	2.38	30	
Anthracene	0.0160	0.00500	"	0.0333	ND	48.1	30-120	2.59	30	
Benzo (a) anthracene	0.0168	0.00500	"	0.0333	ND	50.4	30-120	2.18	30	
Benzo (a) pyrene	0.0310	0.00500	"	0.0333	ND	93.0	30-120	1.94	30	
Benzo (b) fluoranthene	0.0248	0.00500	"	0.0333	ND	74.3	30-120	8.38	30	
Benzo (k) fluoranthene	0.0268	0.00500	"	0.0333	ND	80.3	30-120	12.9	30	
Chrysene	0.0178	0.00500	"	0.0333	ND	53.3	30-120	3.55	30	
Dibenz (a,h) anthracene	0.0280	0.00500	"	0.0333	ND	84.1	30-120	7.12	30	
Fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	1.42	30	
Fluorene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	2.77	30	
Indeno (1,2,3-cd) pyrene	0.0365	0.00500	"	0.0333	ND	110	30-120	16.0	30	
Pyrene	0.0174	0.00500	"	0.0333	ND	52.1	35-142	2.82	30	
1-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.1	15-130	3.25	50	
2-Methylnaphthalene	0.0217	0.00500	"	0.0333	ND	65.0	15-130	8.31	50	
Surrogate: 2-Methylnaphthalene-d10	0.0200		"	0.0333		60.1	40-150			
Surrogate: Fluoranthene-d10	0.0179		"	0.0333		53.8	40-150			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**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 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**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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Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**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

**Batch BGH0442 - EPA 3050B**

**Blank (BGH0442-BLK1)**

Prepared: 08/10/23 Analyzed: 08/21/23

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	"								

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
Project Number: UWRWE-A3172-ABN  
Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

**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 BGH0442 - EPA 3050B**

**LCS (BGH0442-BS1)**

Prepared: 08/10/23 Analyzed: 08/21/23

Arsenic	41.1	0.200	mg/kg wet	40.0		103	80-120			
Barium	42.6	0.400	"	40.0		106	80-120			
Cadmium	1.98	0.200	"	2.00		99.1	80-120			
Copper	41.1	0.400	"	40.0		103	80-120			
Lead	20.0	0.200	"	20.0		100	80-120			
Nickel	40.6	0.400	"	40.0		102	80-120			
Silver	2.01	0.0200	"	2.00		100	80-120			
Zinc	40.6	0.400	"	40.0		102	80-120			

**Duplicate (BGH0442-DUP1)**

Source: 2307450-01RE2

Prepared: 08/10/23 Analyzed: 08/21/23

Arsenic	7.19	0.200	mg/kg wet		7.35			2.22	20	
Barium	159	0.400	"		144			10.0	20	
Cadmium	0.319	0.200	"		0.331			3.69	20	
Copper	6.55	0.400	"		6.30			3.90	20	
Lead	9.23	0.200	"		9.18			0.556	20	
Nickel	7.11	0.400	"		6.97			2.02	20	
Silver	0.0656	0.0200	"		0.0576			13.0	20	
Zinc	26.2	0.400	"		24.9			5.07	20	
Selenium	0.208	0.260	"		0.201			3.71	200	

**Matrix Spike (BGH0442-MS1)**

Source: 2307450-01RE2

Prepared: 08/10/23 Analyzed: 08/21/23

Arsenic	49.5	0.200	mg/kg wet	40.0	7.35	105	75-125			
Barium	189	0.400	"	40.0	144	113	75-125			
Cadmium	2.42	0.200	"	2.00	0.331	104	75-125			
Copper	28.7	0.400	"	40.0	6.30	56.0	75-125			QM-07
Lead	29.8	0.200	"	20.0	9.18	103	75-125			
Nickel	29.9	0.400	"	40.0	6.97	57.2	75-125			QM-07
Silver	2.13	0.0200	"	2.00	0.0576	104	75-125			
Zinc	46.3	0.400	"	40.0	24.9	53.4	75-125			QM-07

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**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 BGH0442 - EPA 3050B**

<b>Matrix Spike Dup (BGH0442-MSD1)</b>	<b>Source: 2307450-01RE2</b>			Prepared: 08/10/23		Analyzed: 08/21/23					
Arsenic	49.6	0.200	mg/kg wet	40.0	7.35	106	75-125	0.329	25		
Barium	187	0.400	"	40.0	144	109	75-125	0.932	25		
Cadmium	2.39	0.200	"	2.00	0.331	103	75-125	1.11	25		
Copper	28.6	0.400	"	40.0	6.30	55.8	75-125	0.286	25		QM-07
Lead	29.3	0.200	"	20.0	9.18	101	75-125	1.46	25		
Nickel	29.9	0.400	"	40.0	6.97	57.4	75-125	0.268	25		QM-07
Silver	2.11	0.0200	"	2.00	0.0576	103	75-125	0.754	25		
Zinc	46.4	0.400	"	40.0	24.9	53.7	75-125	0.284	25		QM-07

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**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 BGH0375 - 3060A Mod**

**Blank (BGH0375-BLK1)**

Prepared & Analyzed: 08/09/23

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BGH0375-BS1)**

Prepared & Analyzed: 08/09/23

Chromium, Hexavalent      22.8      0.30    mg/kg wet      25.0      91.0      80-120

**Duplicate (BGH0375-DUP1)**

**Source: 2308188-01**

Prepared & Analyzed: 08/09/23

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BGH0375-MS1)**

**Source: 2308188-01**

Prepared & Analyzed: 08/09/23

Chromium, Hexavalent      24.4      0.30    mg/kg dry      26.4      ND      92.4      75-125

**Matrix Spike Dup (BGH0375-MSD1)**

**Source: 2308188-01**

Prepared & Analyzed: 08/09/23

Chromium, Hexavalent      25.2      0.30    mg/kg dry      26.4      ND      95.4      75-125      3.19      20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

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

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

**Batch BGH0508 - General Preparation**

**Blank (BGH0508-BLK1)**

Prepared: 08/11/23 Analyzed: 08/14/23

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

**LCS (BGH0508-BS1)**

Prepared: 08/11/23 Analyzed: 08/14/23

Calcium	5.10	0.0500	mg/L wet	5.00		102	70-130			
Magnesium	5.74	0.0500	"	5.00		115	70-130			
Sodium	5.99	0.0500	"	5.00		120	70-130			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**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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Summit Scientific



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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**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 BGH0544 - General Preparation**

**Blank (BGH0544-BLK1)**

Prepared & Analyzed: 08/14/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGH0544-BS1)**

Prepared & Analyzed: 08/14/23

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

**Duplicate (BGH0544-DUP1)**

**Source: 2308187-01**

Prepared & Analyzed: 08/14/23

Specific Conductance (EC) 0.345 0.0100 mmhos/cm 0.354 2.54 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen 63N65W  
 Project Number: UWRWE-A3172-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 08/22/23 14:08

**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 BGH0543 - General Preparation**

**LCS (BGH0543-BS1)**

Prepared & Analyzed: 08/14/23

pH	9.01	pH Units	9.18	98.1	95-105
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**Duplicate (BGH0543-DUP1)**

Source: 2308187-01

Prepared & Analyzed: 08/14/23

pH	7.43	pH Units	7.40	0.405	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen 63N65W

Project Number: UWRWE-A3172-ABN

Project Manager: Paul Henchan

**Reported:**  
08/22/23 14:08

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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