

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

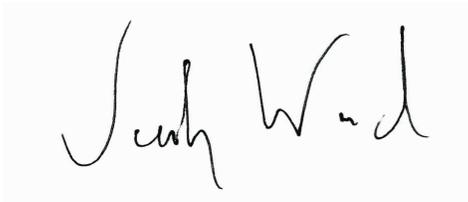
303.277.9310

September 11, 2023

Paul Henchan
Fremont Environmental
PO Box 1289
Wellington, CO 80549
RE: Noble - Jepsen G21-25
Work Order #2308599

Enclosed are the results of analyses for samples received by Summit Scientific on 08/25/23 16:30. 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 - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01 4'	2308599-01	Soil	08/23/23 13:42	08/25/23 16:30
FL02 3'	2308599-02	Soil	08/23/23 11:58	08/25/23 16:30

Summit Scientific

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

Lab ID	Page 1 of 1
2308599	

		Send Data To:	Send Invoice To:
Client: Fremont Environmental		Project Manager: Paul Henehan	Company: Noble
Address:		E-Mail: Fremont Distribution List	Project Name/Location: JEPSEN G21-25
City/State/Zip:			AFE#:
Phone: 303-261-6246		Project Name: JEPSEN G21-25	PO/Billing Codes: UWBWE-A2797-ABN
Sampler Name: Stanley Gilbert		Project Number:	Contact: Mike Montoya

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil		Other	BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)	TDS, Chloride, Sulfate	
1	FLO1 4'	8/23/23	13:42	2			X			X		X	X	X	X	X			
2	FLO2 3'	8/23/23	11:58	2			X			X		X	X	X	X	X			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>[Signature]</i>	Date/Time: 8/24/23	Received by: Summit North	Date/Time: 8/24/23	TAT Business Days	Field DO	Notes:
Relinquished by: <i>[Signature]</i>	Date/Time: 8/24/23	Received by: <i>[Signature]</i>	Date/Time: 8/24/23	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 7.3	Corrected Temperature: <i>[Signature]</i>	IR gun #: 1	HNO3 lot #:	Standard	X Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2308599

Client: Fremont Client Project ID: Jensen G21-25

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other [] Airbill #: []

[] [] [] [] []

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

Temp (°C) 7.3

Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? (1) NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			NOTE
If custody seals are present, are they intact? (1)	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen		-		
Is a chain-of-custody (COC) form present and filled out Completely? (1)	-			
Is the COC properly relinquished by the client w/ date and time recorded? (1)	-			
Were all samples received intact? (1)	✓			
Was adequate sample volume provided? (1)	✓			
Does the COC agree with the number and type of sample bottles received? (1)	✓			
Do the sample IDs on the bottle labels match the COC? (1)	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling)? (1) Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			✓	
If samples are acid preserved for metals, is the pH ≤ 2? (1) Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				
(1) If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS
Custodian Printed Name

8/25/23
Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGH1114	08/28/23	08/29/23	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: **08/23/23 13:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0337	84.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0417	104 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGH1118	08/28/23	08/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.3	98.4 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH1150	08/29/23	08/30/23	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: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0398	0.0100	mg/L	1	BGH1085	08/28/23	08/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.48	0.200	mg/kg dry	1	BGH1094	08/28/23	08/31/23	EPA 6020B
Barium	128	0.400	"	"	"	"	"	"
Cadmium	0.369	0.200	"	"	"	"	"	"
Copper	8.52	0.400	"	"	"	"	"	"
Lead	13.5	0.200	"	"	"	"	"	"
Nickel	8.56	0.400	"	"	"	"	"	"
Silver	0.0533	0.0200	"	"	"	"	"	"
Zinc	34.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1193	08/29/23	08/29/23	EPA 7196A	

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

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.7	0.0616	mg/L dry	1	BGH1216	08/30/23	08/31/23	EPA 6020B	
Magnesium	10.2	0.0616	"	"	"	"	"	"	
Sodium	30.1	0.0616	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.960	0.00100	units	1	BG10031	09/01/23	09/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
 09/11/23 11:14

FL01 4'
2308599-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.1	%	1	BGH1098	08/28/23	08/28/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.293	0.0100	mmhos/cm	1	BGH1242	08/31/23	08/31/23	EPA 120.1	

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

Date Sampled: **08/23/23 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.10		pH Units	1	BGH1243	08/31/23	08/31/23	EPA 9045D	

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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

FL02 3'
2308599-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH1114	08/28/23	08/29/23	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: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0338	84.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0427	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0418	104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1118	08/28/23	08/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.0	96.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
09/11/23 11:14

FL02 3'
2308599-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH1150	08/29/23	08/30/23	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: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.116	0.0100	mg/L	1	BGH1085	08/28/23	08/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
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Reported:
09/11/23 11:14

FL02 3'
2308599-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.40	0.200	mg/kg dry	1	BGH1094	08/28/23	08/31/23	EPA 6020B
Barium	71.4	0.400	"	"	"	"	"	"
Cadmium	0.204	0.200	"	"	"	"	"	"
Copper	4.60	0.400	"	"	"	"	"	"
Lead	6.07	0.200	"	"	"	"	"	"
Nickel	5.03	0.400	"	"	"	"	"	"
Silver	0.0241	0.0200	"	"	"	"	"	"
Zinc	17.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH1193	08/29/23	08/29/23	EPA 7196A	

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

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	323	0.0591	mg/L dry	1	BGH1216	08/30/23	08/31/23	EPA 6020B	
Magnesium	26.7	0.0591	"	"	"	"	"	"	
Sodium	20.9	0.0591	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.300	0.00100	units	1	BG10031	09/01/23	09/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Project Number: UWRWE-A2797-ABN
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Reported:
 09/11/23 11:14

FL02 3'
2308599-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.6	%	1	BGH1098	08/28/23	08/28/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.174	0.0100	mmhos/cm	1	BGH1242	08/31/23	08/31/23	EPA 120.1	

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FL02 3'
2308599-02 (Soil)

Summit Scientific

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

Date Sampled: **08/23/23 11:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.50		pH Units	1	BGI0137	08/31/23	09/06/23	EPA 9045D	

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Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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 BGH1114 - EPA 5030 Soil MS

Blank (BGH1114-BLK1)

Prepared: 08/28/23 Analyzed: 08/29/23

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>	0.0210		"	0.0400		52.6	50-150				
<i>Surrogate: Toluene-d8</i>	0.0404		"	0.0400		101	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0374		"	0.0400		93.5	50-150				

LCS (BGH1114-BS1)

Prepared: 08/28/23 Analyzed: 08/29/23

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130				
Toluene	0.0938	0.0050	"	0.100		93.8	70-130				
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130				
m,p-Xylene	0.221	0.010	"	0.200		111	70-130				
o-Xylene	0.104	0.0050	"	0.100		104	70-130				
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130				
1,3,5-Trimethylbenzene	0.0958	0.0050	"	0.100		95.8	70-130				
Naphthalene	0.0871	0.0038	"	0.100		87.1	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0349		"	0.0400		87.2	50-150				
<i>Surrogate: Toluene-d8</i>	0.0344		"	0.0400		86.0	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0393		"	0.0400		98.2	50-150				

Matrix Spike (BGH1114-MS1)

Source: 2308581-01

Prepared: 08/28/23 Analyzed: 08/29/23

Benzene	0.117	0.0020	mg/kg	0.100	ND	117	70-130				
Toluene	0.103	0.0050	"	0.100	ND	103	70-130				
Ethylbenzene	0.0901	0.0050	"	0.100	ND	90.1	70-130				
m,p-Xylene	0.202	0.010	"	0.200	ND	101	70-130				
o-Xylene	0.0801	0.0050	"	0.100	ND	80.1	70-130				
1,2,4-Trimethylbenzene	0.0687	0.0050	"	0.100	ND	68.7	70-130				QM-07
1,3,5-Trimethylbenzene	0.0818	0.0050	"	0.100	ND	81.8	70-130				
Naphthalene	0.0486	0.0038	"	0.100	ND	48.6	70-130				QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0361		"	0.0400		90.3	50-150				
<i>Surrogate: Toluene-d8</i>	0.0404		"	0.0400		101	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0386		"	0.0400		96.5	50-150				

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

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 BGH1114 - EPA 5030 Soil MS

Matrix Spike Dup (BGH1114-MSD1)	Source: 2308581-01			Prepared: 08/28/23 Analyzed: 08/29/23						
Benzene	0.119	0.0020	mg/kg	0.100	ND	119	70-130	1.40	30	
Toluene	0.111	0.0050	"	0.100	ND	111	70-130	6.82	30	
Ethylbenzene	0.0945	0.0050	"	0.100	ND	94.5	70-130	4.81	30	
m,p-Xylene	0.167	0.010	"	0.200	ND	83.3	70-130	19.3	30	
o-Xylene	0.0770	0.0050	"	0.100	ND	77.0	70-130	3.89	30	
1,2,4-Trimethylbenzene	0.0656	0.0050	"	0.100	ND	65.6	70-130	4.51	30	QM-07
1,3,5-Trimethylbenzene	0.0639	0.0050	"	0.100	ND	63.9	70-130	24.6	30	QM-07
Naphthalene	0.0458	0.0038	"	0.100	ND	45.8	70-130	5.85	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0375</i>		<i>"</i>	<i>0.0400</i>		<i>93.7</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0428</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0338</i>		<i>"</i>	<i>0.0400</i>		<i>84.4</i>	<i>50-150</i>			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

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 BGH1118 - EPA 3550A

Blank (BGH1118-BLK1)

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	13.4		"	12.5		107	30-150			

LCS (BGH1118-BS1)

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	476	50	mg/kg	500		95.2	70-130			
Surrogate: <i>o</i> -Terphenyl	14.3		"	12.5		114	30-150			

Matrix Spike (BGH1118-MS1)

Source: 2308581-01

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	518	50	mg/kg	500	9.03	102	70-130			
Surrogate: <i>o</i> -Terphenyl	9.92		"	12.5		79.4	30-150			

Matrix Spike Dup (BGH1118-MSD1)

Source: 2308581-01

Prepared: 08/28/23 Analyzed: 08/29/23

C10-C28 (DRO)	453	50	mg/kg	500	9.03	88.8	70-130	13.4	20	
Surrogate: <i>o</i> -Terphenyl	10.3		"	12.5		82.8	30-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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 BGH1150 - EPA 5030 Soil MS

Blank (BGH1150-BLK1)

Prepared: 08/29/23 Analyzed: 08/30/23

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>	<i>0.0375</i>		"	<i>0.0333</i>		<i>112</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0264</i>		"	<i>0.0333</i>		<i>79.2</i>		<i>40-150</i>		

LCS (BGH1150-BS1)

Prepared: 08/29/23 Analyzed: 08/30/23

Acenaphthene	0.0250	0.00500	mg/kg	0.0333	74.9	31-137
Anthracene	0.0285	0.00500	"	0.0333	85.5	30-120
Benzo (a) anthracene	0.0327	0.00500	"	0.0333	98.2	30-120
Benzo (a) pyrene	0.0310	0.00500	"	0.0333	92.9	30-120
Benzo (b) fluoranthene	0.0393	0.00500	"	0.0333	118	30-120
Benzo (k) fluoranthene	0.0369	0.00500	"	0.0333	111	30-120
Chrysene	0.0314	0.00500	"	0.0333	94.2	30-120
Dibenz (a,h) anthracene	0.0207	0.00500	"	0.0333	62.2	30-120
Fluoranthene	0.0284	0.00500	"	0.0333	85.1	30-120
Fluorene	0.0276	0.00500	"	0.0333	82.8	30-120
Indeno (1,2,3-cd) pyrene	0.0278	0.00500	"	0.0333	83.5	30-120
Pyrene	0.0441	0.00500	"	0.0333	132	35-142
1-Methylnaphthalene	0.0342	0.00500	"	0.0333	103	35-142
2-Methylnaphthalene	0.0366	0.00500	"	0.0333	110	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0360</i>		"	<i>0.0333</i>	<i>108</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0292</i>		"	<i>0.0333</i>	<i>87.5</i>	<i>40-150</i>

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

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 BGH1150 - EPA 5030 Soil MS

Matrix Spike (BGH1150-MS1)	Source: 2308578-01			Prepared: 08/29/23 Analyzed: 08/30/23						
Acenaphthene	0.0222	0.00500	mg/kg	0.0333	ND	66.7	31-137			
Anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120			
Benzo (a) anthracene	0.0232	0.00500	"	0.0333	ND	69.5	30-120			
Benzo (a) pyrene	0.0216	0.00500	"	0.0333	ND	64.7	30-120			
Benzo (b) fluoranthene	0.0256	0.00500	"	0.0333	ND	76.9	30-120			
Benzo (k) fluoranthene	0.0250	0.00500	"	0.0333	ND	75.0	30-120			
Chrysene	0.0203	0.00500	"	0.0333	ND	60.8	30-120			
Dibenz (a,h) anthracene	0.0171	0.00500	"	0.0333	ND	51.4	30-120			
Fluoranthene	0.0157	0.00500	"	0.0333	ND	47.0	30-120			
Fluorene	0.0235	0.00500	"	0.0333	ND	70.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0232	0.00500	"	0.0333	ND	69.7	30-120			
Pyrene	0.0277	0.00500	"	0.0333	ND	83.2	35-142			
1-Methylnaphthalene	0.0220	0.00500	"	0.0333	ND	65.9	15-130			
2-Methylnaphthalene	0.0216	0.00500	"	0.0333	ND	64.9	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0207</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>62.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0169</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>50.6</i>	<i>40-150</i>			

Matrix Spike Dup (BGH1150-MSD1)	Source: 2308578-01			Prepared: 08/29/23 Analyzed: 08/30/23						
Acenaphthene	0.0190	0.00500	mg/kg	0.0333	ND	57.0	31-137	15.7	30	
Anthracene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	1.20	30	
Benzo (a) anthracene	0.0235	0.00500	"	0.0333	ND	70.6	30-120	1.60	30	
Benzo (a) pyrene	0.0224	0.00500	"	0.0333	ND	67.1	30-120	3.69	30	
Benzo (b) fluoranthene	0.0274	0.00500	"	0.0333	ND	82.3	30-120	6.83	30	
Benzo (k) fluoranthene	0.0268	0.00500	"	0.0333	ND	80.3	30-120	6.85	30	
Chrysene	0.0199	0.00500	"	0.0333	ND	59.7	30-120	1.70	30	
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	4.92	30	
Fluoranthene	0.0161	0.00500	"	0.0333	ND	48.2	30-120	2.43	30	
Fluorene	0.0205	0.00500	"	0.0333	ND	61.5	30-120	13.4	30	
Indeno (1,2,3-cd) pyrene	0.0223	0.00500	"	0.0333	ND	66.9	30-120	4.06	30	
Pyrene	0.0297	0.00500	"	0.0333	ND	89.1	35-142	6.88	30	
1-Methylnaphthalene	0.0230	0.00500	"	0.0333	ND	69.0	15-130	4.55	50	
2-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.5	15-130	3.94	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0232</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>69.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0172</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>51.5</i>	<i>40-150</i>			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

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 BGH1085 - EPA 3050B

Blank (BGH1085-BLK1)

Prepared: 08/28/23 Analyzed: 08/29/23

Boron ND 0.0100 mg/L

LCS (BGH1085-BS1)

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 5.12 0.0100 mg/L 5.00 102 80-120

Duplicate (BGH1085-DUP1)

Source: 2308446-03

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 0.136 0.0100 mg/L 0.126 7.59 20

Matrix Spike (BGH1085-MS1)

Source: 2308446-03

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 6.12 0.0100 mg/L 5.00 0.126 120 75-125

Matrix Spike Dup (BGH1085-MSD1)

Source: 2308446-03

Prepared: 08/28/23 Analyzed: 08/29/23

Boron 6.28 0.0100 mg/L 5.00 0.126 123 75-125 2.45 25

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGH1193 - 3060A Mod

Blank (BGH1193-BLK1)

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGH1193-BS1)

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent 23.7 0.30 mg/kg wet 25.0 94.8 80-120

Duplicate (BGH1193-DUP1)

Source: 2308212-06

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGH1193-MS1)

Source: 2308212-06

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent 30.1 0.30 mg/kg dry 29.8 ND 101 75-125

Matrix Spike Dup (BGH1193-MSD1)

Source: 2308212-06

Prepared & Analyzed: 08/29/23

Chromium, Hexavalent 28.9 0.30 mg/kg dry 29.8 ND 97.2 75-125 3.83 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

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 BGH1216 - General Preparation

Blank (BGH1216-BLK1)

Prepared: 08/30/23 Analyzed: 08/31/23

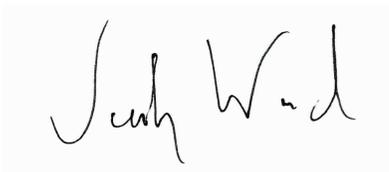
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BGH1216-BS1)

Prepared: 08/30/23 Analyzed: 08/31/23

Calcium	5.23	0.0500	mg/L wet	5.00	105	70-130				
Magnesium	5.65	0.0500	"	5.00	113	70-130				
Sodium	5.68	0.0500	"	5.00	114	70-130				

Summit Scientific



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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

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 BGH1098 - General Preparation

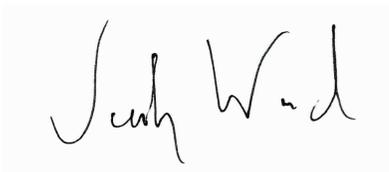
Duplicate (BGH1098-DUP1)

Source: 2308599-01

Prepared & Analyzed: 08/28/23

% Solids	81.9		%		81.1			0.987	20	
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Summit Scientific



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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

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 BGH1242 - General Preparation

Blank (BGH1242-BLK1)

Prepared & Analyzed: 08/31/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGH1242-BS1)

Prepared & Analyzed: 08/31/23

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

Duplicate (BGH1242-DUP1)

Source: 2308599-01

Prepared & Analyzed: 08/31/23

Specific Conductance (EC) 0.293 0.0100 mmhos/cm 0.293 0.00 20

Summit Scientific



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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Jepsen G21-25
 Project Number: UWRWE-A2797-ABN
 Project Manager: Paul Henchan

Reported:
 09/11/23 11:14

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

Summit Scientific

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

Batch BGH1243 - General Preparation

LCS (BGH1243-BS1)										
					Prepared & Analyzed: 08/31/23					
pH	9.11		pH Units	9.18	99.2	95-105				
Duplicate (BGH1243-DUP1)										
					Source: 2308599-01					
					Prepared & Analyzed: 08/31/23					
pH	8.10		pH Units	8.10	0.00	20				

Batch BGI0137 - General Preparation

LCS (BGI0137-BS1)										
					Prepared & Analyzed: 09/06/23					
pH	9.11		pH Units	9.18	99.2	95-105				
Duplicate (BGI0137-DUP1)										
					Source: 2308466-01					
					Prepared & Analyzed: 09/06/23					
pH	11.2		pH Units	11.2	0.179	20				

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Jepsen G21-25
Project Number: UWRWE-A2797-ABN
Project Manager: Paul Henchan

Reported:
09/11/23 11:14

Notes and Definitions

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