

# **FREMONT ENVIRONMENTAL INC.**

April 27, 2023

Mr. Daniel Peterson  
Noble Energy Inc.  
2115 117<sup>th</sup> Avenue  
Greeley, CO 80634

Subject:           **Flowline Closure Data Submittal**  
Oster 27-11G  
API # 05-123-16595  
NESW Sec. 27, T4N, R65W  
Weld County, Colorado  
Fremont Project No. C023-121  
Facility # 248793, Remediation #28262

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted Flowline Closure activities for the Noble Energy Inc. (Noble) Oster 27-11G. Impacted soil was not encountered during abandonment activities. Details of the Oster 27-11G flowline closure activities are documented in the attached Closure Report. Groundwater was not encountered during flowline abandonment activities.

Please contact me at (303) 956-8714 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,

**FREMONT ENVIRONMENTAL INC.**



Paul V. Henehan, P.E.  
Senior Consultant

Attachments:

- Facility Closure Checklist
- Tables
- Figures
- Photos
- Laboratory Reports

# Flowline Closure Checklist

## COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional Attachments:		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: <small>Oster-64N65W 27NESW Facility: 328900</small>		Date: <b>04/27/2023</b>			Remediation Project #: <b>28262</b>			
Associated Wells: <small>Oster 27-11G Facility ID: 248793 API: 05-123-16595</small>		Age of Site: <b>1993</b>			Number of Photos Attached: <b>3 Photos</b>			

Starting point: (GPS coordinates and descriptions) **40.281273, -104.651112**

End point: (GPS coordinates and descriptions) **40.281483, -104.649997**

USCS Soil Type: **SW and SC** Estimated Depth to Groundwater: **N/A**

Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)  
**None observed**

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)  
**None observed**

### Flowlines

Flowline type	2" Steel							
Depth	Roughly 3ft							
Age	1993							
Length	340ft							
Construction Material	BLK Non ACM							
Were flowlines pulled?	Yes							
Visual Integrity of lines	No Damage							
Visual impacts if trenched	N/A							
PID Readings if trenched	High @ 4.5ppm							
Sample taken? Location/Sample ID#	FL01 @5.0' FL03 @5.0'							
Photo Number(s)	Photo 1A-1C							

Other observations regarding on location flowlines:

### Summary

Was impacted soil identified?		<b>No</b>	Yes - less than 10 cubic yards	Yes - more than 10 cubic yards
Total number of samples field screened: <b>1 samples</b>		Total number of samples collected: <b>3 samples</b>		
Highest PID Reading: <b>High @ 4.5ppm (FL03@5.0')</b>		Total number of samples submitted to lab for analysis: <b>2 Samples</b>		
If more than 10 cubic yards of impacted soil were observed:				
Vertical extent: <b>N/A</b>		Estimated spill volume: <b>N/A</b>		
Lateral extent: <b>N/A</b>		Volume of soil removed: <b>N/A</b>		
Is additional investigation required? <b>N/A</b>				
Was groundwater encountered during the investigation?		<b>No</b>	Yes - not impacted or in contact with impacted soils	Yes - groundwater impacted and/or in contact with impacted soils
Measured depth to groundwater: <b>N/A</b>		Was remedial groundwater removal conducted? Yes No		
Date Groundwater was encountered: <b>N/A</b>		Commencement date of removal: <b>N/A</b>		
Sheen on groundwater? Yes No		Volume of groundwater removed prior to sampling: <b>N/A</b>		
Free product observed? Yes No		Volume of groundwater removed post sampling: <b>N/A</b>		
Total number of samples collected: <b>N/A</b>		Total Volume of groundwater removed: <b>N/A</b>		
Total number of samples submitted to lab for analysis: <b>N/A</b>				

**TABLE 1**  
**SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**OSTER 27-11G, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C023-121**

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**		
FL01@5.0'	4/27/2023	5.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL03@5.0'	4/27/2023	5.0 Ft	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<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

TABLE 2  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
OSTER 27-11G, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-121

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
FL01@5.0'	4/27/2023	5.0 Ft	<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
FL03@5.0'	4/27/2023	5.0 Ft	<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

Bold faced values exceed the COGCC Table 915-1 concentrations

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

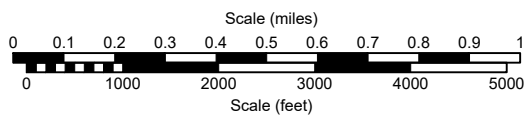
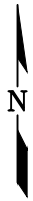
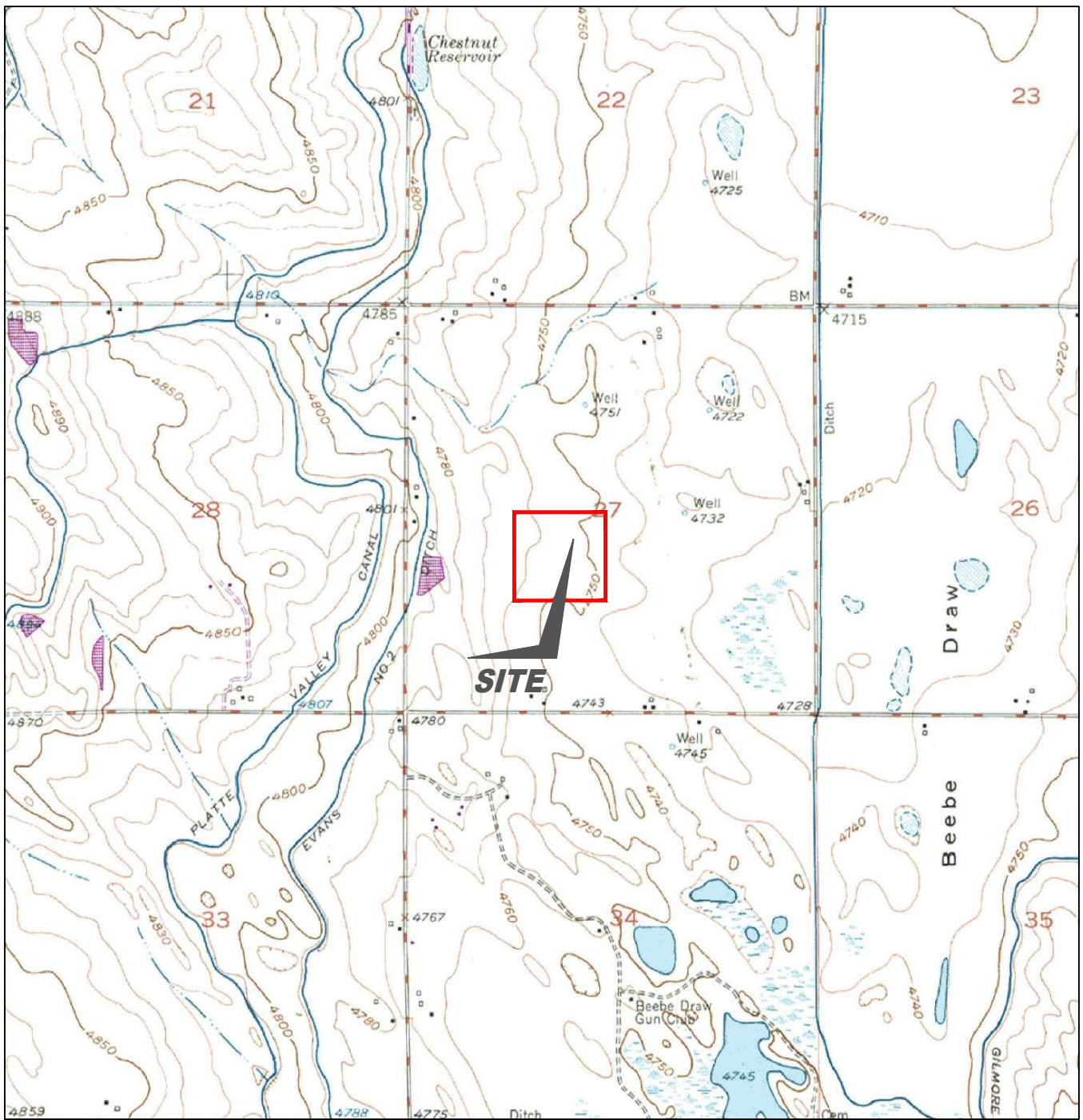
\* Indicates laboratory minimum detection limit in excess of SSL

**TABLE 3**  
**SUMMARY OF SOIL SUITABILITY FOR RECLAMATION**  
**NOBLE ENERGY INC.**  
**OSTER 27-11G, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C023-121**

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
FL01@5.0'	4/27/2023	5.0 Ft	7.43	0.162	0.380	0.241
FL03@5.0'	4/27/2023	5.0 Ft	7.54	0.187	0.165	0.236

Bold faced values exceed the COGCC Table 915-1 concentrations

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



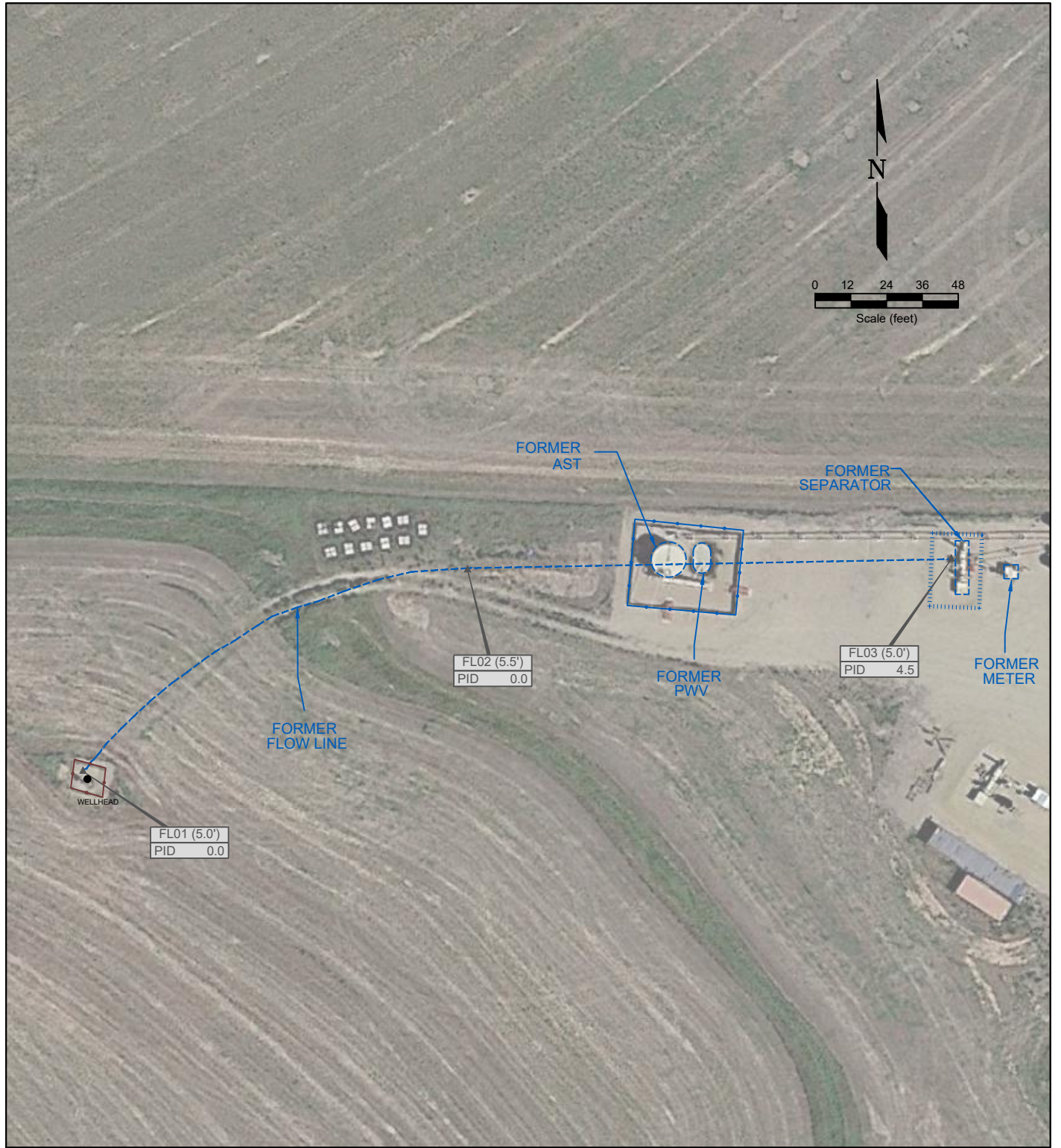
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
SITE LOCATION MAP

**NOBLE ENERGY INC - OSTER 27-11G**  
 NESW Sec. 27, T4N, R65W, 6th PM  
 Weld County, Colorado  
 40.281250°, -104.651092°

Project # <b>CO23-121</b>	API #	Facility # <b>248793</b>
Date <b>10/19/2023</b>	Remediation # <b>28262</b>	Filename <b>23121T</b>





**LEGEND**

- WELLHEAD LOCATION
- ▲ PID READING LOCATION
- ABOVE GROUND STORAGE TANK
- ◻ FORMER FACILITY
- FLOW LINE
- ▬ CONTAINMENT BERM
- ▬ FENCE LINE

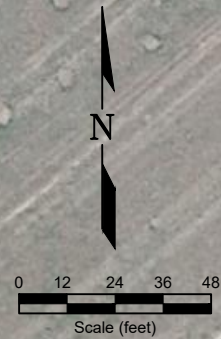
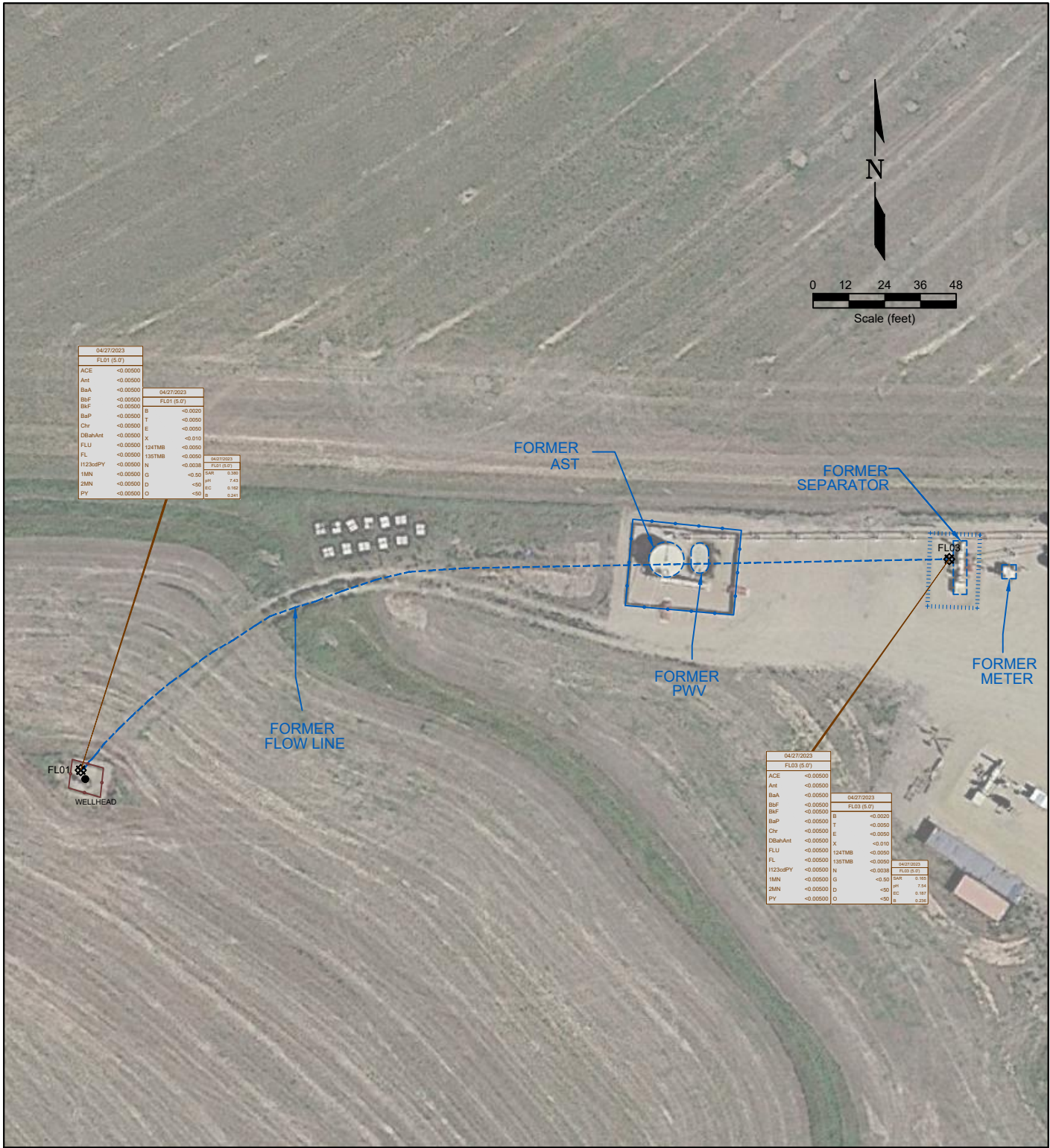
FL01	PID READING LOCATION IDENTIFICATION
PID 0.1	PHOTO IONIZATION DETECTION (ppm)

**Figure 2  
SITE MAP**

**NOBLE ENERGY INC - OSTER 27-11G**  
 NESW Sec. 27, T4N, R65W, 6th PM  
 Weld County, Colorado  
 40.281250°, -104.651092°

Project # <b>CO23-121</b>	API #	Facility # <b>248793</b>
Date <b>10/19/2023</b>	Remediation # <b>28262</b>	Filename <b>23121Q</b>





**LEGEND**

- WELLHEAD LOCATION
- ⊗ SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FLOW LINE
- CONTAINMENT BERM
- FENCE LINE

4/7/2023	DATE SAMPLED	4/7/2023	DATE SAMPLED	4/7/2023	DATE SAMPLED
FL01 (4')	SAMPLE ID and DEPTH (ft)	FL01 (4')	SAMPLE ID and DEPTH (ft)	FL01 (4')	SAMPLE ID & DEPTH (ft)
ACE	ACENAPHTHENE (mg/kg)	B	BENZENE (mg/kg)	SAR	SAR (units)
Ant	ANTHRACENE (mg/kg)	T	ETHYLBENZENE (mg/kg)	pH	pH (pH units)
BaA	BENZO (A) ANTHRACENE (mg/kg)	E	TOLUENE (mg/kg)	EC	EC (mmhos/cm)
BaF	BENZO (B) FLUORANTHENE (mg/kg)	X	TOTAL XYLENES (mg/kg)	B	BICROM (mg/kg)
BaP	BENZO (K) FLUORANTHENE (mg/kg)	<-0.010	1,2,4-TRIMETHYLBENZENE (mg/kg)	[NA]	NOT ANALYZED
Chr	BENZO (A) PYRENE (mg/kg)	124TMB	1,3,5-TRIMETHYLBENZENE (mg/kg)		
DBahAnt	DIBENZO (A,H) ANTHRACENE (mg/kg)	135TMB	NAPHTHALENE (mg/kg)		
FLU	FLUORANTHENE (mg/kg)	N	TPH-GRO (mg/kg)		
FL	FLUORENE (mg/kg)	G	TPH-DRO (mg/kg)		
I123cdPY	INDENO (1,2,3-CD) PYRENE (mg/kg)	D	TPH-CRO (mg/kg)		
1MN	1-METHYLNAPHTHALENE (mg/kg)	O			
2MN	2-METHYLNAPHTHALENE (mg/kg)				
PY	PYRENE (mg/kg)				

Figure 3  
**SOIL CHEMISTRY MAP**

**NOBLE ENERGY INC - OSTER 27-11G**  
 NESW Sec. 27, T4N, R65W, 6th PM  
 Weld County, Colorado  
 40.281250°, -104.651092°

Project # <b>CO23-121</b>	API #	Facility # <b>248793</b>	
Date <b>10/19/2023</b>	Remediation # <b>28262</b>	Filename <b>23121Q</b>	

# Photo Log



*Description:*

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# 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

May 09, 2023

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Oster 27-11G

Work Order #2304618

Enclosed are the results of analyses for samples received by Summit Scientific on 04/27/23 15:16. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01@5.0'	2304618-01	Soil	04/27/23 00:00	04/27/23 15:16
FL03@5.0'	2304618-02	Soil	04/27/23 00:00	04/27/23 15:16

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.*

# SUMMIT SCIENTIFIC

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

Lab ID	Page <u>1</u> of <u>1</u>
<b>2304618</b>	

Send Data To:		Send Invoice To:	
Client: <b>Fremont Env</b>	Project Manager: <b>Paul Henchar</b>	Company: <b>Noble</b>	
Address:	E-Mail: <b>Paulh@fremontenv.com</b>	Project Name/Location:	
City/State/Zip:	<b>jeffg@fremontenv.com Ethanh@fremontenv.com</b>	AFE#:	
Phone:	Project Name: <b>Oster 27-116</b>	PO/Billing Codes:	
Sampler Name: <b>J6</b>	Project Number:	Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil			BTEX+N	TMS (915)	DRO, ORP, GRO	PAHs (915)	EC, PH, SAR, BOD5	Metals (915)	
1	FL01@5.0'	4/27/23		2			X			X			X	X	X	X	X		
2	FL03@5.0'	4/27/23		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: 4/27/23 1515	Received by: <i>[Signature]</i>	Date/Time: 4/27/23 1516	TAT Business Days	Field DO	Notes:  <b>Bill to Noble</b>
				Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>21.2</u>	Corrected Temperature: <u>-</u>	IR gun #: <u>02</u>	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2304618

Client: Fremont Environmental Client Project ID: Oster 27-116

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

[x] [ ] [ ] [ ] [ ]

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

Temp (°C) 21.2

Thermometer # 02

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	[x]	[ ]	[ ]	
If custody seals are present, are they intact? <sup>(1)</sup>	[ ]	[ ]	[x]	
Are samples due within 48 hours present?	[ ]	[x]	[ ]	
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	[ ]	[ ]	[x]	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	[x]	[ ]	[ ]	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	[x]	[ ]	[ ]	
Were all samples received intact? <sup>(1)</sup>	[x]	[ ]	[ ]	
Was adequate sample volume provided? <sup>(1)</sup>	[x]	[ ]	[ ]	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	[x]	[ ]	[ ]	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	[x]	[ ]	[ ]	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	[ ]	[ ]	[x]	
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.	[ ]	[ ]	[x]	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	[ ]	[ ]	[x]	
If dissolved metals are requested, were samples field filtered?	[ ]	[ ]	[x]	

Additional Comments (if any):

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

JF

Custodian Printed Name

4/27/23 1516

Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**FL01@5.0'**  
**2304618-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0073	05/02/23	05/03/23	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: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0428	107 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0074	05/02/23	05/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	18.3	146 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**FL01@5.0'**  
**2304618-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0002	05/01/23	05/02/23	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: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0226	67.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.3 %	40-150		"	"	"	"	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.241</b>	0.0100	mg/L	1	BGE0091	05/03/23	05/08/23	EPA 6020B	

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

Date Sampled: **04/27/23 00:00**

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 - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**FL01@5.0'**  
**2304618-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	97.0	0.0539	mg/L dry	1	BGE0123	05/03/23	05/07/23	EPA 6020B	
Magnesium	15.6	0.0539	"	"	"	"	"	"	
Sodium	15.3	0.0539	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.380	0.00100	units	1	BGE0217	05/07/23	05/07/23	Calculation	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.7		%	1	BGE0070	05/02/23	05/02/23	Calculation	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.162	0.0100	mmhos/cm	1	BGE0155	05/04/23	05/04/23	EPA 120.1	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.43		pH Units	1	BGE0156	05/04/23	05/04/23	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**FL03@5.0'**  
**2304618-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0073	05/02/23	05/03/23	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: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0391	97.7 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0402	100 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0074	05/02/23	05/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	17.8	142 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**FL03@5.0'**  
**2304618-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0002	05/01/23	05/02/23	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: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0211	63.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0187	56.2 %	40-150		"	"	"	"	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.236</b>	0.0100	mg/L	1	BGE0091	05/03/23	05/08/23	EPA 6020B	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**FL03@5.0'**  
**2304618-02 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	22.1	0.0558	mg/L dry	1	BGE0123	05/03/23	05/07/23	EPA 6020B	
Magnesium	6.28	0.0558	"	"	"	"	"	"	
Sodium	3.41	0.0558	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.165	0.00100	units	1	BGE0217	05/07/23	05/07/23	Calculation	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BGE0070	05/02/23	05/02/23	Calculation	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.187	0.0100	mmhos/cm	1	BGE0155	05/04/23	05/04/23	EPA 120.1	

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

Date Sampled: **04/27/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.54		pH Units	1	BGE0156	05/04/23	05/04/23	EPA 9045D	

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Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

### 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 BGE0073 - EPA 5030 Soil MS

##### Blank (BGE0073-BLK1)

Prepared & Analyzed: 05/02/23

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>	0.0416		"	0.0400		104	50-150			
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0418		"	0.0400		104	50-150			

##### LCS (BGE0073-BS1)

Prepared & Analyzed: 05/02/23

Benzene	0.0836	0.0020	mg/kg	0.100		83.6	70-130			
Toluene	0.0944	0.0050	"	0.100		94.4	70-130			
Ethylbenzene	0.110	0.0050	"	0.100		110	70-130			
m,p-Xylene	0.219	0.010	"	0.200		109	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100		112	70-130			
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100		115	70-130			
Naphthalene	0.0916	0.0038	"	0.100		91.6	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0323		"	0.0400		80.8	50-150			
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		98.1	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0389		"	0.0400		97.3	50-150			

##### Matrix Spike (BGE0073-MS1)

Source: 2304612-01

Prepared & Analyzed: 05/02/23

Benzene	0.0825	0.0020	mg/kg	0.100	ND	82.5	70-130			
Toluene	0.0935	0.0050	"	0.100	ND	93.5	70-130			
Ethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130			
m,p-Xylene	0.213	0.010	"	0.200	ND	107	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130			
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130			
Naphthalene	0.0900	0.0038	"	0.100	ND	90.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0360		"	0.0400		89.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0405		"	0.0400		101	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0398		"	0.0400		99.5	50-150			

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Project: Noble - Oster 27-11G

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 05/09/23 10:49

**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 BGE0073 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGE0073-MSD1)</b>	<b>Source: 2304612-01</b>			<b>Prepared &amp; Analyzed: 05/02/23</b>						
Benzene	0.0812	0.0020	mg/kg	0.100	ND	81.2	70-130	1.58	30	
Toluene	0.0914	0.0050	"	0.100	ND	91.4	70-130	2.24	30	
Ethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130	0.941	30	
m,p-Xylene	0.217	0.010	"	0.200	ND	109	70-130	1.74	30	
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130	0.592	30	
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130	0.187	30	
1,3,5-Trimethylbenzene	0.114	0.0050	"	0.100	ND	114	70-130	0.445	30	
Naphthalene	0.0931	0.0038	"	0.100	ND	93.1	70-130	3.38	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0337</i>		<i>"</i>	<i>0.0400</i>		<i>84.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.0</i>	<i>50-150</i>			

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Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

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

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

**Batch BGE0074 - EPA 3550A**

**Blank (BGE0074-BLK1)**

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.4		"	12.5		115		30-150			

**LCS (BGE0074-BS1)**

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	636	50	mg/kg	500		127		70-130			
Surrogate: <i>o</i> -Terphenyl	17.1		"	12.5		137		30-150			

**Matrix Spike (BGE0074-MS1)**

Source: 2304612-01

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	554	50	mg/kg	500	32.7	104		70-130			
Surrogate: <i>o</i> -Terphenyl	12.0		"	12.5		96.1		30-150			

**Matrix Spike Dup (BGE0074-MSD1)**

Source: 2304612-01

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	502	50	mg/kg	500	32.7	93.8		70-130	9.93	20	
Surrogate: <i>o</i> -Terphenyl	12.9		"	12.5		103		30-150			

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Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

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

**Summit Scientific**

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

**Batch BGE0002 - EPA 5030 Soil MS**

**Blank (BGE0002-BLK1)**

Prepared & Analyzed: 05/01/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0298		"	0.0333		89.3	40-150			
Surrogate: Fluoranthene-d10	0.0246		"	0.0333		73.7	40-150			

**LCS (BGE0002-BS1)**

Prepared & Analyzed: 05/01/23

Acenaphthene	0.0290	0.00500	mg/kg	0.0333		87.1	31-137			
Anthracene	0.0286	0.00500	"	0.0333		85.9	30-120			
Benzo (a) anthracene	0.0277	0.00500	"	0.0333		83.1	30-120			
Benzo (a) pyrene	0.0276	0.00500	"	0.0333		82.7	30-120			
Benzo (b) fluoranthene	0.0293	0.00500	"	0.0333		87.8	30-120			
Benzo (k) fluoranthene	0.0298	0.00500	"	0.0333		89.5	30-120			
Chrysene	0.0267	0.00500	"	0.0333		80.1	30-120			
Dibenz (a,h) anthracene	0.0268	0.00500	"	0.0333		80.3	30-120			
Fluoranthene	0.0278	0.00500	"	0.0333		83.3	30-120			
Fluorene	0.0277	0.00500	"	0.0333		83.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333		50.9	30-120			
Pyrene	0.0281	0.00500	"	0.0333		84.4	35-142			
1-Methylnaphthalene	0.0262	0.00500	"	0.0333		78.5	35-142			
2-Methylnaphthalene	0.0277	0.00500	"	0.0333		83.0	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0290		"	0.0333		86.9	40-150			
Surrogate: Fluoranthene-d10	0.0309		"	0.0333		92.7	40-150			

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Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

**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 BGE0002 - EPA 5030 Soil MS**

<b>Matrix Spike (BGE0002-MS1)</b>	<b>Source: 2304590-01</b>			<b>Prepared &amp; Analyzed: 05/01/23</b>							
Acenaphthene	0.132	0.00500	mg/kg	0.0333	0.175	NR	31-137				QM-01
Anthracene	0.188	0.00500	"	0.0333	0.232	NR	30-120				QM-01
Benzo (a) anthracene	0.263	0.00500	"	0.0333	0.326	NR	30-120				QM-01
Benzo (a) pyrene	0.173	0.00500	"	0.0333	0.213	NR	30-120				QM-01
Benzo (b) fluoranthene	0.236	0.00500	"	0.0333	0.302	NR	30-120				QM-01
Benzo (k) fluoranthene	0.110	0.00500	"	0.0333	0.129	NR	30-120				QM-01
Chrysene	0.299	0.00500	"	0.0333	0.373	NR	30-120				QM-01
Dibenz (a,h) anthracene	0.0327	0.00500	"	0.0333	0.0273	16.0	30-120				QM-01
Fluoranthene	0.518	0.00500	"	0.0333	0.599	NR	30-120				QM-01
Fluorene	0.130	0.00500	"	0.0333	0.156	NR	30-120				QM-01
Indeno (1,2,3-cd) pyrene	0.118	0.00500	"	0.0333	0.124	NR	30-120				QM-01
Pyrene	0.441	0.00500	"	0.0333	0.554	NR	35-142				QM-01
1-Methylnaphthalene	0.0299	0.00500	"	0.0333	0.0182	34.9	15-130				
2-Methylnaphthalene	0.0448	0.00500	"	0.0333	0.0429	5.68	15-130				QM-01
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0175</i>		<i>"</i>	<i>0.0333</i>		<i>52.6</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0145</i>		<i>"</i>	<i>0.0333</i>		<i>43.6</i>	<i>40-150</i>				

<b>Matrix Spike Dup (BGE0002-MSD1)</b>	<b>Source: 2304590-01</b>			<b>Prepared &amp; Analyzed: 05/01/23</b>							
Acenaphthene	0.163	0.00500	mg/kg	0.0333	0.175	NR	31-137	20.7	30		QM-01
Anthracene	0.224	0.00500	"	0.0333	0.232	NR	30-120	17.3	30		QM-01
Benzo (a) anthracene	0.431	0.00500	"	0.0333	0.326	314	30-120	48.2	30		QM-01
Benzo (a) pyrene	0.291	0.00500	"	0.0333	0.213	233	30-120	50.9	30		QM-01
Benzo (b) fluoranthene	0.413	0.00500	"	0.0333	0.302	331	30-120	54.6	30		QM-01
Benzo (k) fluoranthene	0.187	0.00500	"	0.0333	0.129	173	30-120	51.7	30		QM-01
Chrysene	0.483	0.00500	"	0.0333	0.373	329	30-120	47.1	30		QM-01
Dibenz (a,h) anthracene	0.0440	0.00500	"	0.0333	0.0273	49.9	30-120	29.5	30		QM-01
Fluoranthene	0.784	0.00500	"	0.0333	0.599	554	30-120	40.9	30		QM-01
Fluorene	0.153	0.00500	"	0.0333	0.156	NR	30-120	16.6	30		QM-01
Indeno (1,2,3-cd) pyrene	0.166	0.00500	"	0.0333	0.124	124	30-120	33.3	30		QM-01
Pyrene	0.690	0.00500	"	0.0333	0.554	409	35-142	43.9	30		QM-01
1-Methylnaphthalene	0.0330	0.00500	"	0.0333	0.0182	44.3	15-130	9.98	50		
2-Methylnaphthalene	0.0512	0.00500	"	0.0333	0.0429	25.0	15-130	13.4	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0175</i>		<i>"</i>	<i>0.0333</i>		<i>52.6</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0148</i>		<i>"</i>	<i>0.0333</i>		<i>44.3</i>	<i>40-150</i>				

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 05/09/23 10:49

**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 BGE0091 - EPA 3050B**

**Blank (BGE0091-BLK1)**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron ND 0.0100 mg/L

**LCS (BGE0091-BS1)**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 5.43 0.0100 mg/L 5.00 109 80-120

**Duplicate (BGE0091-DUP1)**

**Source: 2304616-01**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 0.278 0.0100 mg/L 0.284 2.40 20

**Matrix Spike (BGE0091-MS1)**

**Source: 2304616-01**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 5.40 0.0100 mg/L 5.00 0.284 102 75-125

**Matrix Spike Dup (BGE0091-MSD1)**

**Source: 2304616-01**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 5.71 0.0100 mg/L 5.00 0.284 109 75-125 5.58 25

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 05/09/23 10:49

**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 BGE0123 - General Preparation**

**Blank (BGE0123-BLK1)**

Prepared: 05/03/23 Analyzed: 05/07/23

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

**LCS (BGE0123-BS1)**

Prepared: 05/03/23 Analyzed: 05/07/23

Calcium	4.11	0.0500	mg/L wet	5.00		82.3	70-130			
Magnesium	4.89	0.0500	"	5.00		97.8	70-130			
Sodium	4.95	0.0500	"	5.00		98.9	70-130			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 05/09/23 10:49

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

**Summit Scientific**

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

**Batch BGE0070 - General Preparation**

**Duplicate (BGE0070-DUP1)**

**Source: 2304593-03**

Prepared & Analyzed: 05/02/23

% Solids	92.1		%		90.8			1.38	20	
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Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 05/09/23 10:49

**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 BGE0155 - General Preparation**

**Blank (BGE0155-BLK1)**

Prepared & Analyzed: 05/04/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGE0155-BS1)**

Prepared & Analyzed: 05/04/23

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

**Duplicate (BGE0155-DUP1)**

Source: 2304610-01

Prepared & Analyzed: 05/04/23

Specific Conductance (EC) 1.75 0.0100 mmhos/cm 1.77 1.14 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 05/09/23 10:49

**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 BGE0156 - General Preparation**

**LCS (BGE0156-BS1)**

Prepared & Analyzed: 05/04/23

pH 9.19 pH Units 9.18 100 95-105

**Duplicate (BGE0156-DUP1)**

Source: 2304610-01

Prepared & Analyzed: 05/04/23

pH 8.03 pH Units 8.02 0.125 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Oster 27-11G

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
05/09/23 10:49

### Notes and Definitions

- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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