

FREMONT ENVIRONMENTAL INC.

February 23, 2023

Mr. Daniel Peterson
Noble Energy Inc.
2115 117th Avenue
Greeley, CO 80634

Subject: **Facility Closure Data Submittal**
Farr T4N-R64-WS18
NESW Sec. 18, T4N, R64W
Weld County, Colorado
Fremont Project No. C022-201
Facility # 428511, Remediation # 24172

Dear Mr. Peterson:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted flowline abandonment activities for the Noble Energy Inc. (Noble) Farr T4N-R64-WS18 facility location. Details of the Farr facility abandonment are documented in the attached Closure Report. Soil impacts were observed within the produced water vault excavation. Groundwater was not encountered.

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

Tank Battery Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number:		Date:						Remediation Project #:
Associated Wells:		Age of Site:						Number of Photos Attached:
Location: (GPS coordinates of southeaster berm)								Estimated Facility Size (acres):
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
USCS Soil Type:					Estimated Depth to Groundwater:			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
Tanks								
Tank Contents								
Size (barrels)								
Age								
Construction Material								
Tank type (AST/DRU, etc.)								
Visual Integrity of Tank								
Condition of tank footprint								
PID Readings								
Soil impacts present at valves or hatches?								
PID Readings								
Sample taken? Location/ Sample ID#								
Photo Number(s)								
Other observations regarding tanks:								
Separators								
Separator size								
Vertical or Horizontal								
Age								
Soil impacts observed? If yes,								
PID Readings								
Sample taken? Location/ Sample ID#								
Photo Number(s)								
Other observations regarding separators								
Third Party Equipment								
Type								
Age								

Third Party																	
Removal Date																	
Sample taken?																	
PID Readings																	
Photo Number(s)																	
Other Facility Equipment																	
Equipment type																	
Equipment Condition																	
Age																	
Soil impacts observed during																	
PID Readings																	
Sample taken?																	
Photo Number(s)																	
Other observations regarding other facility or third party equipment:																	
Summary																	
Was impacted soil identified?																	
No		Yes - less than 10 cubic yards			Yes - more than 10 cubic yards												
Total number of samples field screened:					Total number of samples collected:												
Highest PID Reading:					Total number of samples submitted to lab for analysis:												
If more than 10 cubic yards of impacted soil were observed:																	
Vertical extent:					Estimated spill volume:												
Lateral extent:					Volume of soil removed:												
Is additional investigation required?																	
Was groundwater encountered during the investigation?																	
No		Yes - not impacted or in contact with impacted soils			Yes - groundwater impacted and/or in contact with impacted soils												
Measured depth to groundwater:					Was remedial groundwater removal conducted? Yes No												
Date Groundwater was encountered:					Commencement date of removal:												
Sheen on groundwater?		Yes No			Volume of groundwater removed prior to sampling:												
Free product observed?		Yes No			Volume of groundwater removed post sampling:												
Total number of samples collected:					Total Volume of groundwater removed:												
Total number of samples submitted to lab for analysis:																	

Buried or Partially Buried Vessel Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Tank Battery Closure
Site Name & COGCC Facility Number:		Date:						Remediation Project #:
Associated Wells:		Age of Site:						Number of Photos Attached:
Location: (GPS coordinates of vault or southeastern tank berm for multiple)								Estimated Facility Size (acres):
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)								
USCS Soil Type:					Estimated Depth to Groundwater:			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)								
Buried or Partially Buried Vessels								
Tank Contents								
Size (barrels)								
Age								
Construction Material								
Visual Integrity of Tank								
Condition of tank Foundation								
PID Readings								
Condition of Access Line								
PID Readings								
Sample taken? Location/Sample ID#								
Photo Number(s)								
Other observations regarding partially buried vessels:								
Summary								
Was impacted soil identified? <div style="display: flex; justify-content: space-between;"> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards </div>								
Total number of samples field screened:					Total number of samples collected:			
Highest PID Reading:					Total number of samples submitted to lab for analysis:			
If more than 10 cubic yards of impacted soil were observed:								
Vertical extent:					Estimated spill volume:			
Lateral extent:					Volume of soil removed:			
Is additional investigation required?								
Was groundwater encountered during the investigation? <div style="display: flex; justify-content: space-between;"> No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils </div>								
Measured depth to groundwater:					Was remedial groundwater removal conducted? Yes No			
Date Groundwater was encountered:					Commencement date of removal:			
Sheen on groundwater? Yes No					Volume of groundwater removed prior to sampling:			
Free product observed? Yes No					Volume of groundwater removed post sampling:			
Total number of samples collected:					Total Volume of groundwater removed:			
Total number of samples submitted to lab for analysis:								

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY, INC.
FARR T4N-R64-WS18, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C022-201

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 Cen. Surf	12/08/2022	Surface	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
PWV Floor 4ft	12/08/2022	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	56	<50
SEP01 Surf	12/08/2022	Surface	<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)

* 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.
FARR T4N-R64-WS18, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C022-201

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 Cen. Surf	12/08/2022	Surface	0.00551	<0.00500	0.0798	0.156	0.222	0.0905	0.111	<0.00500	0.146	<0.00500	0.18	0.134	<0.00500	<0.00500
PWV Floor 4ft	12/08/2022	4	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0304	<0.00500	<0.00500	0.237	0.612
SEP01 Surf	12/08/2022	Surface	<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)

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY, INC.
FARR T4N-R64-WS18, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C022-201

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 Cen. Surf	12/08/2022	Surface	8.37	0.149	0.138	0.387
PWV Floor 4ft	12/08/2022	4	8.14	0.662	1.68	1.93
SEP01 Surf	12/08/2022	Surface	7.65	0.554	1.06	1.13

Bold faced values exceed the COGCC Table 915-1 concentrations

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

Photo Log



Description:

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Photo Log



Description:

--

Photo Log



Description:

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Photo Log



Description:

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Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 20, 2022

Paul Henchan
Fremont Environmental
PO Box 1289
Wellington, CO 80549

RE: Noble - Farr C18-25

Work Order #2212233

Enclosed are the results of analyses for samples received by Summit Scientific on 12/12/22 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely".

Scott Sheely For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henehan

Reported:
12/20/22 13:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01 2ft	2212233-01	Soil	12/08/22 00:00	12/12/22 16:30
PWV Floor 4ft	2212233-02	Soil	12/08/22 00:00	12/12/22 16:30
AST01 Cen. Surf	2212233-03	Soil	12/08/22 00:00	12/12/22 16:30
SEP01 Surf	2212233-04	Soil	12/08/22 00:00	12/12/22 16:30

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

S₂

2212233

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page

1 of 1

Client: Fremont Environmental

Project Manager: Paul Henehan

Address:

E-Mail: Fremont Distribution List: PaulH, EthanB, JeffG and ChrisL. @fremontenv.com

City/State/Zip:

Bill to: Dan

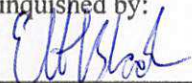

Phone:

Project Name: Noble - Farr C18-25

Sampler Name: EB

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, pH, Boron	Metals (915)	TDS, Chloride, Sulfate	HOLD				
1	FL 01 ZFT	12/8/22		2						X				X	X	X	X						
2	PWV Floor Lift	I		I						I				I	I	I	I						
3	AST 01 GEN. SURF	I		I						I				I	I	I	I						
4	SEPO1 SURF	I		I						I				I	I	I	I						
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by: 	Date/Time: 12/12/22 1630	Received by: S2	Date/Time: 12/12/22 1630	Turn Around Time (Check) Same Day — 72 hours 24 hours — Standard <input checked="" type="checkbox"/> 48 hours — Sample Integrity: Temperature Upon Receipt: 7.0 Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: S2	Date/Time: 12/22/22 1630	Received by: 	Date/Time: 12/22/22 1630		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order# 2212233Client: Noble / Fremont Client Project ID: Farr C18-25Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☐ ☒ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 7.0Thermometer # 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>On ice.</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , 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? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ 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):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Jack Brewer

Custodian Printed Name

12/12/22

Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henehan

Reported:
12/20/22 13:56

FL01 2ft
2212233-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFL0346	12/14/22	12/15/22	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: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0371	92.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0349	12/14/22	12/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.1	112 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

FL01 2ft
2212233-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0345	12/14/22	12/14/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0170	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0118	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0178	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00704	0.00500	"	"	"	"	"	"	
Chrysene	0.0179	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0333	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00898	0.00500	"	"	"	"	"	"	
Pyrene	0.0299	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0315	94.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0347	104 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.999	0.0100	mg/L	1	BFL0338	12/13/22	12/14/22	EPA 6020B	

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

Date Sampled: **12/08/22 00:00**

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 - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

FL01 2ft
2212233-01 (Soil)

Summit Scientific

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

Calcium	43.4	0.0551	mg/L dry	1	BFL0443	12/17/22	12/18/22	EPA 6020B
Magnesium	19.0	0.0551	"	"	"	"	"	"
Sodium	23.9	0.0551	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.761	0.00100	units	1	BFL0474	12/19/22	12/19/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.7		%	1	BFL0432	12/16/22	12/16/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.575	0.0100	mmhos/cm	1	BFL0448	12/17/22	12/18/22	EPA 120.1	

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

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07		pH Units	1	BFL0447	12/17/22	12/17/22	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

**PWV Floor 4ft
2212233-02 (Soil)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFL0346	12/14/22	12/15/22	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: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0386	96.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0444	111 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	56	50	mg/kg	1	BFL0349	12/14/22	12/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.2	122 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

**PWV Floor 4ft
2212233-02 (Soil)**

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0345	12/14/22	12/14/22	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	0.0304	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.237	0.00500	"	"	"	"	"	"	E
2-Methylnaphthalene	0.612	0.00500	"	"	"	"	"	"	E

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0428	128 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.93	0.0100	mg/L	1	BFL0338	12/13/22	12/14/22	EPA 6020B	

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

Date Sampled: **12/08/22 00:00**

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 - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

**PWV Floor 4ft
2212233-02 (Soil)**

Summit Scientific

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

Calcium	145	0.0558	mg/L dry	1	BFL0443	12/17/22	12/18/22	EPA 6020B
Magnesium	34.9	0.0558	"	"	"	"	"	"
Sodium	86.7	0.0558	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.68	0.00100	units	1	BFL0474	12/19/22	12/19/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BFL0432	12/16/22	12/16/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.662	0.0100	mmhos/cm	1	BFL0448	12/17/22	12/18/22	EPA 120.1	

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

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BFL0447	12/17/22	12/17/22	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

AST01 Cen. Surf
2212233-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFL0346	12/14/22	12/15/22	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: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0385	96.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0349	12/14/22	12/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.6	101 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

AST01 Cen. Surf
2212233-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.00551	0.00500	mg/kg	1	BFL0345	12/14/22	12/14/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0798	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.156	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.222	0.00500	"	"	"	"	"	"	E
Benzo (k) fluoranthene	0.0905	0.00500	"	"	"	"	"	"	
Chrysene	0.111	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.146	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.180	0.00500	"	"	"	"	"	"	
Pyrene	0.134	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0239	71.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0266	79.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.387	0.0100	mg/L	1	BFL0338	12/13/22	12/14/22	EPA 6020B	

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

Date Sampled: **12/08/22 00:00**

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 - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

AST01 Cen. Surf
2212233-03 (Soil)

Summit Scientific

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

Calcium	39.4	0.0558	mg/L dry	1	BFL0443	12/17/22	12/18/22	EPA 6020B
Magnesium	7.43	0.0558	"	"	"	"	"	"
Sodium	3.59	0.0558	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.138	0.00100	units	1	BFL0474	12/19/22	12/19/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BFL0432	12/16/22	12/16/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.149	0.0100	mmhos/cm	1	BFL0448	12/17/22	12/18/22	EPA 120.1	

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

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.37		pH Units	1	BFL0447	12/17/22	12/17/22	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

SEP01 Surf
2212233-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFL0346	12/14/22	12/15/22	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: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0379	94.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0411	103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0349	12/14/22	12/15/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.7	85.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

SEP01 Surf
2212233-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0345	12/14/22	12/14/22	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: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0258	77.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0359	108 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.13	0.0100	mg/L	1	BFL0338	12/13/22	12/14/22	EPA 6020B	

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

Date Sampled: **12/08/22 00:00**

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 - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

SEP01 Surf
2212233-04 (Soil)

Summit Scientific

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

Calcium	45.2	0.0522	mg/L dry	1	BFL0443	12/17/22	12/18/22	EPA 6020B
Magnesium	10.4	0.0522	"	"	"	"	"	"
Sodium	30.4	0.0522	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.06	0.00100	units	1	BFL0474	12/19/22	12/19/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.7		%	1	BFL0432	12/16/22	12/16/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.554	0.0100	mmhos/cm	1	BFL0448	12/17/22	12/18/22	EPA 120.1	

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

Date Sampled: **12/08/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.65		pH Units	1	BFL0447	12/17/22	12/17/22	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFL0346 - EPA 5030 Soil MS

Blank (BFL0346-BLK1)

Prepared & Analyzed: 12/14/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0400		95.6	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

LCS (BFL0346-BS1)

Prepared & Analyzed: 12/14/22

Benzene	0.124	0.0020	mg/kg	0.125		99.3	70-130			
Toluene	0.141	0.0050	"	0.125		113	70-130			
Ethylbenzene	0.162	0.0050	"	0.125		130	70-130			
m,p-Xylene	0.314	0.010	"	0.250		126	70-130			
o-Xylene	0.146	0.0050	"	0.125		117	70-130			
1,2,4-Trimethylbenzene	0.153	0.0050	"	0.125		123	70-130			
1,3,5-Trimethylbenzene	0.163	0.0050	"	0.125		130	70-130			
Naphthalene	0.115	0.0038	"	0.125		91.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0357		"	0.0400		89.2	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.8	50-150			

Matrix Spike (BFL0346-MS1)

Source: 2212212-01

Prepared & Analyzed: 12/14/22

Benzene	0.124	0.0020	mg/kg	0.125	ND	99.0	70-130			
Toluene	0.143	0.0050	"	0.125	ND	114	70-130			
Ethylbenzene	0.162	0.0050	"	0.125	ND	130	70-130			
m,p-Xylene	0.318	0.010	"	0.250	ND	127	70-130			
o-Xylene	0.147	0.0050	"	0.125	ND	117	70-130			
1,2,4-Trimethylbenzene	0.160	0.0050	"	0.125	ND	128	70-130			
1,3,5-Trimethylbenzene	0.156	0.0050	"	0.125	ND	124	70-130			
Naphthalene	0.149	0.0038	"	0.125	ND	119	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0391		"	0.0400		97.6	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	50-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFL0346 - EPA 5030 Soil MS

Matrix Spike Dup (BFL0346-MSD1)	Source: 2212212-01			Prepared & Analyzed: 12/14/22						
Benzene	0.120	0.0020	mg/kg	0.125	ND	96.0	70-130	3.08	30	
Toluene	0.140	0.0050	"	0.125	ND	112	70-130	2.15	30	
Ethylbenzene	0.154	0.0050	"	0.125	ND	123	70-130	4.86	30	
m,p-Xylene	0.304	0.010	"	0.250	ND	122	70-130	4.58	30	
o-Xylene	0.143	0.0050	"	0.125	ND	115	70-130	2.38	30	
1,2,4-Trimethylbenzene	0.152	0.0050	"	0.125	ND	122	70-130	4.68	30	
1,3,5-Trimethylbenzene	0.156	0.0050	"	0.125	ND	125	70-130	0.289	30	
Naphthalene	0.144	0.0038	"	0.125	ND	115	70-130	3.99	30	
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.6	50-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFL0349 - EPA 3550A

Blank (BFL0349-BLK1)

Prepared & Analyzed: 12/14/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

Surrogate: o-Terphenyl	17.4		"	12.5	139	30-150
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LCS (BFL0349-BS1)

Prepared & Analyzed: 12/14/22

C10-C28 (DRO)	501	50	mg/kg	500	100	70-130
Surrogate: o-Terphenyl	16.2		"	12.5	130	30-150

Matrix Spike (BFL0349-MS1)

Source: 2212212-01

Prepared & Analyzed: 12/14/22

C10-C28 (DRO)	479	50	mg/kg	500	15.2	92.7	70-130
Surrogate: o-Terphenyl	9.76		"	12.5	78.0	30-150	

Matrix Spike Dup (BFL0349-MSD1)

Source: 2212212-01

Prepared & Analyzed: 12/14/22

C10-C28 (DRO)	452	50	mg/kg	500	15.2	87.3	70-130	5.89	20
Surrogate: o-Terphenyl	8.40		"	12.5	67.2	30-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFL0345 - EPA 5030 Soil MS

Blank (BFL0345-BLK1)

Prepared & Analyzed: 12/14/22

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	0.0254		"	0.0333		76.2	40-150			
Surrogate: Fluoranthene-d10	0.0304		"	0.0333		91.1	40-150			

LCS (BFL0345-BS1)

Prepared & Analyzed: 12/14/22

Acenaphthene	0.0385	0.00500	mg/kg	0.0333	116	31-137
Anthracene	0.0385	0.00500	"	0.0333	115	30-120
Benzo (a) anthracene	0.0393	0.00500	"	0.0333	118	30-120
Benzo (a) pyrene	0.0380	0.00500	"	0.0333	114	30-120
Benzo (b) fluoranthene	0.0382	0.00500	"	0.0333	115	30-120
Benzo (k) fluoranthene	0.0380	0.00500	"	0.0333	114	30-120
Chrysene	0.0372	0.00500	"	0.0333	112	30-120
Dibenz (a,h) anthracene	0.0354	0.00500	"	0.0333	106	30-120
Fluoranthene	0.0397	0.00500	"	0.0333	119	30-120
Fluorene	0.0386	0.00500	"	0.0333	116	30-120
Indeno (1,2,3-cd) pyrene	0.0368	0.00500	"	0.0333	110	30-120
Pyrene	0.0325	0.00500	"	0.0333	97.5	35-142
1-Methylnaphthalene	0.0364	0.00500	"	0.0333	109	35-142
2-Methylnaphthalene	0.0350	0.00500	"	0.0333	105	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0351		"	0.0333	105	40-150
Surrogate: Fluoranthene-d10	0.0373		"	0.0333	112	40-150

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFL0345 - EPA 5030 Soil MS

Matrix Spike (BFL0345-MS1)

Source: 2212230-01

Prepared & Analyzed: 12/14/22

Acenaphthene	0.0251	0.00500	mg/kg	0.0333	ND	75.2	31-137		
Anthracene	0.0275	0.00500	"	0.0333	ND	82.5	30-120		
Benzo (a) anthracene	0.0263	0.00500	"	0.0333	ND	79.0	30-120		
Benzo (a) pyrene	0.0226	0.00500	"	0.0333	ND	67.8	30-120		
Benzo (b) fluoranthene	0.0278	0.00500	"	0.0333	ND	83.5	30-120		
Benzo (k) fluoranthene	0.0237	0.00500	"	0.0333	ND	71.2	30-120		
Chrysene	0.0347	0.00500	"	0.0333	0.000319	103	30-120		
Dibenz (a,h) anthracene	0.0211	0.00500	"	0.0333	ND	63.4	30-120		
Fluoranthene	0.0291	0.00500	"	0.0333	ND	87.4	30-120		
Fluorene	0.0257	0.00500	"	0.0333	ND	77.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0247	0.00500	"	0.0333	ND	74.2	30-120		
Pyrene	0.0312	0.00500	"	0.0333	ND	93.5	35-142		
1-Methylnaphthalene	0.0296	0.00500	"	0.0333	ND	88.8	15-130		
2-Methylnaphthalene	0.0267	0.00500	"	0.0333	ND	80.2	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0267		"	0.0333		80.0	40-150		
Surrogate: Fluoranthene-d10	0.0281		"	0.0333		84.3	40-150		

Matrix Spike Dup (BFL0345-MSD1)

Source: 2212230-01

Prepared & Analyzed: 12/14/22

Acenaphthene	0.0310	0.00500	mg/kg	0.0333	ND	93.0	31-137	21.1	30
Anthracene	0.0313	0.00500	"	0.0333	ND	94.0	30-120	13.0	30
Benzo (a) anthracene	0.0328	0.00500	"	0.0333	ND	98.5	30-120	21.9	30
Benzo (a) pyrene	0.0277	0.00500	"	0.0333	ND	83.0	30-120	20.2	30
Benzo (b) fluoranthene	0.0293	0.00500	"	0.0333	ND	87.8	30-120	5.05	30
Benzo (k) fluoranthene	0.0283	0.00500	"	0.0333	ND	84.8	30-120	17.4	30
Chrysene	0.0314	0.00500	"	0.0333	0.000319	93.1	30-120	10.0	30
Dibenz (a,h) anthracene	0.0268	0.00500	"	0.0333	ND	80.5	30-120	23.9	30
Fluoranthene	0.0335	0.00500	"	0.0333	ND	100	30-120	14.0	30
Fluorene	0.0315	0.00500	"	0.0333	ND	94.6	30-120	20.3	30
Indeno (1,2,3-cd) pyrene	0.0289	0.00500	"	0.0333	ND	86.7	30-120	15.6	30
Pyrene	0.0314	0.00500	"	0.0333	ND	94.3	35-142	0.871	30
1-Methylnaphthalene	0.0316	0.00500	"	0.0333	ND	94.7	15-130	6.46	50
2-Methylnaphthalene	0.0259	0.00500	"	0.0333	ND	77.7	15-130	3.17	50
Surrogate: 2-Methylnaphthalene-d10	0.0300		"	0.0333		90.0	40-150		
Surrogate: Fluoranthene-d10	0.0353		"	0.0333		106	40-150		

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

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

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

Batch BFL0338 - EPA 3050B

Blank (BFL0338-BLK1)

Prepared: 12/13/22 Analyzed: 12/14/22

Boron ND 0.0100 mg/L

LCS (BFL0338-BS1)

Prepared: 12/13/22 Analyzed: 12/14/22

Boron 5.38 0.0100 mg/L 5.00 108 80-120

Duplicate (BFL0338-DUP1)

Source: 2212212-01

Prepared: 12/13/22 Analyzed: 12/14/22

Boron 0.318 0.0100 mg/L 0.286 10.6 20

Matrix Spike (BFL0338-MS1)

Source: 2212212-01

Prepared: 12/13/22 Analyzed: 12/14/22

Boron 5.28 0.0100 mg/L 5.00 0.286 99.8 75-125

Matrix Spike Dup (BFL0338-MSD1)

Source: 2212212-01

Prepared: 12/13/22 Analyzed: 12/14/22

Boron 5.52 0.0100 mg/L 5.00 0.286 105 75-125 4.53 25

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

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

Summit Scientific

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

Batch BFL0443 - General Preparation

Blank (BFL0443-BLK1)

Prepared: 12/17/22 Analyzed: 12/18/22

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

LCS (BFL0443-BS1)

Prepared: 12/17/22 Analyzed: 12/18/22

Calcium	4.89	0.0500	mg/L wet	5.00	97.8	70-130
Magnesium	4.52	0.0500	"	5.00	90.5	70-130
Sodium	4.70	0.0500	"	5.00	94.1	70-130

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

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

Summit Scientific

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

Batch BFL0432 - General Preparation

Duplicate (BFL0432-DUP1)

Source: 2212228-13

Prepared & Analyzed: 12/16/22

% Solids	91.4	%		91.2		0.171	20
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BFL0448 - General Preparation

Blank (BFL0448-BLK1)

Prepared: 12/17/22 Analyzed: 12/18/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFL0448-BS1)

Prepared: 12/17/22 Analyzed: 12/18/22

Specific Conductance (EC) 0.146 0.0100 mmhos/cm 0.150 97.5 95-105

Duplicate (BFL0448-DUP1)

Source: 2212233-01

Prepared: 12/17/22 Analyzed: 12/18/22

Specific Conductance (EC) 0.562 0.0100 mmhos/cm 0.575 2.31 20

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 - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

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

Summit Scientific

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

Batch BFL0447 - General Preparation

LCS (BFL0447-BS1)

Prepared & Analyzed: 12/17/22

pH	9.00	pH Units	9.18	98.0	95-105
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Duplicate (BFL0447-DUP1)

Source: 2212153-08

Prepared & Analyzed: 12/17/22

pH	8.27	pH Units	8.23	0.485	20
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Farr C18-25

Project Number: [none]
Project Manager: Paul Henchan

Reported:
12/20/22 13:56

Notes and Definitions

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