

FREMONT ENVIRONMENTAL INC.

December 14, 2023

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

Subject: **Facility Closure Data Submittal**
Spike State CC-64N63W 30NESW Facility
Facility ID: 317854
NESW Sec. 30, T4N, R63W
Weld County, Colorado
Fremont Project No. C023-156
Remediation # 26863

Dear Mr. Peterson:

As requested, Fremont Environmental Inc. (Fremont) personnel conducted facility abandonment activities at the Noble Energy Inc. (Noble) Spike State CC-64N63W 30NESW Facility. Details of the facility abandonment activities are documented in the attached Closure Report. Soil samples collected from the separator excavation (SEP02@4') were reported with elevated concentrations of 1,3,4 trimethylbenzene and 1-methylnaphthalene. Additionally, the soil samples that were collected beneath both ASTs (AST01@1' and AST02@1') were reported with a value of pH below the regulatory limit. Groundwater was not encountered during decommissioning activities.

Please contact me at (970) 213-7488 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,

FREMONT ENVIRONMENTAL INC.

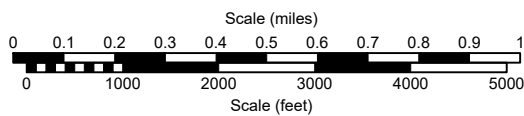
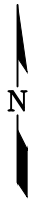
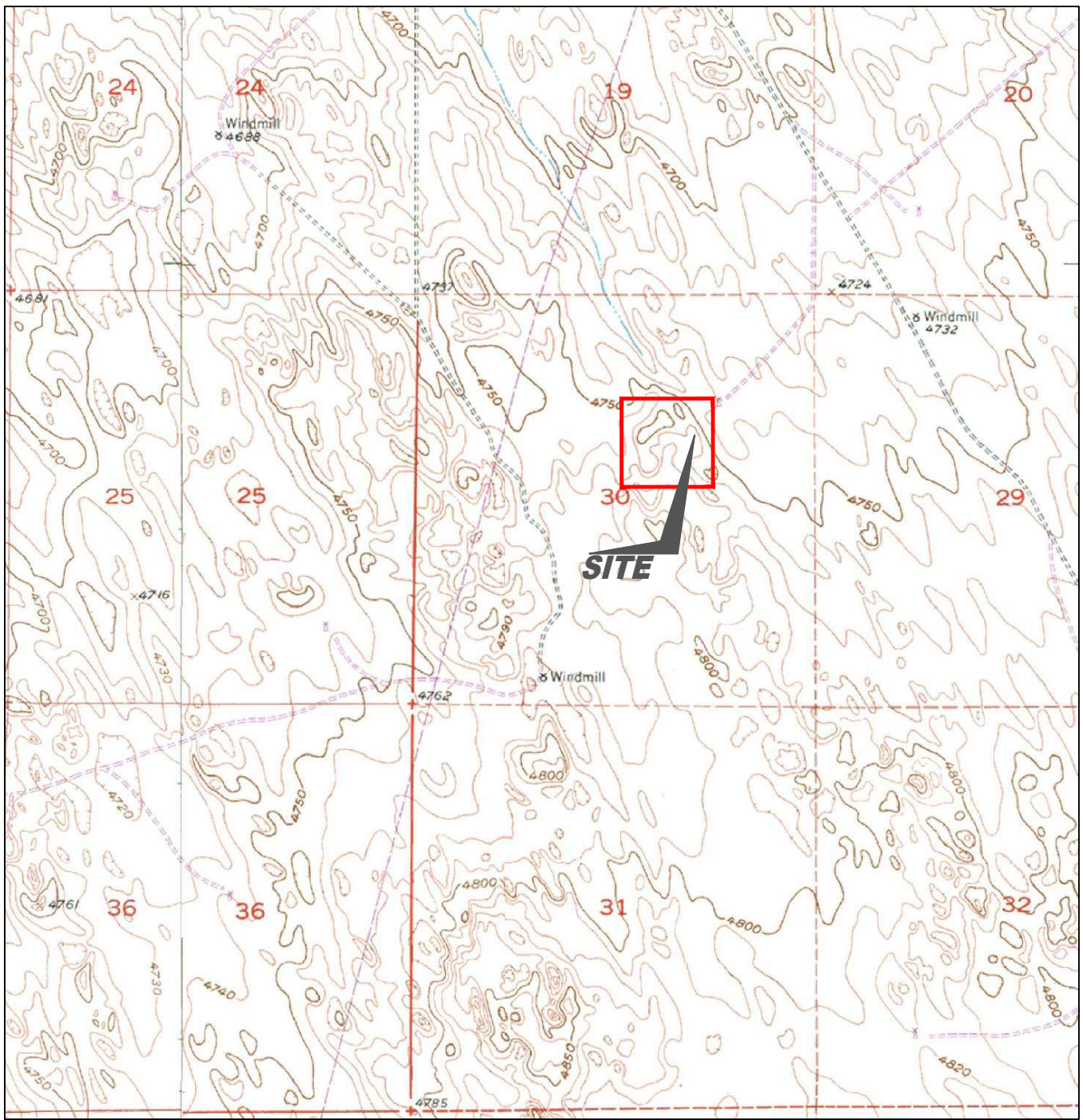


Chris Lattes
Consultant

Attachments:

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

1759 REDWING LANE, BROOMFIELD, CO 80020
(303) 956-8714 (DIRECT)



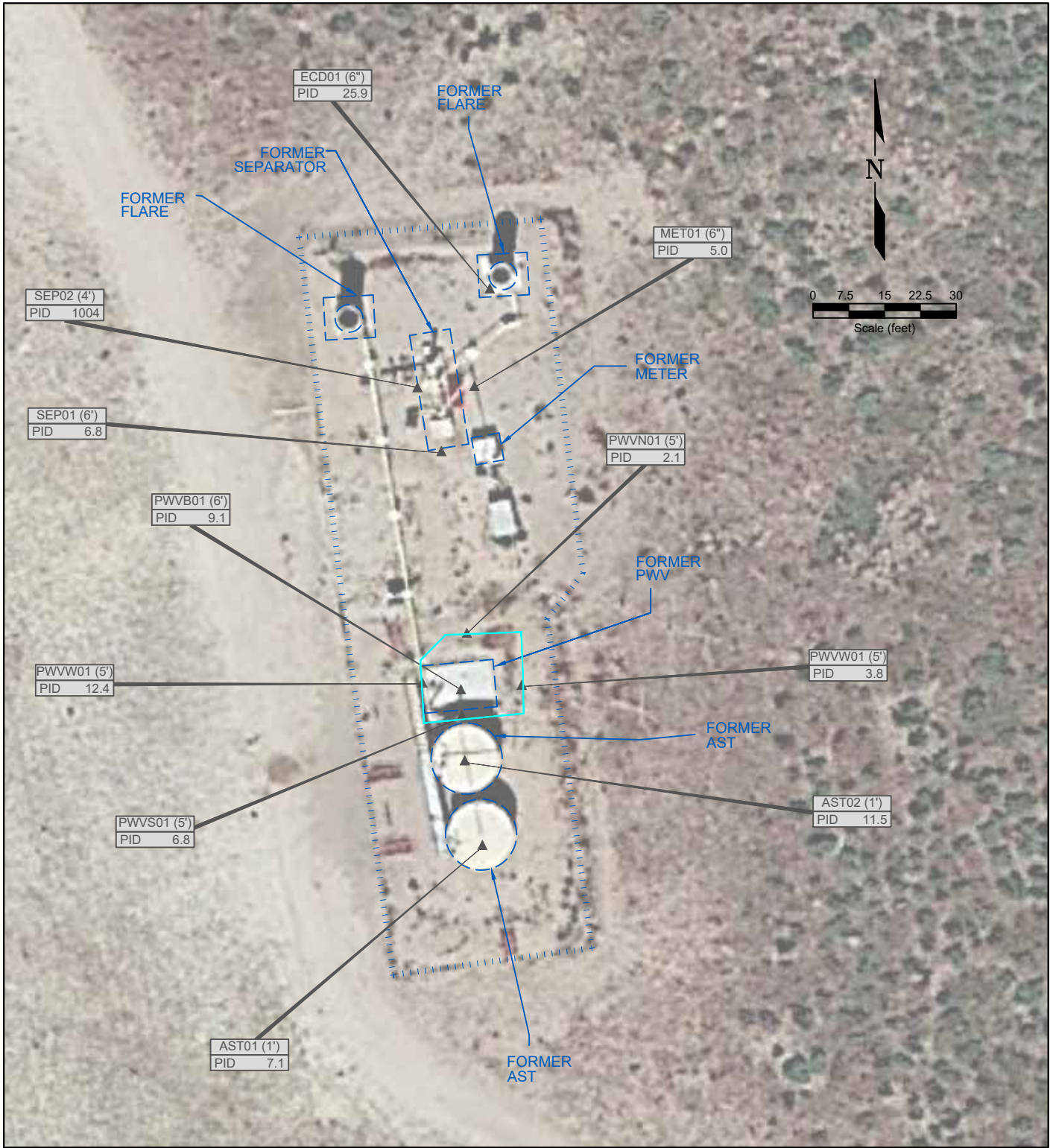
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

NOBLE ENERGY INC - SPIKE STATE CC-64N63W 30NESW
 NESW Sec. 30, T4N, R63W, 6th PM
 Weld County, Colorado
 40.280778°, -104.483776°

Project # CO23-156	API #	Facility # 317854
Date 08/26/2023	Remediation # 26863	Filename 23156T





LEGEND

- WELLHEAD LOCATION
- ▲ PID READING LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FORMER FACILITY
- CONTAINMENT BERM
- FENCE LINE
- EXTENT OF EXCAVATION

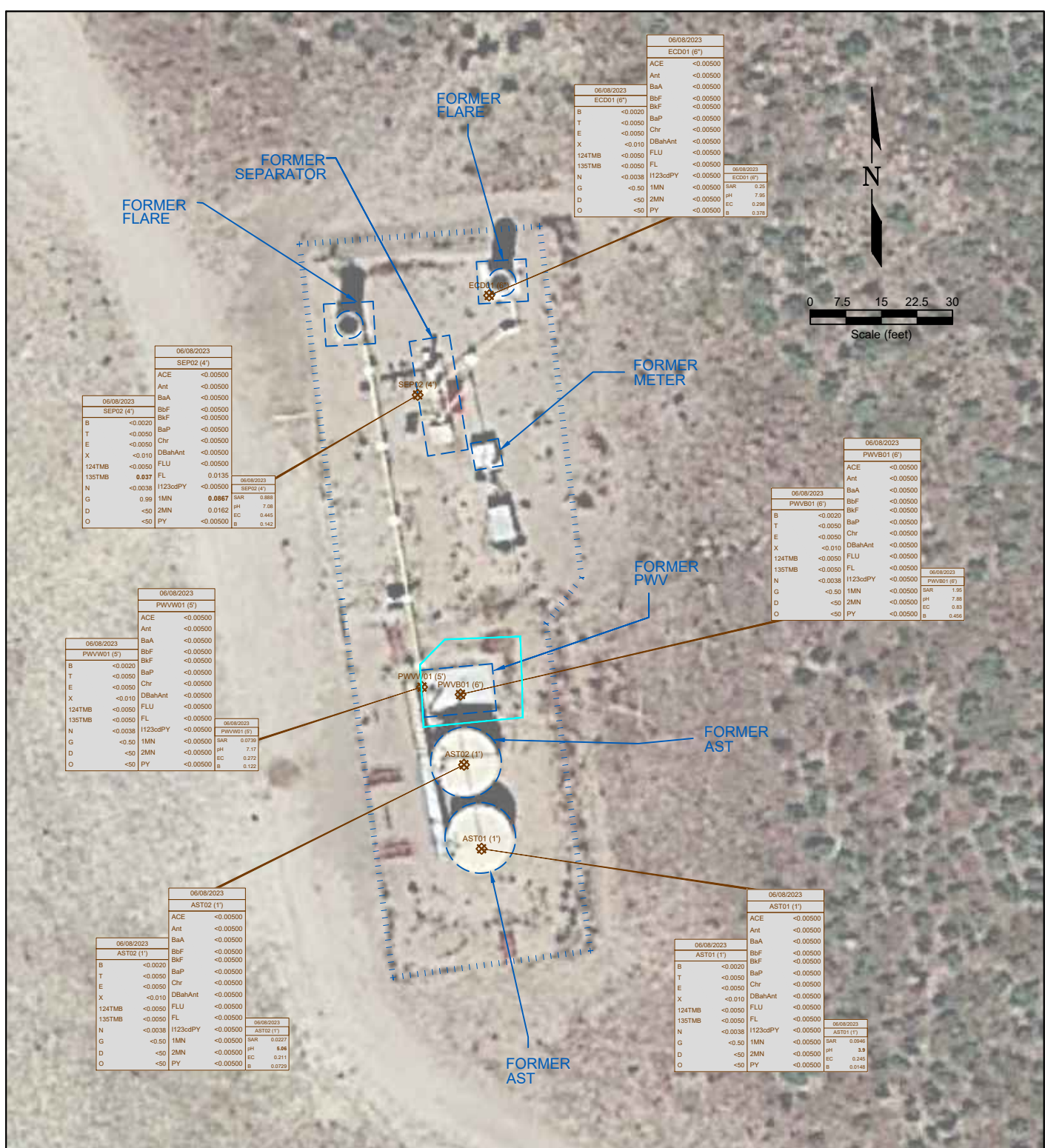
FL01 PID READING LOCATION IDENTIFICATION
 PID 0.1 PHOTO IONIZATION DETECTION (ppm)

Figure 2
SITE MAP

NOBLE ENERGY INC - SPIKE STATE CC-64N63W 30NESW
 NESW Sec. 30, T4N, R63W, 6th PM
 Weld County, Colorado
 40.280778°, -104.483776°

Project # CO23-156	API #	Facility # 317854
Date 08/26/2023	Remediation # 26863	Filename 23156Q





LEGEND

- WELLHEAD LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT BERM FENCE LINE
- EXTENT OF EXCAVATION

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 and DEPTH (ft)
ACE	<0.00500	ACE	<0.00500	ACE	<0.00500
Ant	<0.00500	Ant	<0.00500	Ant	<0.00500
BaA	<0.00500	BaA	<0.00500	BaA	<0.00500
BbF	<0.00500	BbF	<0.00500	BbF	<0.00500
BaP	<0.00500	BaP	<0.00500	BaP	<0.00500
Chr	<0.00500	Chr	<0.00500	Chr	<0.00500
DBahAnt	<0.00500	DBahAnt	<0.00500	DBahAnt	<0.00500
FLU	<0.00500	FLU	<0.00500	FLU	<0.00500
FL	<0.00500	FL	<0.00500	FL	<0.00500
1123cdPY	<0.00500	1123cdPY	<0.00500	1123cdPY	<0.00500
1MN	<0.00500	1MN	<0.00500	1MN	<0.00500
2MN	<0.00500	2MN	<0.00500	2MN	<0.00500
PY	<0.00500	PY	<0.00500	PY	<0.00500

Figure 3
SOIL CHEMISTRY MAP

NOBLE ENERGY INC - SPIKE STATE CC-64N63W 30NESW
NESW Sec. 30, T4N, R63W, 6th PM
Weld County, Colorado
40.280778° - 104.483776°

Project #	API #	Facility #
CO23-156		317854
Date	Remediation #	Filename
08/26/2023	26863	23156Q

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
SPIKE STATE CC-64N63W 30NESW, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-156

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@1'	06/08/2023	1'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
AST02@1'	06/08/2023	1'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
ECD01@6"	06/08/2023	6"	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
PWVB01@6'	06/08/2023	6'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
PWVW01@5'	06/08/2023	5'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SEP02@4'	06/08/2023	4'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	0.037	<0.0038	0.99	<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

NA - Not analyzed

TABLE 2
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
SPIKE STATE CC-64N63W 30NESW, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-156

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@1'	06/08/2023	1'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST02@1'	06/08/2023	1'	<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
ECD01@6"	06/08/2023	6"	<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
PWVB01@6'	06/08/2023	6'	<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
PWVW01@5'	06/08/2023	5'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP02@4'	06/08/2023	4'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0135	<0.00500	<0.00500	0.0867	0.0162

Bold faced values exceed the COGCC Table 915-1 concentrations

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

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY INC.
SPIKE STATE CC-64N63W 30NESW, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-156

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@1'	06/08/2023	1'	3.9	0.245	0.0946	0.0148
AST02@1'	06/08/2023	1'	5.06	0.211	0.0227	0.0729
ECD01@6"	06/08/2023	6"	7.95	0.298	0.25	0.378
PWVB01@6'	06/08/2023	6'	7.88	0.83	1.95	0.456
PWVW01@5'	06/08/2023	5'	7.17	0.272	0.0739	0.122
SEP02@4'	06/08/2023	4'	7.08	0.445	0.888	0.142

Bold faced values exceed the COGCC Table 915-1 concentrations

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

NA - Not analyzed

Tank Battery Closure Checklist

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

Additional attachments (optional):	<input type="checkbox"/>	Pit Closure	<input type="checkbox"/>	Wellhead Closure	<input type="checkbox"/>	Flowline Closure	<input type="checkbox"/>	Partially Buried Vault Closure
Site Name & COGCC Facility Number: Spike State CC-64N63W 30NESW, 317854		Date: 6/8/2023		Remediation Project #: 26863				
Associated Wells: Spike State 30-20, 21		Age of Site: Unknown		Number of Photos Attached: See attached				
Location: (GPS coordinates of southeaster berm) 40.280778, -104.483776						Estimated Facility Size (acres):		

General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)
Good condition, no observed issues.

USCS Soil Type: Sand (SW)	Estimated Depth to Groundwater: Unknown
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Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)
Elevated PIDs measured at the location of the former separator.

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)
No observed salt crusted soil or impacted vegetation.

Tanks

Tank Contents	Crude	Crude						
Size (barrels)	300	300						
Age	Unknown	Unknown						
Construction Material	Steel	Steel						
Tank type (AST/DRV, etc.)	AST	AST						
Visual Integrity of Tank	Good - per crew	Good - per crew						
Condition of tank feet/weld	Good - oxidation	Good						
PID Readings	7.1 ppm	11.5 ppm						
Soil impacts present at valves or hatches?	None observed	None observed						
PID Readings								
Sample taken? Location/ Sample ID#	AST01 @ 1'	AST02 @ 1'						
Photo Number(s)	See attached	See attached						

Other observations regarding tanks:

Separators

Separator size	Unknown							
Vertical or Horizontal	Horizontal							
Age	Unknown							
Soil impacts observed? If yes,	Elevated PIDs							
PID Readings	6.8 to 1004 ppm							
Sample taken? Location/ Sample ID#	SEP01 @ 6' and SEP02 @ 4'							
Photo Number(s)	See attached							

Other observations regarding separators

Only 1 separator during facility decommissioning.

Third Party Equipment

Type	Meter Shed							
Age	Unknown							

Third Party	Unknown								
Removal Date	Unknown								
Sample taken?	MET01@6"								
PID Readings	5.0 ppm								
Photo Number(s)	See attached								

Other Facility Equipment

Equipment type	ECD				
Equipment Condition	Good condition				
Age	Unknown				
Soil impacts	Slightly elevated PID				
PID Readings	25.9 ppm				
Sample taken?	ECD01@6"				
Photo Number(s)	See attached				

Other observations regarding other facility or third party equipment:

Only 1 meter shed and 1 ECD during facility decommissioning.

Summary

Was impacted soil identified?		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes - less than 10 cubic yards	<input type="checkbox"/> Yes - more than 10 cubic yards
Total number of samples field screened:		6		Total number of samples collected:
Highest PID Reading:		1,004 ppm		Total number of samples submitted to lab for analysis:
If more than 10 cubic yards of impacted soil were observed:		Impacted soil not excavated yet.		
Vertical extent:		Estimated spill volume:		
Lateral extent:		Volume of soil removed:		
Is additional investigation required?				
Was groundwater encountered during the investigation?		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes - not impacted or in contact with impacted soils	<input type="checkbox"/> Yes - groundwater impacted and/or in contact with impacted soils
Measured depth to groundwater:		Was remedial groundwater removal conducted?		
Date Groundwater was encountered:		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Sheen on groundwater?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	Volume of groundwater removed prior to sampling:
Free product observed?		<input type="checkbox"/> Yes	<input type="checkbox"/> 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: Spike State CC-64N63W 30NESW, 317854		Date: 6/8/2023				Remediation Project #: 26863			
Associated Wells: Spike State 30-20, 21		Age of Site: Unknown				Number of Photos Attached: See attached			
Location: (GPS coordinates of vault or southeastern tank berm for multiple)						40.280778, -104.483776		Estimated Facility Size (acres):	

General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)

Good condition, no observed issues.

USCS Soil Type: **Sand (SW)** Estimated Depth to Groundwater: **Unknown**

Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

No observed hydrocarbon impacted soil or spills.

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

No observed salt crusted soil or impacted vegetation.

Buried or Partially Buried Vessels

Tank Contents	Produced water								
Size (barrels)	50								
Age	Unknown								
Construction Material	Concrete								
Visual Integrity of Tank	Good								
Condition of tank	Good condition								
PID Readings	9.1 ppm								
Condition of Access Lines	Good condition								
PID Readings	2.1 to 12.4 ppm								
Sample taken? Location/Sample ID#	See attached figure								
Photo Number(s)	See attached								

Other observations regarding partially buried vessels:

Summary

Was impacted soil identified? No Yes - less than 10 cubic yards Yes - more than 10 cubic yards

Total number of samples field screened: **5** Total number of samples collected: **5**

Highest PID Reading: **12.4 ppm** Total number of samples submitted to lab for analysis: **2**

If more than 10 cubic yards of impacted soil were observed: **N/A**

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:

Photo Log

DIRECTION
SW (T)

40.28083°N
104.48371°W

ACCURACY 5 m
DATUM WGS84



Taken With
 **Context Camera**

Spike State

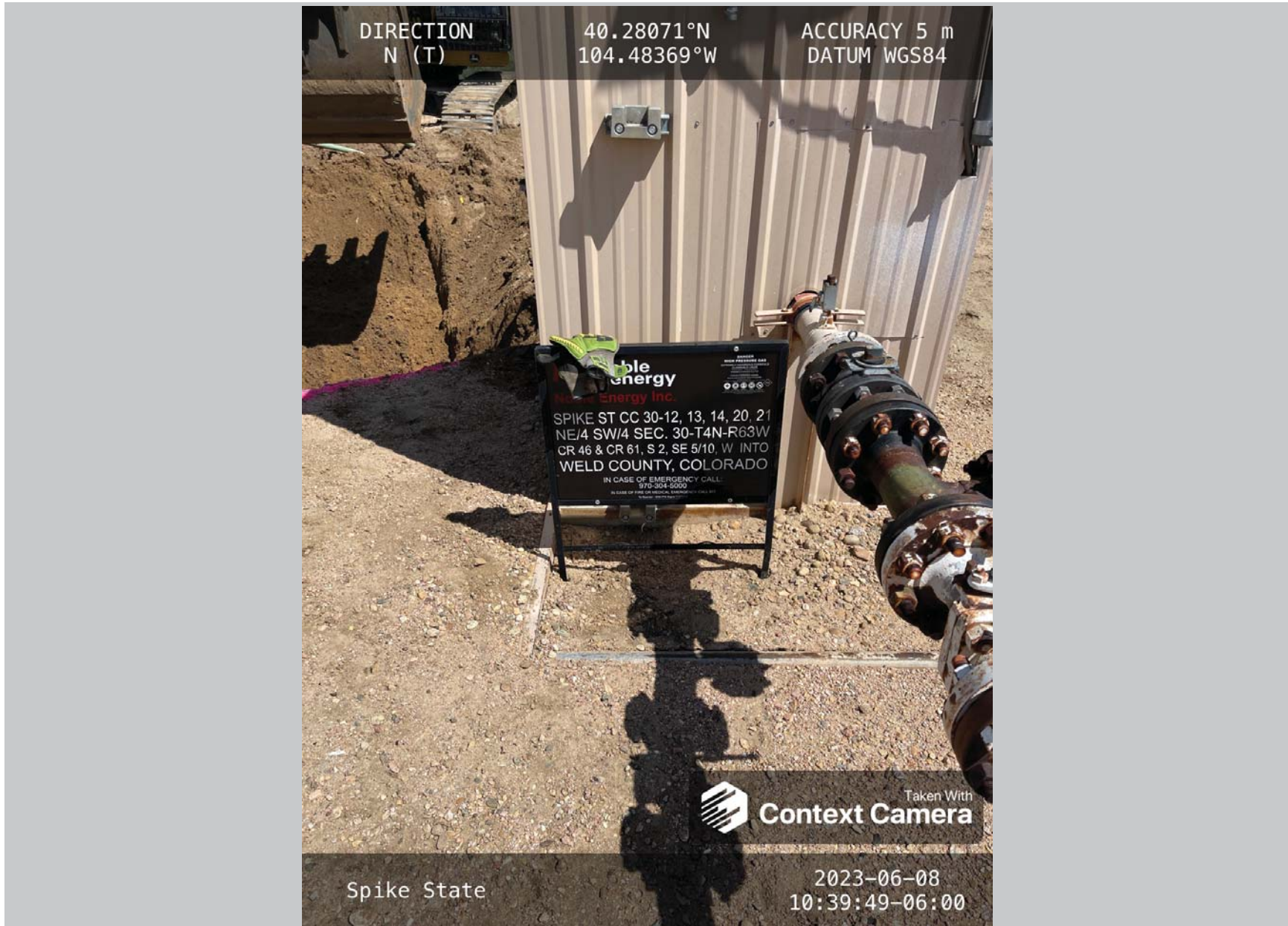
Overview

2023-06-08
10:47:49-06:00

Description:

Facility Overview Facing SW

Photo Log



Description:

Facility Placard

Photo Log



DIRECTION
NE (T)

40.28073°N
104.48377°W

ACCURACY 5 m
DATUM WGS84



Taken With
Context Camera

Spike State

SEP

2023-06-08
10:50:07-06:00

Description:

Separator Excavation; SEP01@6' (Right), SEP02@4' Left

Photo Log



Description:

Separator Excavation; SEP01@6' (Far), SEP02@4' (Close)

Photo Log

DIRECTION
SE (T)

40.28066°N
104.48379°W

ACCURACY 5 m
DATUM WGS84



Taken With
 **Context Camera**

Spike State

PWV Excavation w/
Samples

2023-06-08
10:26:45-06:00

Description:

PWV Excavation Facing SE

Photo Log



DIRECTION
NE (T)

40.28061°N
104.48378°W

ACCURACY 5 m
DATUM WGS84



Taken With
Context Camera

Spike State

PWV Excavation w/
Samples

2023-06-08
10:26:56-06:00

Description:

PWV Excavation Facing NE

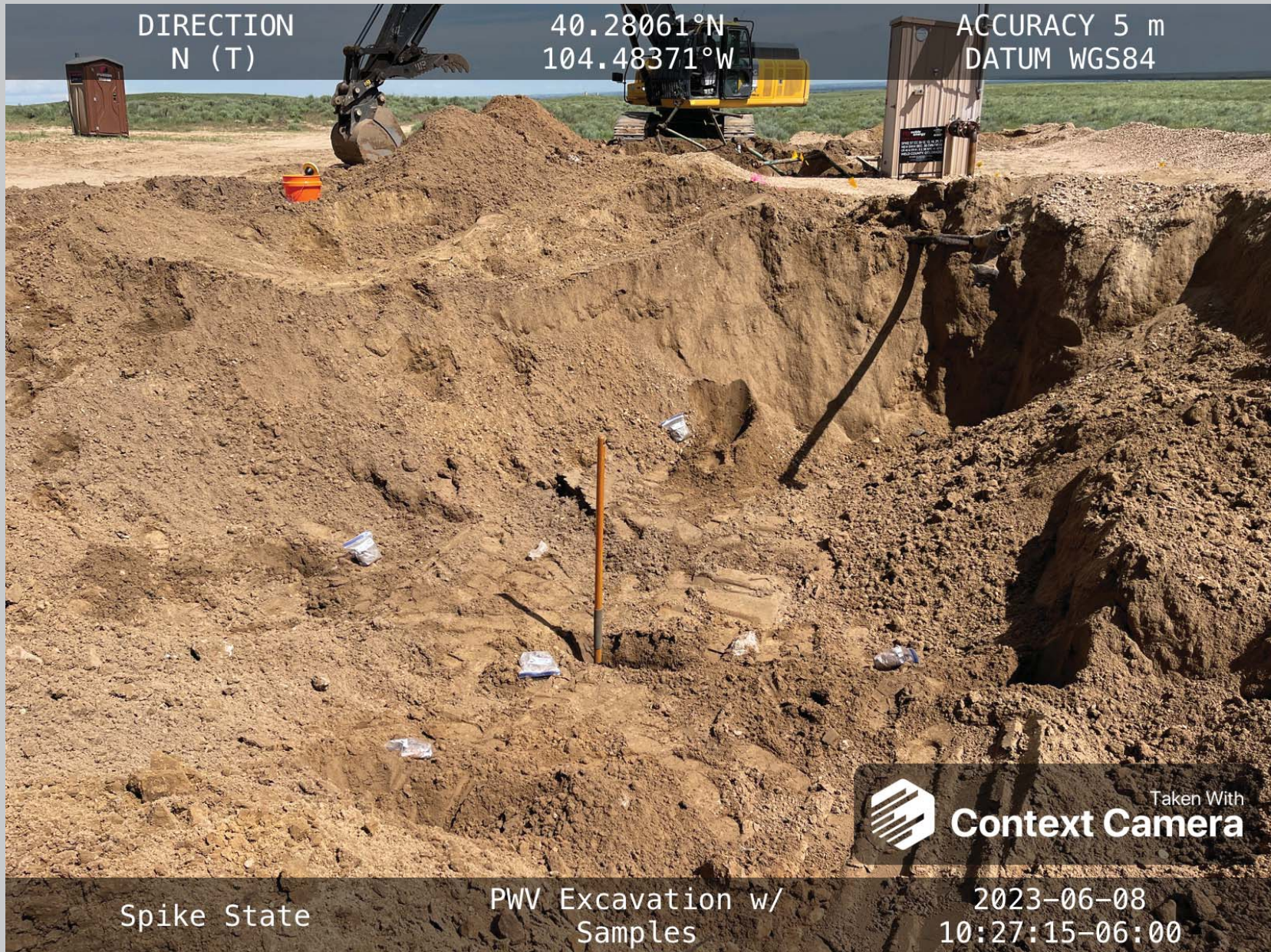
Photo Log



DIRECTION
N (T)

40.28061°N
104.48371°W

ACCURACY 5 m
DATUM WGS84



Taken With
Context Camera

Spike State

PWV Excavation w/
Samples

2023-06-08
10:27:15-06:00

Description:

PWV Excavation Facing N

Photo Log



DIRECTION
SW (T)

40.28067°N
104.48369°W

ACCURACY 5 m
DATUM WGS84



Taken With
Context Camera

Spike State

PWV Excavation w/
Samples

2023-06-08
10:27:36-06:00

Description:

PWV Excavation Facing SE

Photo Log



DIRECTION
NW (T)

40.28054°N
104.48371°W

ACCURACY 5 m
DATUM WGS84



Taken With
Context Camera

Spike State

AST01

2023-06-08
10:37:40-06:00

Description:

AST01@1'

Photo Log



Description:

AST02@1'

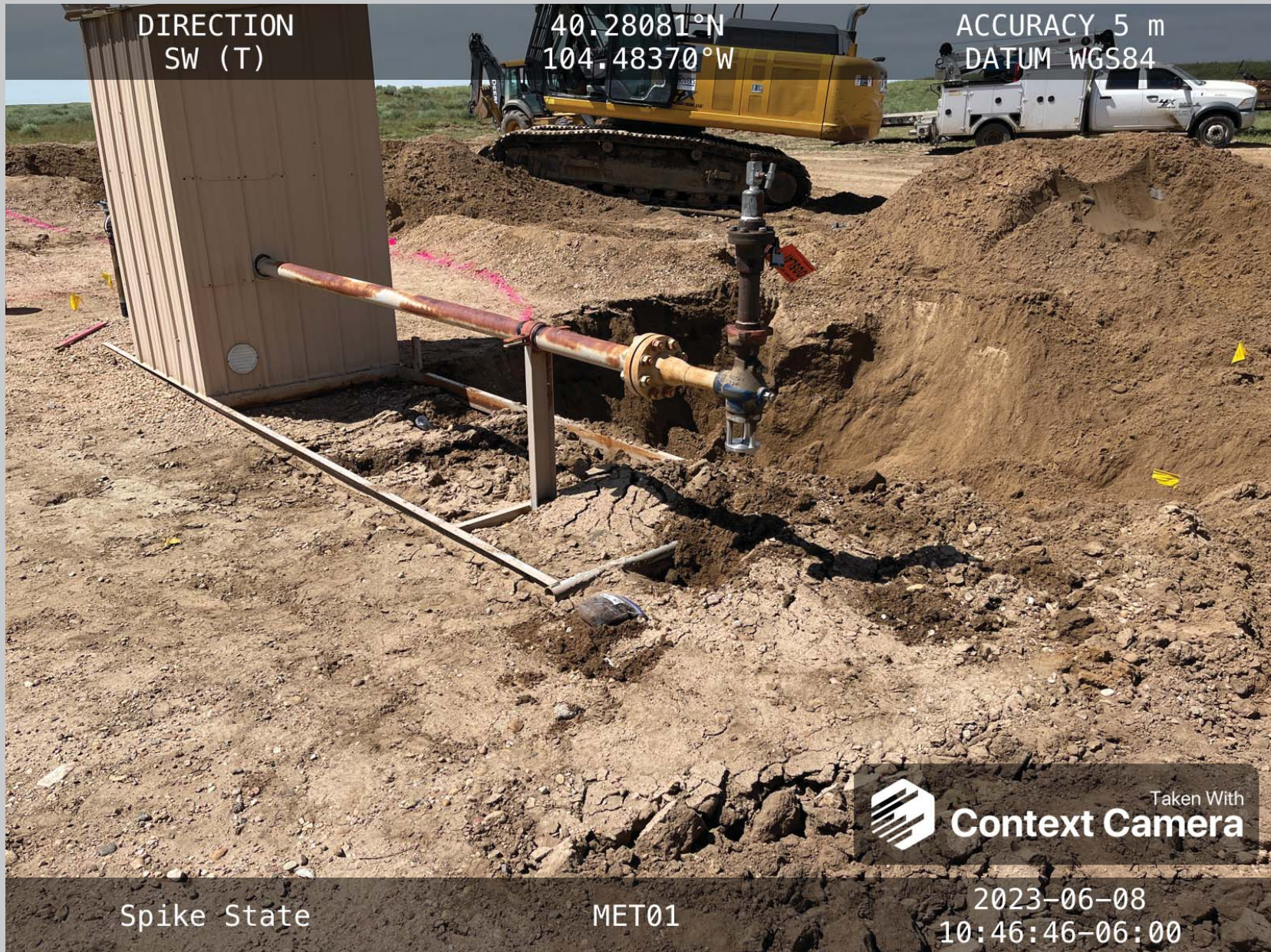
Photo Log



DIRECTION
SW (T)

40.28081°N
104.48370°W

ACCURACY 5 m
DATUM WGS84



Taken With
Context Camera

Spike State

MET01

2023-06-08
10:46:46-06:00

Description:

MET01@6"

Photo Log

DIRECTION
NW (T)

40.28078°N
104.48370°W

ACCURACY 5 m
DATUM WGS84



Taken With
 Context Camera

Spike State

ECD01

2023-06-08
10:47:06-06:00

Description:

ECD01@6"

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 03, 2023

Paul Henchan

Fremont Environmental

PO Box 1289


Wellington, CO 80549

RE: Noble - Spike State CC 30-20 TB

Work Order #2306210

Enclosed are the results of analyses for samples received by Summit Scientific on 06/12/23 12:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a small flourish at the end of the word "Wood".

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ECD01@6"	2306210-01	Soil	06/08/23 00:00	06/12/23 12:15
AST01@1'	2306210-02	Soil	06/08/23 00:00	06/12/23 12:15
AST02@1'	2306210-03	Soil	06/08/23 00:00	06/12/23 12:15
SEP02@4'	2306210-04	Soil	06/08/23 00:00	06/12/23 12:15
PWVB01@6'	2306210-05	Soil	06/08/23 00:00	06/12/23 12:15
PWVW01@5'	2306210-06	Soil	06/08/23 00:00	06/12/23 12:15

Summit Scientific

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

Summit Scientific

2306210

S₂

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 Noble UWRWE-A2125-ABN

Phone:

Project Name: Spike State CL30-20 TB

Sampler Name: Chris Lattes

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	TPH, BTEX, TMS, Naph	PAH (915)	EC, SAR, pH, Boron	Metals (915)	TDS, Chloride, Sulfate		HOLD	
1	ECD01@6"	6/9/23		2			X						X	X	X					
2	AST01@1"	↓		↓									↓	↓	↓					
3	AST02@1"																			
4	SEP02@4"																			
5	PWV301@6'	↓		↓									↓	↓	↓					
6	PWVW01@5'	6/9/23		2			X						X	X	X					
7																				
8																				
9																				
10																				

Relinquished by: Chris Lattes	Date/Time: 6/12/23 12:15	Received by: S2	Date/Time: 6/12/23 12:15	Turn Around Time (Check):	Notes: PL+ FAC "Spike" on Containers
Relinquished by: S2	Date/Time: 6/12/23 12:15	Received by: [Signature]	Date/Time: 6/12/23 12:15	Same Day _____ 72 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours _____ Standard <input checked="" type="checkbox"/>	
				48 hours _____	
				Sample Integrity:	
				Temperature Upon Receipt: 143	
				Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 2306210

Client: Fremont Client Project ID: Spike State CC30-20 TB

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

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

Temp (°C) 14.3 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.	-			on ice
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

6/12/23
Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

ECD01@6"
2306210-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGF0471	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0408	102 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0420	105 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0480	06/13/23	06/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.6	93.1 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

ECD01@6''
2306210-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0464	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0203	61.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0257	77.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.378	0.0100	mg/L	1	BGF0454	06/13/23	06/19/23	EPA 6020B	

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

Date Sampled: **06/08/23 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 - Spike State CC 30-20 TB
Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

ECD01@6''
2306210-01 (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	65.3	0.0565	mg/L dry	1	BGF0466	06/13/23	06/19/23	EPA 6020B	
Magnesium	8.84	0.0565	"	"	"	"	"	"	
Sodium	8.11	0.0565	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.250	0.00100	units	1	BGF0699	06/20/23	06/20/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.5		%	1	BGF0469	06/13/23	06/13/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.298	0.0100	mmhos/cm	1	BGF0498	06/14/23	06/14/23	EPA 120.1	

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

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BGF0500	06/14/23	06/14/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

AST01@1'
2306210-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGF0471	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0364	90.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	95.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0480	06/13/23	06/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.8	94.7 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

AST01@1'
2306210-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0464	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0265	79.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0148	0.0100	mg/L	1	BGF0454	06/13/23	06/19/23	EPA 6020B	

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

Date Sampled: **06/08/23 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 - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

AST01@1'
2306210-02 (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	13.6	0.0531	mg/L dry	1	BGF0466	06/13/23	06/19/23	EPA 6020B	
Magnesium	4.42	0.0531	"	"	"	"	"	"	
Sodium	1.57	0.0531	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0946	0.00100	units	1	BGF0699	06/20/23	06/20/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.2		%	1	BGF0469	06/13/23	06/13/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.245	0.0100	mmhos/cm	1	BGF0498	06/14/23	06/14/23	EPA 120.1	

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

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	3.90		pH Units	1	BGF0500	06/14/23	06/14/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

AST02@1'
2306210-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGF0471	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0366	91.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0373	93.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0480	06/13/23	06/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.9	94.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

AST02@1'
2306210-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0464	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0204	61.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0268	80.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0729	0.0100	mg/L	1	BGF0454	06/13/23	06/19/23	EPA 6020B	

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

Date Sampled: **06/08/23 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 - Spike State CC 30-20 TB
 Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

AST02@1'
2306210-03 (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	141	0.0538	mg/L dry	1	BGF0466	06/13/23	06/19/23	EPA 6020B	
Magnesium	30.8	0.0538	"	"	"	"	"	"	
Sodium	1.14	0.0538	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0227	0.00100	units	1	BGF0699	06/20/23	06/20/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.9		%	1	BGF0469	06/13/23	06/13/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.211	0.0100	mmhos/cm	1	BGF0498	06/14/23	06/14/23	EPA 120.1	

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

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	5.06		pH Units	1	BGF0500	06/14/23	06/14/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

SEP02@4'
2306210-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGF0471	06/13/23	06/13/23	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	0.037	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.99	0.50	"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0480	06/13/23	06/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.5	99.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

SEP02@4'
2306210-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0464	06/13/23	06/13/23	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	0.0135	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0867	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0162	0.00500	"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0213	63.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0263	78.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.142	0.0100	mg/L	1	BGF0454	06/13/23	06/19/23	EPA 6020B	

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

Date Sampled: **06/08/23 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 - Spike State CC 30-20 TB
Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

SEP02@4'
2306210-04 (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	36.5	0.0544	mg/L dry	1	BGF0466	06/13/23	06/19/23	EPA 6020B	
Magnesium	7.36	0.0544	"	"	"	"	"	"	
Sodium	22.5	0.0544	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.888	0.00100	units	1	BGF0699	06/20/23	06/20/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.8		%	1	BGF0469	06/13/23	06/13/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.445	0.0100	mmhos/cm	1	BGF0498	06/14/23	06/14/23	EPA 120.1	

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

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.08		pH Units	1	BGF0500	06/14/23	06/14/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

PWVB01@6'
2306210-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGF0471	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0376	94.1 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	96.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0480	06/13/23	06/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.8	94.6 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB
Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

PWVB01@6'
2306210-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0464	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0210	63.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0289	86.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.456	0.0100	mg/L	1	BGF0454	06/13/23	06/19/23	EPA 6020B	

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

Date Sampled: **06/08/23 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 - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

PWVB01@6'
2306210-05 (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	144	0.0539	mg/L dry	1	BGF0466	06/13/23	06/19/23	EPA 6020B	
Magnesium	22.2	0.0539	"	"	"	"	"	"	
Sodium	95.4	0.0539	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.95	0.00100	units	1	BGF0699	06/20/23	06/20/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.8		%	1	BGF0469	06/13/23	06/13/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.830	0.0100	mmhos/cm	1	BGF0498	06/14/23	06/14/23	EPA 120.1	

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

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BGF0500	06/14/23	06/14/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

PWVW01@5'
2306210-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGF0471	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0394	98.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGF0480	06/13/23	06/13/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.8	94.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

PWVW01@5'
2306210-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGF0464	06/13/23	06/13/23	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: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0262	78.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.122	0.0100	mg/L	1	BGF0454	06/13/23	06/19/23	EPA 6020B	

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

Date Sampled: **06/08/23 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 - Spike State CC 30-20 TB
Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

PWVW01@5'
2306210-06 (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	161	0.0549	mg/L dry	1	BGF0466	06/13/23	06/19/23	EPA 6020B	
Magnesium	30.3	0.0549	"	"	"	"	"	"	
Sodium	3.90	0.0549	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0739	0.00100	units	1	BGF0699	06/20/23	06/20/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.2		%	1	BGF0469	06/13/23	06/13/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.272	0.0100	mmhos/cm	1	BGF0498	06/14/23	06/14/23	EPA 120.1	

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

Date Sampled: **06/08/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.17		pH Units	1	BGF0500	06/14/23	06/14/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

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 BGF0471 - EPA 5030 Soil MS

Blank (BGF0471-BLK1)

Prepared: 06/06/23 Analyzed: 06/13/23

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>	0.0382		"	0.0400		95.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0380		"	0.0400		95.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0413		"	0.0400		103	50-150			

LCS (BGF0471-BS1)

Prepared: 06/06/23 Analyzed: 06/13/23

Benzene	0.0688	0.0020	mg/kg	0.0750		91.7	70-130			
Toluene	0.0800	0.0050	"	0.0750		107	70-130			
Ethylbenzene	0.0940	0.0050	"	0.0750		125	70-130			
m,p-Xylene	0.185	0.010	"	0.150		123	70-130			
o-Xylene	0.0819	0.0050	"	0.0750		109	70-130			
1,2,4-Trimethylbenzene	0.0847	0.0050	"	0.0750		113	70-130			
1,3,5-Trimethylbenzene	0.0903	0.0050	"	0.0750		120	70-130			
Naphthalene	0.0654	0.0038	"	0.0750		87.2	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0333		"	0.0400		83.2	50-150			
<i>Surrogate: Toluene-d8</i>	0.0385		"	0.0400		96.3	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0391		"	0.0400		97.8	50-150			

Matrix Spike (BGF0471-MS1)

Source: 2306210-01

Prepared: 06/06/23 Analyzed: 06/13/23

Benzene	0.0651	0.0020	mg/kg	0.0750	ND	86.8	70-130			
Toluene	0.0732	0.0050	"	0.0750	ND	97.6	70-130			
Ethylbenzene	0.0876	0.0050	"	0.0750	ND	117	70-130			
m,p-Xylene	0.172	0.010	"	0.150	ND	115	70-130			
o-Xylene	0.0779	0.0050	"	0.0750	ND	104	70-130			
1,2,4-Trimethylbenzene	0.0822	0.0050	"	0.0750	ND	110	70-130			
1,3,5-Trimethylbenzene	0.0846	0.0050	"	0.0750	ND	113	70-130			
Naphthalene	0.0705	0.0038	"	0.0750	ND	94.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0348		"	0.0400		86.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0378		"	0.0400		94.5	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0404		"	0.0400		101	50-150			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

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		

Batch BGF0471 - EPA 5030 Soil MS

Matrix Spike Dup (BGF0471-MSD1)	Source: 2306210-01			Prepared: 06/06/23 Analyzed: 06/13/23						
Benzene	0.0662	0.0020	mg/kg	0.0750	ND	88.3	70-130	1.64	30	
Toluene	0.0751	0.0050	"	0.0750	ND	100	70-130	2.51	30	
Ethylbenzene	0.0872	0.0050	"	0.0750	ND	116	70-130	0.446	30	
m,p-Xylene	0.173	0.010	"	0.150	ND	115	70-130	0.191	30	
o-Xylene	0.0770	0.0050	"	0.0750	ND	103	70-130	1.20	30	
1,2,4-Trimethylbenzene	0.0818	0.0050	"	0.0750	ND	109	70-130	0.512	30	
1,3,5-Trimethylbenzene	0.0853	0.0050	"	0.0750	ND	114	70-130	0.777	30	
Naphthalene	0.0730	0.0038	"	0.0750	ND	97.4	70-130	3.55	30	
Surrogate: 1,2-Dichloroethane-d4	0.0356		"	0.0400		88.9	50-150			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

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 BGF0480 - EPA 3550A

Blank (BGF0480-BLK1)

Prepared & Analyzed: 06/13/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	11.9		"	12.5		95.5		30-150			

LCS (BGF0480-BS1)

Prepared & Analyzed: 06/13/23

C10-C28 (DRO)	449	50	mg/kg	500		89.8		70-130			
Surrogate: <i>o</i> -Terphenyl	11.7		"	12.5		93.3		30-150			

Matrix Spike (BGF0480-MS1)

Source: 2306210-01

Prepared & Analyzed: 06/13/23

C10-C28 (DRO)	421	50	mg/kg	500	18.5	80.5		70-130			
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		91.9		30-150			

Matrix Spike Dup (BGF0480-MSD1)

Source: 2306210-01

Prepared & Analyzed: 06/13/23

C10-C28 (DRO)	465	50	mg/kg	500	18.5	89.3		70-130	9.89	20	
Surrogate: <i>o</i> -Terphenyl	12.3		"	12.5		98.7		30-150			

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

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 BGF0464 - EPA 5030 Soil MS

Blank (BGF0464-BLK1)

Prepared & Analyzed: 06/13/23

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>	0.0279		"	0.0333		83.6	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0345		"	0.0333		104	40-150			

LCS (BGF0464-BS1)

Prepared & Analyzed: 06/13/23

Acenaphthene	0.0328	0.00500	mg/kg	0.0333		98.5	31-137			
Anthracene	0.0347	0.00500	"	0.0333		104	30-120			
Benzo (a) anthracene	0.0292	0.00500	"	0.0333		87.5	30-120			
Benzo (a) pyrene	0.0278	0.00500	"	0.0333		83.5	30-120			
Benzo (b) fluoranthene	0.0294	0.00500	"	0.0333		88.3	30-120			
Benzo (k) fluoranthene	0.0315	0.00500	"	0.0333		94.5	30-120			
Chrysene	0.0345	0.00500	"	0.0333		103	30-120			
Dibenz (a,h) anthracene	0.0212	0.00500	"	0.0333		63.7	30-120			
Fluoranthene	0.0325	0.00500	"	0.0333		97.4	30-120			
Fluorene	0.0325	0.00500	"	0.0333		97.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0189	0.00500	"	0.0333		56.7	30-120			
Pyrene	0.0360	0.00500	"	0.0333		108	35-142			
1-Methylnaphthalene	0.0268	0.00500	"	0.0333		80.4	35-142			
2-Methylnaphthalene	0.0287	0.00500	"	0.0333		86.0	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0294		"	0.0333		88.2	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0327		"	0.0333		98.2	40-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

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 BGF0464 - EPA 5030 Soil MS

Matrix Spike (BGF0464-MS1)	Source: 2306210-01			Prepared & Analyzed: 06/13/23						
Acenaphthene	0.0145	0.00500	mg/kg	0.0333	ND	43.4	31-137			
Anthracene	0.0134	0.00500	"	0.0333	ND	40.1	30-120			
Benzo (a) anthracene	0.0136	0.00500	"	0.0333	ND	40.9	30-120			
Benzo (a) pyrene	0.0154	0.00500	"	0.0333	ND	46.2	30-120			
Benzo (b) fluoranthene	0.0140	0.00500	"	0.0333	ND	42.1	30-120			
Benzo (k) fluoranthene	0.0160	0.00500	"	0.0333	ND	47.9	30-120			
Chrysene	0.0151	0.00500	"	0.0333	ND	45.3	30-120			
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.2	30-120			
Fluoranthene	0.0134	0.00500	"	0.0333	ND	40.1	30-120			
Fluorene	0.0146	0.00500	"	0.0333	ND	43.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0137	0.00500	"	0.0333	ND	41.0	30-120			
Pyrene	0.0144	0.00500	"	0.0333	ND	43.1	35-142			
1-Methylnaphthalene	0.0147	0.00500	"	0.0333	ND	44.0	15-130			
2-Methylnaphthalene	0.0136	0.00500	"	0.0333	ND	40.7	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0151</i>		<i>"</i>	<i>0.0333</i>		<i>45.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0139</i>		<i>"</i>	<i>0.0333</i>		<i>41.6</i>	<i>40-150</i>			

Matrix Spike Dup (BGF0464-MSD1)	Source: 2306210-01			Prepared & Analyzed: 06/13/23						
Acenaphthene	0.0158	0.00500	mg/kg	0.0333	ND	47.3	31-137	8.70	30	
Anthracene	0.0151	0.00500	"	0.0333	ND	45.3	30-120	12.1	30	
Benzo (a) anthracene	0.0170	0.00500	"	0.0333	ND	51.1	30-120	22.2	30	
Benzo (a) pyrene	0.0154	0.00500	"	0.0333	ND	46.3	30-120	0.149	30	
Benzo (b) fluoranthene	0.0154	0.00500	"	0.0333	ND	46.2	30-120	9.34	30	
Benzo (k) fluoranthene	0.0150	0.00500	"	0.0333	ND	44.9	30-120	6.63	30	
Chrysene	0.0178	0.00500	"	0.0333	ND	53.3	30-120	16.2	30	
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	42.9	30-120	4.06	30	
Fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120	16.8	30	
Fluorene	0.0150	0.00500	"	0.0333	ND	44.9	30-120	2.32	30	
Indeno (1,2,3-cd) pyrene	0.0148	0.00500	"	0.0333	ND	44.4	30-120	7.93	30	
Pyrene	0.0193	0.00500	"	0.0333	ND	57.8	35-142	29.1	30	
1-Methylnaphthalene	0.0168	0.00500	"	0.0333	ND	50.3	15-130	13.5	50	
2-Methylnaphthalene	0.0167	0.00500	"	0.0333	ND	50.1	15-130	20.5	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0174</i>		<i>"</i>	<i>0.0333</i>		<i>52.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0208</i>		<i>"</i>	<i>0.0333</i>		<i>62.5</i>	<i>40-150</i>			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

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 BGF0454 - EPA 3050B

Blank (BGF0454-BLK1)

Prepared: 06/13/23 Analyzed: 06/19/23

Boron ND 0.0100 mg/L

LCS (BGF0454-BS1)

Prepared: 06/13/23 Analyzed: 06/19/23

Boron 5.24 0.0100 mg/L 5.00 105 80-120

Duplicate (BGF0454-DUP1)

Source: 2306196-01

Prepared: 06/13/23 Analyzed: 06/19/23

Boron 0.149 0.0100 mg/L 0.165 10.4 20

Matrix Spike (BGF0454-MS1)

Source: 2306196-01

Prepared: 06/13/23 Analyzed: 06/19/23

Boron 4.85 0.0100 mg/L 5.00 0.165 93.6 75-125

Matrix Spike Dup (BGF0454-MSD1)

Source: 2306196-01

Prepared: 06/13/23 Analyzed: 06/19/23

Boron 4.76 0.0100 mg/L 5.00 0.165 91.9 75-125 1.76 25

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

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 BGF0466 - General Preparation

Blank (BGF0466-BLK1)

Prepared: 06/13/23 Analyzed: 06/19/23

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

LCS (BGF0466-BS1)

Prepared: 06/13/23 Analyzed: 06/19/23

Calcium	6.16	0.0500	mg/L wet	5.00	123	70-130				
Magnesium	5.41	0.0500	"	5.00	108	70-130				
Sodium	5.55	0.0500	"	5.00	111	70-130				

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

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 BGF0469 - General Preparation

Duplicate (BGF0469-DUP1)		Source: 2305670-04			Prepared & Analyzed: 06/13/23				
% Solids	76.8		%		77.6		1.02	20	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

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 BGF0498 - General Preparation

Blank (BGF0498-BLK1)

Prepared & Analyzed: 06/14/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGF0498-BS1)

Prepared & Analyzed: 06/14/23

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

Duplicate (BGF0498-DUP1)

Source: 2306184-01

Prepared & Analyzed: 06/14/23

Specific Conductance (EC) 1.35 0.0100 mmhos/cm 1.42 4.99 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
 Project Manager: Paul Henchan

Reported:
 07/03/23 08:22

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 BGF0500 - General Preparation

LCS (BGF0500-BS1)

Prepared & Analyzed: 06/14/23

pH	9.13		pH Units	9.18		99.5	95-105		
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Duplicate (BGF0500-DUP1)

Source: 2306184-01

Prepared & Analyzed: 06/14/23

pH	7.32		pH Units		7.30			0.274	20
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Batch BGF0981 - General Preparation

LCS (BGF0981-BS1)

Prepared & Analyzed: 06/27/23

pH	9.14		pH Units	9.18		99.6	95-105		
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Duplicate (BGF0981-DUP1)

Source: 2305511-11RE1

Prepared & Analyzed: 06/27/23

pH	8.13		pH Units		8.10			0.370	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State CC 30-20 TB

Project Number: UWRWE-A2125-ABN
Project Manager: Paul Henchan

Reported:
07/03/23 08:22

Notes and Definitions

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