FREMONT ENVIRONMENTAL INC.

March 17, 2022

Mr. Jacob Evans
Noble Energy Inc.
2115 117th Avenue
Greeley, CO 80634

Subject: **Facility Closure Data Submittal**
Beeler 22-12, 13
API # 05-123-20054
NWNE Sec. 22, T4N, R67W
Weld County, Colorado
Fremont Project No. C022-013
Facility #331032, Remediation #21781

Dear Mr. Evans:

As you requested, Fremont Environmental Inc. (Fremont) personnel conducted Facility Closure activities for the Noble Energy Inc. (Noble) Beeler 22-12,13 facility. Impacted soil was encountered adjacent to the former separators, produced water vault and aboveground storage tank during abandonment activities. These soil impacts remain in place as documented in the attached Closure Report. Groundwater was not encountered during the facility abandonment activities.

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

Sincerely,

FREMONT ENVIRONMENTAL INC.

Paul V. Henehan, P.E.
Senior Consultant

Attachments:
Facility Closure Checklist
Tables
Figures
Photos
Laboratory Report

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

Tank Battery Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure	X	Flowline Closure	X	Partially Buried Vault Closure	

Site Name & COGCC Facility Number: Beeler 22-12, 13, 331032	*Date:* 03/02/2022	*Remediation Project #:* 21781
Associated Wells: 05-123-21053 (22-13), 05-123-20054 (22-12)	*Age of Site:* 2001	*Number of Photos Attached:* 8
Location: *(GPS coordinates of southeaster berm)* 40.303480, -104.873496		*Estimated Facility Size (acres):* ~1 Acre

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

Good housekeeping. General condition for all the on-site equipment looked good. Impacts were discovered at the aboveground and both on-site separators'

USCS Soil Type: Sandy Clay	*Estimated Depth to Groundwater:* N/A

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

Impacts were observed at the separators and the AST. Impacts appear to be surficial but further investigation is needed to determine the vertical and lateral extent of impacts at the facility.

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

None observed

Tanks

Tank Contents	Oil								
Size (barrels)	300 BBLS								
Age	2001								
Construction Material	Steel								
Tank type (AST/BBV, etc.)	AST								
Visual Integrity of Tank	No Damage								
Condition of tank footprint	Impacts Present								
PID Readings	Max 483 ppm								
Soil impacts present at valves or hatches?	No Impacts								
PID Readings	N/A								
Sample taken? Location/ Sample ID#	40.303662, -104.873244/ AST01@1.0'								
Photo Number(s)	6,7								

Other observations regarding tanks:

None

Separators

Separator size	~14bbl	~14bbl							
Vertical or Horizontal	Horizontal	Horizontal							
Age	2001	2001							
Soil impacts observed? If yes	None Observed	Odor Present							
PID Readings	Max @ 43.9ppm	Max @ 463.8ppm							
Sample taken? Location/ Sample ID#	40.303503, -104.873538/ SEP02@6.0"	40.303524, -104.873564/ SEP01@6.0"							
Photo Number(s)	9	8							

Other observations regarding separators

Separators' removed prior to sampling

Third Party Equipment

Type	Meter Shed								
Age	UNK								

Third Party Operator	UNK								
Removal Date	03/02/2022								
Sample taken? Location/Sample	MET01@6.0"								
PID Readings	Max @ 0.8ppm								
Photo Number(s)	12								

Other Facility Equipment

Equipment type	ECD	ECD			
Equipment Condition	No Damage	No Damage			
Age	2001	2001			
Soil impacts observed during	No Impacts	No Impacts			
PID Readings	Max @ 1.8ppm	Max @ 0.9ppm			
Sample taken? Location/Sample	40.303433,-104.873568 ECD01@6.0"	40.303405,-104.873542 ECD02@6.0"			
Photo Number(s)	10	11			

Other observations regarding other facility or third party equipment:
Third party meter shed and both on-site ECDs' removed prior to sampling event

Summary

Was impacted soil identified?
No X* Yes - less than 10 cubic yards Yes - more than 10 cubic yards *Exact volume will be determined by subsequent investigation

Total number of samples field screened: 8	*Total number of samples collected:* 7
Highest PID Reading: AST01@1.0' - 483.4ppm SEP01@6.0" - 463.8ppm SEP02@6.0" - 43.9ppm	*Total number of samples submitted to lab for analysis:* 4
If more than 10 cubic yards of impacted soil were observed:	
Vertical extent: N/A	*Estimated spill volume:* Unknown
Lateral extent: N/A	*Volume of soil removed:* 0 Cubic Yards
Is additional investigation required? Yes, additional investigation required at both on-site separators and at the AST	

Was groundwater encountered during the investigation?
X No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils

Measured depth to groundwater: N/A	*Was remedial groundwater removal conducted?* Yes No
Date Groundwater was encountered: N/A	*Commencement date of removal:* N/A
Sheen on groundwater? Yes No	*Volume of groundwater removed prior to sampling:* N/A
Free product observed? Yes No	*Volume of groundwater removed post sampling:* N/A
Total number of samples collected: N/A	*Total Volume of groundwater removed:* N/A
Total number of samples submitted to lab for analysis: N/A	

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	X	Flowline Closure	X	Tank Battery Closure

Site Name & COGCC Facility Number: Beeler 22-12,13, 331032	*Date:* 03/03/2022	*Remediation Project #:* 21781
Associated Wells: 05-123-21053 (22-13), 05-123-20054 (22-12)	*Age of Site:* 2001	*Number of Photos Attached:* 5
Location: *(GPS coordinates of vault or southeastern tank berm for multiple)* 40.303641, -104.873286		*Estimated Facility Size (acres):* ~1 acre

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

Good overall housekeeping. Soil staining was noted at the base of the PWV excavation, while the 4 sidewalls had no signs of any impacts.

USCS Soil Type: Sandy Clay	*Estimated Depth to Groundwater:* N/A

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

Staining noted at base of excavation. Staining extends to an unknown depth. This impact will be further investigated pending lab results

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

None observed

Buried or Partially Buried Vessels

Tank Contents	Produced Water									
Size (barrels)	35 BBLS									
Age	2001									
Construction Material	Concrete									
Visual Integrity of Tank	No Damage									
Condition of tank footprint	Impacts Present									
PID Readings	High @ 90.2ppm									
Condition of dump line	No Damage									
PID Readings	N/A									
Sample taken? Location/Sample ID#	40.303641, -104.873286 B01@7.0'									
Photo Number(s)	See Attached Photo Log									

Other observations regarding partially buried vessels:

None

Summary

Was impacted soil identified?

No X* Yes - less than 10 cubic yards Yes - more than 10 cubic yards

*Exact volume will be determined by subsequent investigation

Total number of samples field screened: 5	*Total number of samples collected:* 5
Highest PID Reading: Max @ B01@7.0' - 90.2ppm	*Total number of samples submitted to lab for analysis:* 2

If more than 10 cubic yards of impacted soil were observed:

Vertical extent: 7'	*Estimated spill volume:* Unknown
Lateral extent: 10' x 10'	*Volume of soil removed:* 0 Cubic Yards

Is additional investigation required?

Yes, addition investigation is required at the base of the excavation

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: N/A	*Was remedial groundwater removal conducted?* Yes No
Date Groundwater was encountered: N/A	*Commencement date of removal:* N/A
Sheen on groundwater? Yes No	*Volume of groundwater removed prior to sampling:* N/A
Free product observed? Yes No	*Volume of groundwater removed post sampling:* N/A
Total number of samples collected: N/A	*Total Volume of groundwater removed:* N/A
Total number of samples submitted to lab for analysis: N/A	

Flowline Closure Checklist

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

Additional Attachments:	X	Tank Battery Closure		Wellhead Closure		Pit Closure	X	Partially Buried Vault Closure

Site Name & COGCC Facility Number: Beeler 22-12, 13, 331032	*Date:* 03/04/2022	*Remediation Project #:* 21801 (with WH)
Associated Wells: 05-123-21053 (22-13), 05-123-20054 (22-12)	*Age of Site:* 2001	*Number of Photos Attached:* 16

Starting point: *(GPS coordinates and descriptions)* 40.299221, -104.875403 (22-13),40.302133,-104.874970 (22-12)

End point: *(GPS coordinates and descriptions)* 40.303484, -104.873559 (both flowlines 22-12, 13)

USCS Soil Type: Sandy Clay | *Estimated Depth to Groundwater:* N/A

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

No impacts noted during flowline removal

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

None observed

Flowlines

Flowline type	2" Steel	2" Steel						
Depth	Varies 2-4ft	Varies 2-4ft						
Age	2001	2001						
Length	1980ft	500ft						
Construction Material	Steel/epoxy coating	Steel/epoxy coating						
Were flowlines pulled?	Yes	Yes						
Visual Integrity of lines	No Damage	No Damage						
Visual impacts if trenched	No Impacts	No Impacts						
PID Readings if trenched	Max @ 11.3ppm	Max @ 11.3ppm						
Sample taken? Location/Sample ID#	See Table 4	See Table 4						
Photo Number(s)	14-22,24-27	18, 23, 28,29						

Other observations regarding on loction flowlines:

FL09@1.0' was the location for both flowline tie-ins to the separators and FL05@4.0' was the location of the 500 ft flowline tie-in to wellhead and part of the 1980 ft flowline removal.

Summary

Was impacted soil identified?

X No | Yes - less than 10 cubic yards | Yes - more than 10 cubic yards

Total number of samples field screened: 10	*Total number of samples collected:* 10
Highest PID Reading: 11.3ppm (FL09@1.0')	*Total number of samples submitted to lab for analysis:* None

If more than 10 cubic yards of impacted soil were observed:

Vertical extent: N/A	*Estimated spill volume:* N/A
Lateral extent: N/A	*Volume of soil removed:* N/A

Is additional investigation required? N/A

Was groundwater encountered during the investigation?

X No | Yes - not impacted or in contact with impacted soils | Yes - groundwater impacted and/or in contact with impacted soils

Measured depth to groundwater: N/A	*Was remedial groundwater removal conducted?* Yes No
Date Groundwater was encountered: N/A	*Commencement date of removal:* N/A
Sheen on groundwater? Yes No	*Volume of groundwater removed prior to sampling:* N/A
Free product observed? Yes No	*Volume of groundwater removed post sampling:* N/A
Total number of samples collected: N/A	*Total Volume of groundwater removed:* N/A
Total number of samples submitted to lab for analysis: N/A	

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
BEELER 22-12,13, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C022-013

Sample	Depth (ft)	Date Sampled	Location	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)	Naphth-alene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
AST01@1.0'	1	3/2/2022	Floor	<0.002	0.017	0.046	6.5	**6.5**	**6.1**	**0.013**	**150**	**670**	**<50**
B01@7.0'	7	3/3/2022	Floor	<0.002	<0.005	<0.005	<0.01	<0.005	<0.005	**0.017**	6.4	290	<50
S01@5.5'	5.5	3/3/2022	S Wall	<0.002	<0.005	<0.005	<0.01	<0.005	<0.005	<0.0038	<0.5	<50	<50
SEP01@6.0"	0.5	3/2/2022	Floor	**0.023**	0.3	0.41	<0.01	**1.7**	**0.59**	**0.16**	**480**	**280**	**<50**
SEP02@6.0"	0.5	3/2/2022	Floor	<0.002	<0.005	<0.005	<0.01	<0.005	<0.005	**0.0047**	0.56	<50	<50
COGCC Table 915-1 Limits (Residential SSL)				1.2	490	5.8	58	30	27	2	500	500	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	500	500

Bold faced values exceed the COGCC Table 915-1 concentrations

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.
BEELER 22-12,13, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C022-013

Sample	Depth (ft)	Date Sampled	Location	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) anthracene (mg/kg)	Benzo (b) fluoranthene (mg/kg)	Benzo (k) fluoranthene (mg/kg)	Benzo (a) pyrene (mg/kg)	Chrysene (mg/kg)	Dibenz (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)
AST01@1.0'	1	3/2/2022	Floor	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0191	<0.005	<0.005	0.0608	<0.005	<0.005	**0.554**	**1.33**
B01@7.0'	7	3/3/2022	Floor	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00686	<0.005	<0.005	0.015	<0.005	<0.005	**0.0571**	**0.152**
S01@5.5'	5.5	3/3/2022	S Wall	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
SEP01@6.0"	0.5	3/2/2022	Floor	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0282	<0.005	<0.005	**0.215**	**0.512**
SEP02@6.0"	0.5	3/2/2022	Floor	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
COGCC Table 915-1 Limits (Residential SSL)				360	1800	1.1	1.1	11	0.11	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	0.3	2.9	0.24	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019

Bold faced values exceed the COGCC Table 915-1 concentrations

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

TABLE 3
SUMMARY OF INORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
BEELER 22-12,13, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C022-013

SAMPLE LOCATION	DEPTH ft	DATE SAMPLED	EC mmhos/cm	pH pH units	SAR units	BORON mg/L
AST01@1.0'	1	3/2/2022	0.914	8.06	2.89	0.165
B01@7.0'	7	3/3/2022	1.54	7.78	**8.70**	0.155
S01@5.5'	5.5	3/3/2022	0.317	8.27	0.127	0.0724
SEP01@6.0"	0.5	3/2/2022	0.834	**8.59**	5.28	0.451
SEP02@6.0"	0.5	3/2/2022	0.589	**8.52**	1.51	0.138
BKG01@6.0"	0.5	3/2/2022	0.320	7.93	0.0541	0.205
Table 915-1 Limits			<4	6-8.3	<6	2

Bold face values exceed the COGCC Limits

TABLE 4

SUMMARY OF TEST PIT CONDITION

NOBLE ENERGY INC.

BEELER 22-12,13, WELD COUNTY, COLORADO

FREMONT PROJECT C022-013

Location	Latitude	Longitude	PID Reading	Field Observations
AST01@1.0'	40.303662	-104.873244	483.4ppm	Odor present
SEP01@6.0"	40.303524	-104.87356	463.8ppm	Odor present
SEP02@6.0"	40.303503	-104.873538	43.9ppm	No soil impacts
ECD01@6.0"	40.303433	-104.873568	1.8ppm	No soil impacts
ECD02@6.0"	40.303405	-104.873542	0.9ppm	No soil impacts
MET01@6.0"	FL09 (Separator)	-104.873467	0.8ppm	No soil impacts
BKG01@6.0"	40.303856	-104.872779	0.2ppm	No soil impacts
B01@7.0'	40.303641	-104.87329	90.2ppm	Slight odor/Staining present
N01@5.5'	FL09 (Separator)	-104.873274	3.8ppm	No soil impacts
S01@5.5'	40.303638	-104.873298	13.4ppm	No soil impacts
E01@5.5'	40.303634	-104.87328	1.1ppm	No soil impacts
W01@5.5'	40.303652	-104.873292	2.5ppm	No soil impacts
FL01@4.0'	40.299221	-104.875403	0.3ppm	No soil impacts
FL02@4.0'	40.299521	-104.87536	0.0ppm	No soil impacts
FL03@2.5'	40.299828	-104.875607	0.0ppm	No soil impacts
FL04@4.0'	40.300911	-104.875550	0.0ppm	No soil impacts
FL05@4.0'	40.302133	-104.874970	0.0ppm	No soil impacts
FL06@3.0'	40.302771	-104.873837	0.0ppm	No soil impacts
FL07@3.5'	40.302861	-104.873365	0.0ppm	No soil impacts
FL08@3.5'	40.303165	-104.873330	0.0ppm	No soil impacts
FL09@1.0'	40.303484	-104.873559	11.3ppm	No soil impacts
FL10@2.5'	40.302879	-104.873431	0.0ppm	No soil impacts

TABLE 5

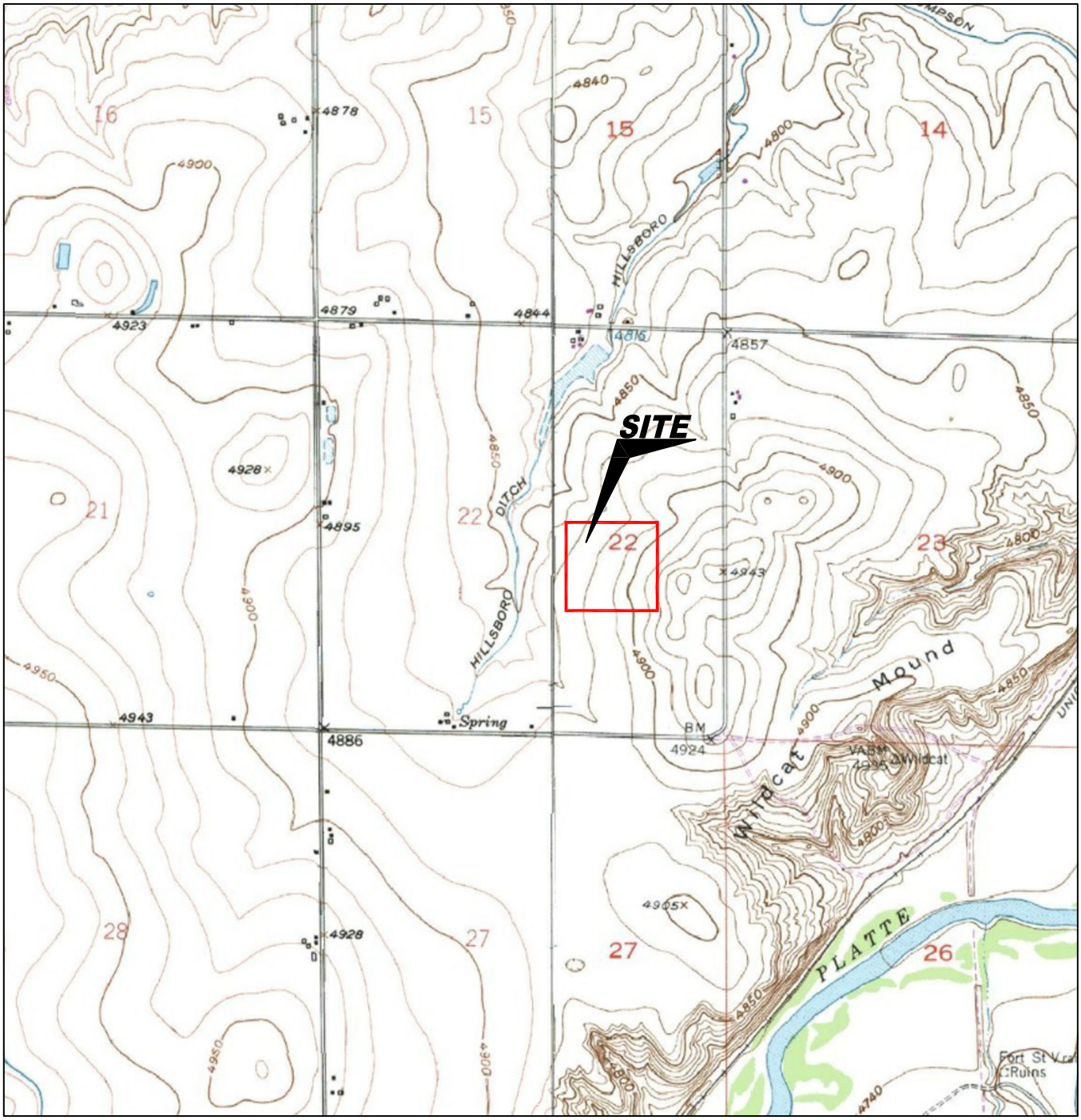
SUMMARY OF FLOWLINE CONDITION

NOBLE ENERGY INC.

BEELER 22-12,13, WELD COUNTY, COLORADO

FREMONT PROJECT C022-013

START	STOP	FOOTAGE	PIPE TYPE AND CONDITION
FL01 (22-13)	FL02	115	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL02	FL03	133	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL03	FL04	399	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL04	FL05	473	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL05	FL07	527	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL07	FL08	128	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL08	FL09 (Separator)	136	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
22-12	FL06	103	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL06	FL10	126	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
FL10	FL09 (Separator)	221	3" Sch 80 welded steel pipe, yellow polyurethane, good condition
		2361	Total linear feet of flow line



N

Scale (miles)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
0 1000 2000 3000 4000 5000
Scale (feet)

USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

Noble Energy, Inc.
Beeler 22-12, 13
NWNE Sec. 22, T4N, R67W, 6th PM
Weld County, Colorado

Project #	Remediation #	Facility #
C022-013	**21781**	**331032**
Date	Reviewed by	Filename
3/14/22	**EB**	**22013T**

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LEGEND

ABOVE GROUND STORAGE TANK

FORMER FACILITY

CONTAINMENT BERM

Figure 2
SITE MAP

Noble Energy, Inc.
Beeler 22-12, 13
NWNE Sec. 22, T4N, R67W, 6th PM
Weld County, Colorado

Project No.	API #	Facility #
C022-013	**21781**	**331032**
Date	Reviewed By	Filename
3/15/22	**EB**	**22013Q**

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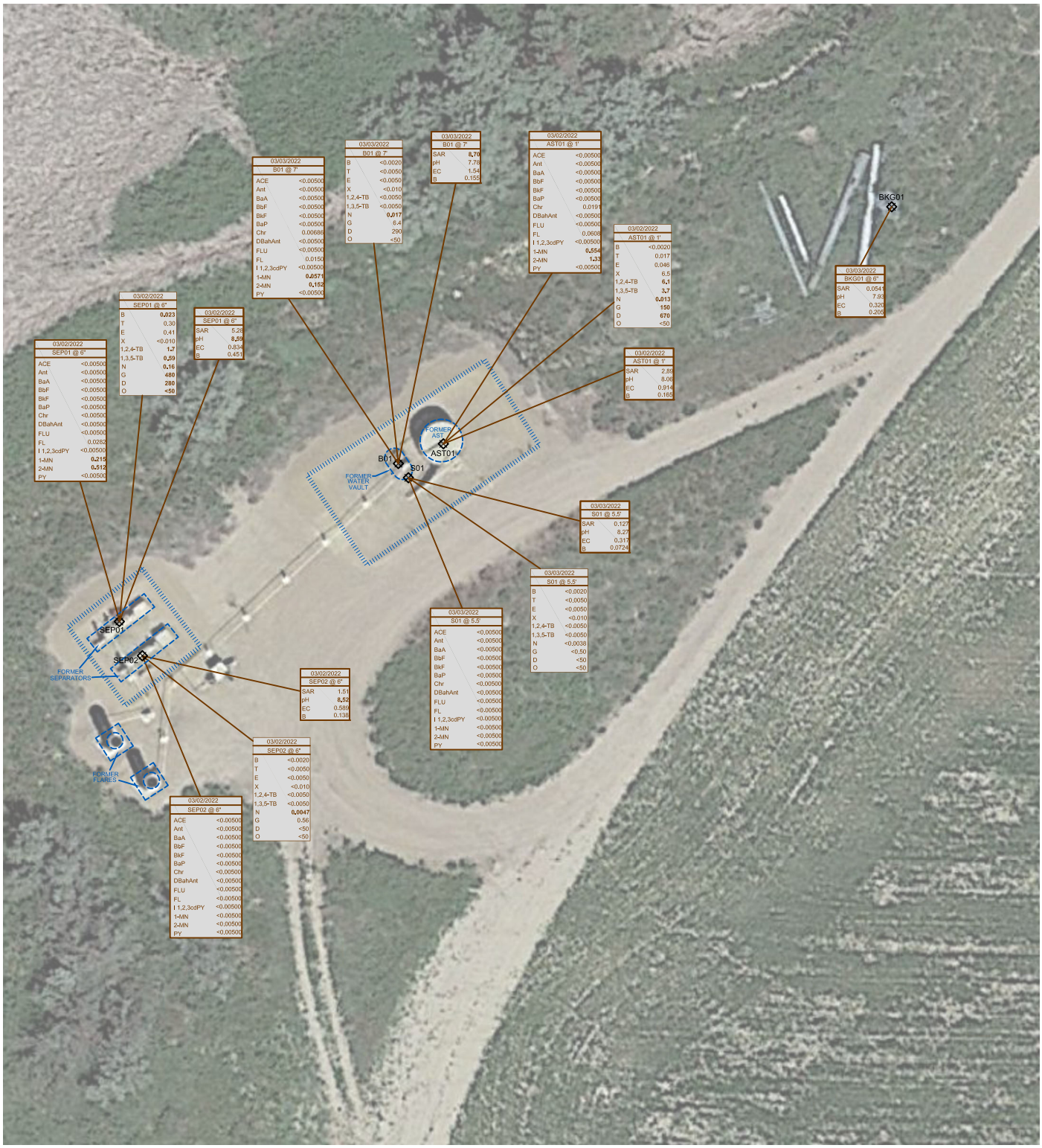


LEGEND

- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER — FORMER FACILITY
- CONTAINMENT BERM

03/03/2022 B01 @ 7'	DATE SAMPLED
	SAMPLE ID and DEPTH (ft)
ACE	ACENAPHTHENE (mg/kg)
Ant	ANTHRACENE (mg/kg)
BaA	BENZO (A) ANTHRACENE (mg/kg)
BbF	BENZO (B) FLUORANTHENE (mg/kg)
BkF	BENZO (K) FLUORANTHENE(mg/kg)
BaP	BENZO (A) PYRENE (mg/kg)
Chr	CHRYSENE (mg/kg)
DBahAnt	DIBENZ (A,H) ANTHRACENE (mg/kg)
FLU	FLUORANTHENE (mg/kg)
FL	FLUORENE (mg/kg)
I 1,2,3cdPY	INDENO (1,2,3-CD) PYRENE(mg/kg)
1-MN	1-METHYLNAPHTHALENE (mg/kg)
2-MN	2-METHYLNAPHTHALENE (mg/kg)
PY	PYRENE (mg/kg)

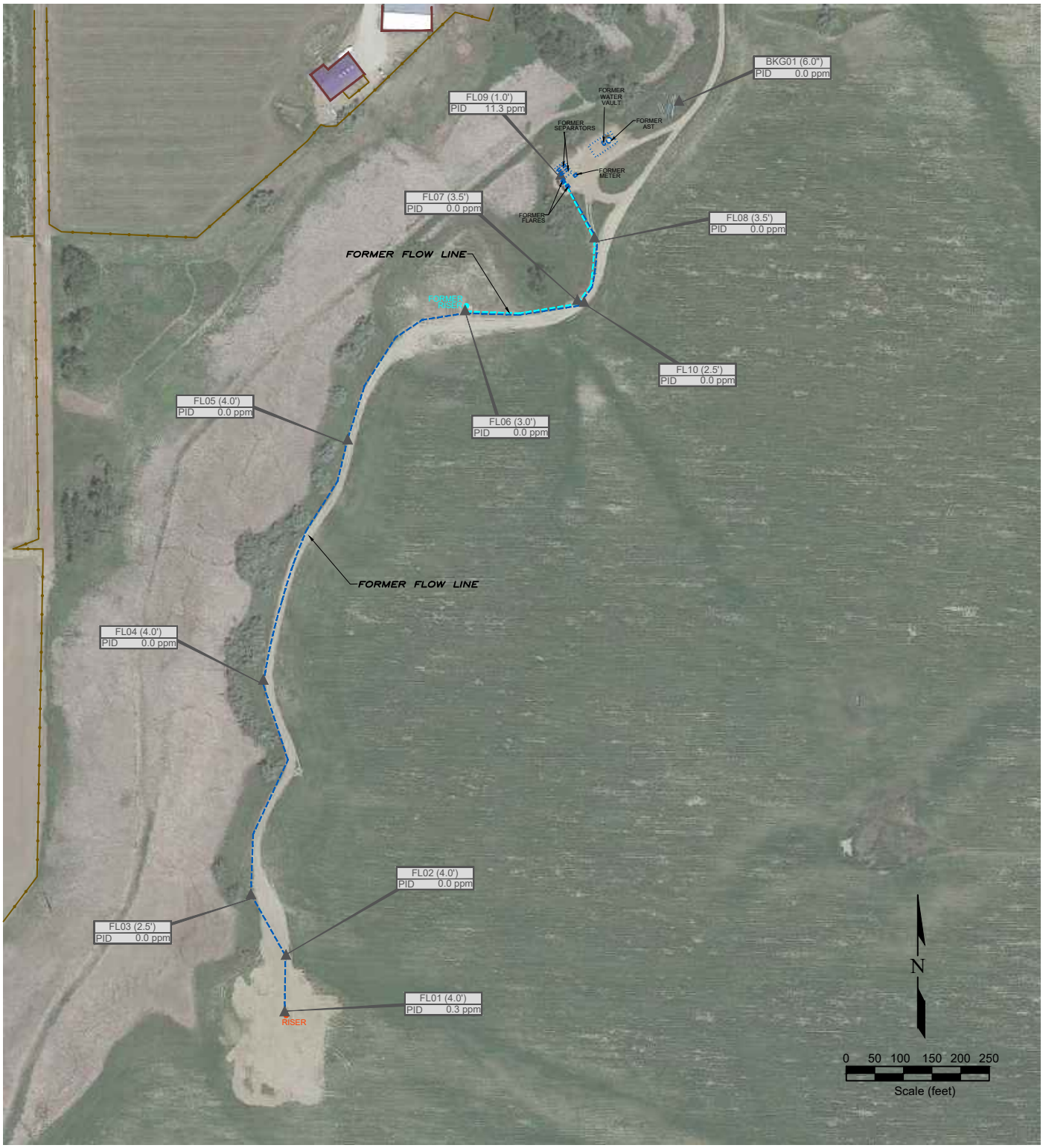
03/03/2022 B01 @ 7'	DATE SAMPLED
	SAMPLE ID and DEPTH (ft)
B	BENZENE (mg/kg)
T	TOLUENE (mg/kg)
E	ETHYLBENZENE (mg/kg)
X	TOTAL XYLENES (mg/kg)
1,2,4-TB	1,2,4-TRIMETHYLBENZENE (mg/kg)
1,3,5-TB	1,3,5-TRIMETHYLBENZENE (mg/kg)
N	NAPHTHALENE (mg/kg)
G	TPH-GRO (mg/kg)
D	TPH-DRO (mg/kg)
O	TPH-ORO (mg/kg)

03/03/2022 B01 @ 7'	DATE SAMPLED
	SAMPLE ID & DEPTH (ft)
SAR	SAR (units)
pH	pH (pH units)
EC	EC (mmhos/cm)
B	BORON (mg/L)

Figure 3
SOIL CHEMISTRY MAP
March 2, 2022
Noble Energy, Inc.
Beeler 22-12, 13
NWNE Sec. 22, T4N, R67W, 6th PM
Weld County, Colorado

Project No.	API #	Facility #
C022-013	21781	331032
Date	**Reviewed By**	**Filename**
3/17/22	EB	22013QQ

FREMONT ENVIRONMENTAL



LEGEND

- RISER LOCATION
- PID READING LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- BUILDING
- FORMER FLOW LINE
- FORMER FLOW LINE
- CONTAINMENT BERM
- FENCE LINE

AST01 (1.0')
PID 483.4 ppm
PHOTO IONIZATION DETECTION READING (ppm)
PID = photo ionization dectection / PPM = parts per million

Figure 4
SITE MAP

Noble Energy, Inc.
Beeler 22-12, 13
NWNE Sec. 22, T4N, R67W, 6th PM
Weld County, Colorado

Project No.	API #	Facility #
C022-013	**21781**	**331032**
Date	Reviewed By	Filename
7/6/22	**JG**	**22013QFL**

FREMONT ENVIRONMENTAL

1 – Beeler 22-12,13 – PWV Removal - Base of Excavation - B01@7.0’

2 – Beeler 22-12,13 – PWV Removal – North Sidewall - N01@5.5’

3 – Beeler 22-12,13 – PWV Removal – East Sidewall - E01@5.5’

4 – Beeler 22-12,13 – PWV Removal – South Sidewall - S01@5.5’

5 – Beeler 22-12,13 – PWV Removal – West Sidewall - W01@5.5’

6 - Beeler 22-12,13 – Bottom of AST – some staining visible on tank bottom; no obvious sign of failure

7 - Beeler 22-12,13 – Aboveground Storage Tank – AST01@1.0' – Looking West

8 - Beeler 22-12,13 – Western Separator – SEP01@6.0" – Looking Southeast

9 - Beeler 22-12,13 – Eastern Separator – SEP02@6.0" – Looking South

10 - Beeler 22-12,13 – Western Flare – ECD01@6.0" – Looking Southwest

11 - Beeler 22-12,13 – Eastern Flare – ECD02@6.0" – Looking Southeast

12 - Beeler 22-12,13 – Third Party Meter Shed – MET01@6.0" – Looking West

13 – Beeler 22-12,13 – Background Sample – BKG01@6.0" – Looking South

14 – Beeler 22-12,13 – Flowline #1 - FL01@4.0' – Wellhead Tie-in – Looking North

15 – Beeler 22-12,13 – Flowline #1 - FL02@4.0' – Looking North

16 – Beeler 22-12,13 – Flowline #1 - FL03@2.5' – Looking North

17 – Beeler 22-12,13 – Flowline #1 - FL04@4.0' – Looking North

18 – Beeler 22-12,13 – Flowline #1 & #2 - FL05@4.0' – Looking South

19 – Beeler 22-12,13 – Flowline #1 - FL06@3.0' – looking Southwest

20 – Beeler 22-12,13 – Flowline #1 - FL07@3.5' – Looking South

21 – Beeler 22-12,13 – Flowline #1 - FL08@3.5' – Looking Northwest

22 – Beeler 22-12,13 – Separator Tie-ins For Both Flowlines FL09@1.0' - Looking West

23 – Beeler 22-12,13 – Flowline #2 - FL10@2.5' – Looking Southwest

24 – Beeler 22-12,13 – Flowline #1 Actively Being Removed

25 – Beeler 22-12,13 – Flowline #1 Removal – No External Damage

26 – Beeler 22-12,13 – Flowline #1 Removal – No External Damage

27 – Beeler 22-12,13 – Flowline #1 Removal – No External Damage

28 – Beeler 22-12,13 – Flowline #2 Removal – No External Damage

29 – Beeler 22-12,13 – Flowline #2 Removal – No External Damage

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 14, 2022

Paul Henehan
Fremont Environmental
PO Box 1289
Wellington, CO 80549

RE: Beeler
Work Order #2203070

Enclosed are the results of analyses for samples received by Summit Scientific on 03/03/22 16:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Paul Shrewsbury
President

S2

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@7.0'	2203070-01	Soil	03/03/22 00:00	03/03/22 16:20
S01@5.5'	2203070-02	Soil	03/03/22 00:00	03/03/22 16:20
BKG01@6.0"	2203070-03	Soil	03/03/22 00:00	03/03/22 16:20
SEP01@6.0"	2203070-04	Soil	03/02/22 00:00	03/03/22 16:20
SEP02@6.0"	2203070-05	Soil	03/02/22 00:00	03/03/22 16:20
AST01@1.0'	2203070-06	Soil	03/02/22 00:00	03/03/22 16:20

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.

2203070

Summit Scientific

S_2

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Client: Fremont Environmental
Address: P.O Box 1289
City/State/Zip: Wellington, CO 80549
Phone: 303-956-8714
Sampler Name: JTG

Project Manager: Paul Henehan
E-Mail: paulh@fremontenv.com, ethanb@fremontenv.com jeffg@fremontenv.com
Bill to:
Project Name: Beeler
Project Number: C022-013

					Preservative				Matrix				Analysis Requested										Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other TMBs	GBTEXN - 915	BTEX - 910	GRO	DRO/ORO	SAR	EC	pH	Boron	PAH - 915		
1	B01@7.0'	03/03/22		3			X			X		X	X		X	X	X	X	X	X	X		
2	S01@5.5'	↓		↓			↓			↓		X	X		X	X	X	X	X	X	X		
3	BKG01@6.0"	↓		↓			↓			↓							X	X	X	X			
4	SEP01@6.0"	03/02/22		↓			↓			↓		X	X	X	X	X	X	X	X	X	X		
5	SEP02@6.0"	03/02/22		↓			↓			↓		X	X		X	X	X	X	X	X	X		
6	AST01@6.0'	03/03/22		↓			↓			↓		X	X		X	X	X	X	X	X	X		
7																							
8																							
9																							
10																							

Relinquished by:	Date/Time:	Received by:	Date/Time:
	1620/03/03/22		3.3.22 1620
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)
Same Day ___ 72 hours ___
24 hours ___ Standard X
48 hours ___
Sample Integrity:
Temperature Upon Receipt: 3.8
Samples Intact: (Yes) No

Notes:
Bill to Jacob

S2

Sample Receipt Checklist

S2 Work Order# 2203070

Client: Fremont Client Project ID: Beeler

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

Matrix (check all that apply): [ ] Air [–] Soil/Solid [ ] Water [ ] Other: (Describe)

Temp (°C)	3.8

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°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
Were all samples received intact (1)?	–			
Was adequate sample volume provided (1)?	–			
If custody seals are present, are they intact (1)?	–			
Are samples with holding times due within 48 hours sample due within 48 hours present?		–		
Is a chain-of-custody (COC) form present and filled out completely (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)?	–			
Is the COC properly relinquished by the client w/ date and time recorded (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, H2SO4, NaOH, HNO3, 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.**

RAH

Custodian Printed Name or Initials

3.3.22

Date/Time

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

B01@7.0'

2203070-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFC0071	03/04/22	03/05/22	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	**0.017**	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	**6.4**	0.50	"	"	"	"	"	"	

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8		*105 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*125 %*	*70-130*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	**290**	50	mg/kg	1	BFC0074	03/04/22	03/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*106 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

B01@7.0'

2203070-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0134	03/08/22	03/09/22	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	**0.00686**	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	**0.0150**	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	**0.0571**	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	**0.152**	0.00500	"	"	"	"	"	"	

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*28.4 %*	*40-150*		"	"	"	"	*S-02*
Surrogate: Fluoranthene-d10		*68.9 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.155**	0.0100	mg/L	1	BFC0104	03/07/22	03/13/22	EPA 6020B	

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

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

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: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

B01@7.0'

2203070-01 (Soil)

Summit Scientific

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

Calcium	**331**	0.0599	mg/L dry	1	BFC0152	03/09/22	03/13/22	EPA 6020B
Magnesium	**138**	0.0599	"	"	"	"	"	"
Sodium	**747**	0.0599	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**8.70**	0.00100	units	1	BFC0261	03/14/22	03/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**83.4**		%	1	BFC0147	03/09/22	03/09/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1.54**	0.0100	mmhos/cm	1	BFC0073	03/04/22	03/04/22	EPA 120.1	

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

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.78**		pH Units	1	BFC0072	03/04/22	03/04/22	EPA 9045D	

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

S01@5.5'

2203070-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFC0071	03/04/22	03/05/22	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: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*70-130*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0074	03/04/22	03/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*108 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

S01@5.5'

2203070-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0134	03/08/22	03/09/22	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: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*49.4 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*42.3 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.0724**	0.0100	mg/L	1	BFC0104	03/07/22	03/13/22	EPA 6020B	

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

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

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: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

S01@5.5'

2203070-02 (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	**76.2**	0.0570	mg/L dry	1	BFC0152	03/09/22	03/13/22	EPA 6020B	
Magnesium	**14.9**	0.0570	"	"	"	"	"	"	
Sodium	**4.62**	0.0570	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.127**	0.00100	units	1	BFC0261	03/14/22	03/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**87.8**		%	1	BFC0147	03/09/22	03/09/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.317**	0.0100	mmhos/cm	1	BFC0073	03/04/22	03/04/22	EPA 120.1	

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

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.27**		pH Units	1	BFC0072	03/04/22	03/04/22	EPA 9045D	

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

BKG01@6.0"

2203070-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.205**	0.0100	mg/L	1	BFC0104	03/07/22	03/13/22	EPA 6020B	

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

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**60.4**	0.0584	mg/L dry	1	BFC0152	03/09/22	03/13/22	EPA 6020B	
Magnesium	**9.26**	0.0584	"	"	"	"	"	"	
Sodium	**1.71**	0.0584	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.0541**	0.00100	units	1	BFC0261	03/14/22	03/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**85.7**		%	1	BFC0147	03/09/22	03/09/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.320**	0.0100	mmhos/cm	1	BFC0073	03/04/22	03/04/22	EPA 120.1	

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

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

BKG01@6.0"

2203070-03 (Soil)

Summit Scientific

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

Date Sampled: **03/03/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.93**		pH Units	1	BFC0072	03/04/22	03/04/22	EPA 9045D	

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

SEP01@6.0"

2203070-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**0.023**	0.0020	mg/kg	1	BFC0071	03/04/22	03/05/22	EPA 8260B	
Toluene	**0.30**	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.41**	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**1.7**	0.50	"	100	"	"	"	"	
1,3,5-Trimethylbenzene	**0.59**	0.0050	"	1	"	"	"	"	
Naphthalene	**0.16**	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	**480**	50	"	100	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*112 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*171 %*	*70-130*		"	"	"	"	*S-02*

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	**280**	50	mg/kg	1	BFC0074	03/04/22	03/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*111 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

SEP01@6.0"

2203070-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0134	03/08/22	03/09/22	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	**0.0282**	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	**0.215**	0.0500	"	10	"	"	"	"	
2-Methylnaphthalene	**0.512**	0.0500	"	"	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*72.1 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*79.5 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.451**	0.0100	mg/L	1	BFC0104	03/07/22	03/13/22	EPA 6020B	

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

Date Sampled: **03/02/22 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: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

SEP01@6.0"

2203070-04 (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	**33.4**	0.0581	mg/L dry	1	BFC0152	03/09/22	03/13/22	EPA 6020B	
Magnesium	**9.36**	0.0581	"	"	"	"	"	"	
Sodium	**134**	0.0581	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**5.28**	0.00100	units	1	BFC0261	03/14/22	03/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**86.0**		%	1	BFC0147	03/09/22	03/09/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.834**	0.0100	mmhos/cm	1	BFC0073	03/04/22	03/04/22	EPA 120.1	

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

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.59**		pH Units	1	BFC0072	03/04/22	03/04/22	EPA 9045D	

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

SEP02@6.0"

2203070-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFC0071	03/04/22	03/05/22	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	**0.0047**	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	**0.56**	0.50	"	"	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*	*70-130*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFC0074	03/04/22	03/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*115 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

SEP02@6.0"

2203070-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0134	03/08/22	03/09/22	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: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*58.1 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*50.1 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.138**	0.0100	mg/L	1	BFC0104	03/07/22	03/13/22	EPA 6020B	

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

Date Sampled: **03/02/22 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: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

SEP02@6.0"

2203070-05 (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	**42.2**	0.0566	mg/L dry	1	BFC0152	03/09/22	03/13/22	EPA 6020B	
Magnesium	**17.2**	0.0566	"	"	"	"	"	"	
Sodium	**46.0**	0.0566	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**1.51**	0.00100	units	1	BFC0261	03/14/22	03/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**88.3**		%	1	BFC0147	03/09/22	03/09/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.589**	0.0100	mmhos/cm	1	BFC0073	03/04/22	03/04/22	EPA 120.1	

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

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.52**		pH Units	1	BFC0072	03/04/22	03/04/22	EPA 9045D	

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

AST01@1.0'

2203070-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFC0071	03/04/22	03/05/22	EPA 8260B	
Toluene	**0.017**	0.0050	"	"	"	"	"	"	
Ethylbenzene	**0.046**	0.0050	"	"	"	"	"	"	
Xylenes (total)	**6.5**	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**6.1**	0.050	"	10	"	"	"	"	
1,3,5-Trimethylbenzene	**3.7**	0.050	"	"	"	"	"	"	
Naphthalene	**0.013**	0.0038	"	1	"	"	"	"	
Gasoline Range Hydrocarbons	**150**	5.0	"	10	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*97.6 %*	*70-130*		"	"	"	"	
Surrogate: Toluene-d8		*104 %*	*70-130*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*111 %*	*70-130*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	**670**	50	mg/kg	1	BFC0074	03/04/22	03/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*119 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

AST01@1.0'

2203070-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFC0134	03/08/22	03/09/22	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	**0.0191**	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	**0.0608**	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	**0.554**	0.0500	"	10	"	"	"	"	
2-Methylnaphthalene	**1.33**	0.0500	"	"	"	"	"	"	

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*55.0 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*59.7 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.165**	0.0100	mg/L	1	BFC0104	03/07/22	03/13/22	EPA 6020B	

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

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

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AST01@1.0'

2203070-06 (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	**48.0**	0.0614	mg/L dry	1	BFC0152	03/09/22	03/13/22	EPA 6020B	
Magnesium	**23.3**	0.0614	"	"	"	"	"	"	
Sodium	**97.5**	0.0614	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**2.89**	0.00100	units	1	BFC0261	03/14/22	03/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**81.5**		%	1	BFC0147	03/09/22	03/09/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.914**	0.0100	mmhos/cm	1	BFC0073	03/04/22	03/04/22	EPA 120.1	

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

Date Sampled: **03/02/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.06**		pH Units	1	BFC0072	03/04/22	03/04/22	EPA 9045D	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0071 - EPA 5030 Soil MS										
Blank (BFC0071-BLK1)				Prepared: 03/04/22 Analyzed: 03/05/22						
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	*0.0394*		*"*	*0.0400*		*98.5*	*70-130*			
Surrogate: Toluene-d8	*0.0412*		*"*	*0.0400*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0391*		*"*	*0.0400*		*97.7*	*70-130*			
LCS (BFC0071-BS1)				Prepared: 03/04/22 Analyzed: 03/05/22						
Benzene	0.0602	0.0020	mg/kg	0.0750		80.3	70-130			
Toluene	0.0644	0.0050	"	0.0750		85.9	70-130			
Ethylbenzene	0.0645	0.0050	"	0.0750		86.0	70-130			
m,p-Xylene	0.138	0.010	"	0.150		91.9	70-130			
o-Xylene	0.0672	0.0050	"	0.0750		89.6	70-130			
1,2,4-Trimethylbenzene	0.0700	0.0050	"	0.0750		93.4	70-130			
1,3,5-Trimethylbenzene	0.0686	0.0050	"	0.0750		91.5	70-130			
Naphthalene	0.0609	0.0038	"	0.0750		81.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0411*		*"*	*0.0400*		*103*	*70-130*			
Surrogate: Toluene-d8	*0.0402*		*"*	*0.0400*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0409*		*"*	*0.0400*		*102*	*70-130*			
Matrix Spike (BFC0071-MS1)	**Source: 2203029-01**			Prepared: 03/04/22 Analyzed: 03/05/22						
Benzene	0.0599	0.0020	mg/kg	0.0750	ND	79.9	70-130			
Toluene	0.0652	0.0050	"	0.0750	ND	87.0	70-130			
Ethylbenzene	0.0667	0.0050	"	0.0750	ND	88.9	70-130			
m,p-Xylene	0.140	0.010	"	0.150	ND	93.5	70-130			
o-Xylene	0.0687	0.0050	"	0.0750	ND	91.6	70-130			
1,2,4-Trimethylbenzene	0.0735	0.0050	"	0.0750	ND	98.0	70-130			
1,3,5-Trimethylbenzene	0.0718	0.0050	"	0.0750	ND	95.7	70-130			
Naphthalene	0.0720	0.0038	"	0.0750	ND	96.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0419*		*"*	*0.0400*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.0404*		*"*	*0.0400*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0410*		*"*	*0.0400*		*103*	*70-130*			

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0071 - EPA 5030 Soil MS										
Matrix Spike Dup (BFC0071-MSD1)	**Source: 2203029-01**			Prepared: 03/04/22 Analyzed: 03/05/22						
Benzene	0.0598	0.0020	mg/kg	0.0750	ND	79.7	70-130	0.251	30	
Toluene	0.0671	0.0050	"	0.0750	ND	89.5	70-130	2.81	30	
Ethylbenzene	0.0685	0.0050	"	0.0750	ND	91.3	70-130	2.71	30	
m,p-Xylene	0.146	0.010	"	0.150	ND	97.5	70-130	4.13	30	
o-Xylene	0.0690	0.0050	"	0.0750	ND	92.0	70-130	0.349	30	
1,2,4-Trimethylbenzene	0.0766	0.0050	"	0.0750	ND	102	70-130	4.08	30	
1,3,5-Trimethylbenzene	0.0743	0.0050	"	0.0750	ND	99.1	70-130	3.49	30	
Naphthalene	0.0722	0.0038	"	0.0750	ND	96.3	70-130	0.333	30	
Surrogate: 1,2-Dichloroethane-d4	*0.0387*		*"*	*0.0400*		*96.8*	*70-130*			
Surrogate: Toluene-d8	*0.0408*		*"*	*0.0400*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0409*		*"*	*0.0400*		*102*	*70-130*			

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0074 - EPA 3550A										
Blank (BFC0074-BLK1)				Prepared & Analyzed: 03/04/22						
C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
LCS (BFC0074-BS1)				Prepared & Analyzed: 03/04/22						
C10-C28 (DRO)	568	50	mg/kg	500		114	70-130			
Matrix Spike (BFC0074-MS1)	**Source: 2203029-01**			Prepared & Analyzed: 03/04/22						
C10-C28 (DRO)	543	50	mg/kg	500	26.5	103	70-130			
Matrix Spike Dup (BFC0074-MSD1)	**Source: 2203029-01**			Prepared & Analyzed: 03/04/22						
C10-C28 (DRO)	522	50	mg/kg	500	26.5	99.2	70-130	3.95	20	

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0134 - EPA 5030 Soil MS										
Blank (BFC0134-BLK1)				Prepared & Analyzed: 03/08/22						
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	*0.0156*		*"*	*0.0333*		*46.8*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0163*		*"*	*0.0333*		*49.0*	*40-150*			
LCS (BFC0134-BS1)				Prepared & Analyzed: 03/08/22						
Acenaphthene	0.0191	0.00500	mg/kg	0.0333		57.2	31-137			
Anthracene	0.0202	0.00500	"	0.0333		60.6	30-120			
Benzo (a) anthracene	0.0176	0.00500	"	0.0333		52.8	30-120			
Benzo (a) pyrene	0.0197	0.00500	"	0.0333		59.0	30-120			
Benzo (b) fluoranthene	0.0183	0.00500	"	0.0333		55.0	30-120			
Benzo (k) fluoranthene	0.0235	0.00500	"	0.0333		70.5	30-120			
Chrysene	0.0197	0.00500	"	0.0333		59.1	30-120			
Dibenz (a,h) anthracene	0.0233	0.00500	"	0.0333		70.0	30-120			
Fluoranthene	0.0207	0.00500	"	0.0333		62.0	30-120			
Fluorene	0.0198	0.00500	"	0.0333		59.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0250	0.00500	"	0.0333		75.1	30-120			
Pyrene	0.0222	0.00500	"	0.0333		66.5	35-142			
1-Methylnaphthalene	0.0157	0.00500	"	0.0333		47.1	35-142			
2-Methylnaphthalene	0.0199	0.00500	"	0.0333		59.6	35-142			
Surrogate: 2-Methylnaphthalene-d10	*0.0193*		*"*	*0.0333*		*57.8*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0205*		*"*	*0.0333*		*61.6*	*40-150*			

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0134 - EPA 5030 Soil MS										
Matrix Spike (BFC0134-MS1)	**Source: 2203069-01**			Prepared: 03/08/22 Analyzed: 03/09/22						
Acenaphthene	0.0204	0.00500	mg/kg	0.0333	ND	61.2	31-137			
Anthracene	0.0206	0.00500	"	0.0333	ND	61.7	30-120			
Benzo (a) anthracene	0.0191	0.00500	"	0.0333	ND	57.4	30-120			
Benzo (a) pyrene	0.0206	0.00500	"	0.0333	ND	61.7	30-120			
Benzo (b) fluoranthene	0.0212	0.00500	"	0.0333	ND	63.6	30-120			
Benzo (k) fluoranthene	0.0243	0.00500	"	0.0333	ND	72.8	30-120			
Chrysene	0.0231	0.00500	"	0.0333	ND	69.2	30-120			
Dibenz (a,h) anthracene	0.0192	0.00500	"	0.0333	ND	57.6	30-120			
Fluoranthene	0.0216	0.00500	"	0.0333	ND	64.7	30-120			
Fluorene	0.0214	0.00500	"	0.0333	ND	64.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0213	0.00500	"	0.0333	ND	64.0	30-120			
Pyrene	0.0267	0.00500	"	0.0333	ND	80.0	35-142			
1-Methylnaphthalene	0.0202	0.00500	"	0.0333	ND	60.6	15-130			
2-Methylnaphthalene	0.0240	0.00500	"	0.0333	ND	71.9	15-130			
Surrogate: 2-Methylnaphthalene-d10	*0.0179*		*"*	*0.0333*		*53.6*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0198*		*"*	*0.0333*		*59.5*	*40-150*			
Matrix Spike Dup (BFC0134-MSD1)	**Source: 2203069-01**			Prepared: 03/08/22 Analyzed: 03/09/22						
Acenaphthene	0.0196	0.00500	mg/kg	0.0333	ND	58.8	31-137	3.95	30	
Anthracene	0.0210	0.00500	"	0.0333	ND	62.9	30-120	1.84	30	
Benzo (a) anthracene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	8.96	30	
Benzo (a) pyrene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	7.38	30	
Benzo (b) fluoranthene	0.0201	0.00500	"	0.0333	ND	60.3	30-120	5.29	30	
Benzo (k) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.3	30-120	4.92	30	
Chrysene	0.0215	0.00500	"	0.0333	ND	64.6	30-120	6.82	30	
Dibenz (a,h) anthracene	0.0169	0.00500	"	0.0333	ND	50.6	30-120	12.9	30	
Fluoranthene	0.0202	0.00500	"	0.0333	ND	60.6	30-120	6.63	30	
Fluorene	0.0198	0.00500	"	0.0333	ND	59.5	30-120	7.64	30	
Indeno (1,2,3-cd) pyrene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	12.9	30	
Pyrene	0.0251	0.00500	"	0.0333	ND	75.4	35-142	5.91	30	
1-Methylnaphthalene	0.0200	0.00500	"	0.0333	ND	60.0	15-130	0.943	50	
2-Methylnaphthalene	0.0234	0.00500	"	0.0333	ND	70.2	15-130	2.44	50	
Surrogate: 2-Methylnaphthalene-d10	*0.0188*		*"*	*0.0333*		*56.5*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0185*		*"*	*0.0333*		*55.6*	*40-150*			

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0104 - EPA 3050B										
Blank (BFC0104-BLK1)				Prepared: 03/07/22 Analyzed: 03/12/22						
Boron	ND	0.0100	mg/L							
LCS (BFC0104-BS1)				Prepared: 03/07/22 Analyzed: 03/12/22						
Boron	4.58	0.0100	mg/L	5.00		91.6	80-120			
Duplicate (BFC0104-DUP1)		**Source: 2203040-04**		Prepared: 03/07/22 Analyzed: 03/12/22						
Boron	0.0818	0.0100	mg/L		0.0805			1.58	20	
Matrix Spike (BFC0104-MS1)		**Source: 2203040-04**		Prepared: 03/07/22 Analyzed: 03/12/22						
Boron	4.65	0.0100	mg/L	5.00	0.0805	91.5	75-125			
Matrix Spike Dup (BFC0104-MSD1)		**Source: 2203040-04**		Prepared: 03/07/22 Analyzed: 03/12/22						
Boron	4.58	0.0100	mg/L	5.00	0.0805	90.0	75-125	1.63	25	

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0152 - General Preparation										
Blank (BFC0152-BLK1)				Prepared: 03/09/22 Analyzed: 03/13/22						
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							
LCS (BFC0152-BS1)				Prepared: 03/09/22 Analyzed: 03/13/22						
Calcium	4.75	0.0500	mg/L wet	5.00		95.1	70-130			
Magnesium	4.99	0.0500	"	5.00		99.7	70-130			
Sodium	4.90	0.0500	"	5.00		98.0	70-130			

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0147 - General Preparation										
Duplicate (BFC0147-DUP1)	**Source: 2203064-01**			Prepared & Analyzed: 03/09/22						
% Solids	89.8		%		89.8			0.0543	20	

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0073 - General Preparation										
Blank (BFC0073-BLK1)				Prepared & Analyzed: 03/04/22						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (BFC0073-BS1)				Prepared & Analyzed: 03/04/22						
Specific Conductance (EC)	0.144	0.0100	mmhos/cm	0.150		96.1	95-105			
Duplicate (BFC0073-DUP1)		**Source: 2203054-01**		Prepared & Analyzed: 03/04/22						
Specific Conductance (EC)	0.429	0.0100	mmhos/cm		0.430			0.0931	20	

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFC0072 - General Preparation										
LCS (BFC0072-BS1)				Prepared & Analyzed: 03/04/22						
pH	9.19		pH Units	9.18		100	95-105			
Duplicate (BFC0072-DUP1)		**Source: 2203054-01**		Prepared & Analyzed: 03/04/22						
pH	8.74		pH Units		8.73			0.114	20	

S2

Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Beeler Project Number: CO22-013 Project Manager: Paul Henehan	**Reported:** 03/14/22 14:48

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
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