

# **FREMONT ENVIRONMENTAL INC.**

December 22, 2022

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

Subject:           **Facility Closure Data Submittal**  
Ball Ranch AC 15-03 Facility  
Facility ID: 427188  
NWNW Sec. 15, T7N, R63W  
Weld County, Colorado  
Fremont Project No. C022-124  
Remediation #23764

Dear Mr. Peterson:

As requested, Fremont Environmental Inc. (Fremont) personnel conducted facility abandonment activities at the Noble Energy Inc. (Noble) Ball Ranch AC 15-03 facility. Details of the facility abandonment activities are documented in the attached Closure Report. Soil sample PWVB01@8' was reported with concentrations of organic compounds in exceedance of groundwater protection standards. Additionally, the AST05@1' sample was reported with a slightly elevated concentration of EC. Groundwater was not encountered during decommissioning 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.**

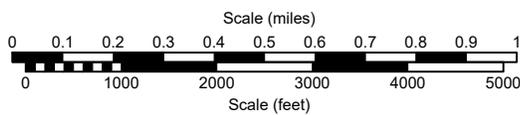
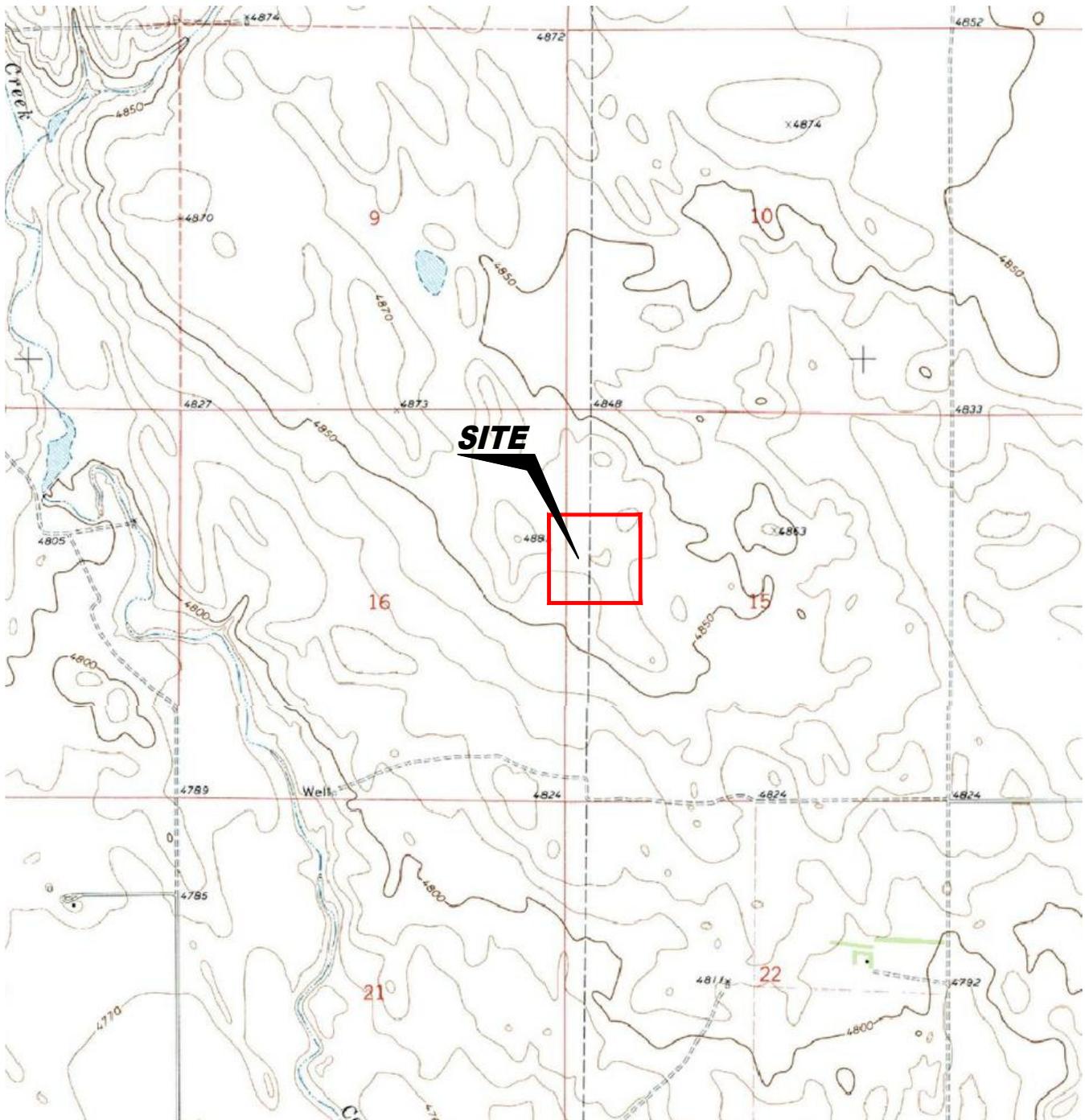


Paul V. Henehan, P.E.  
Senior Consultant

Attachments:

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

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



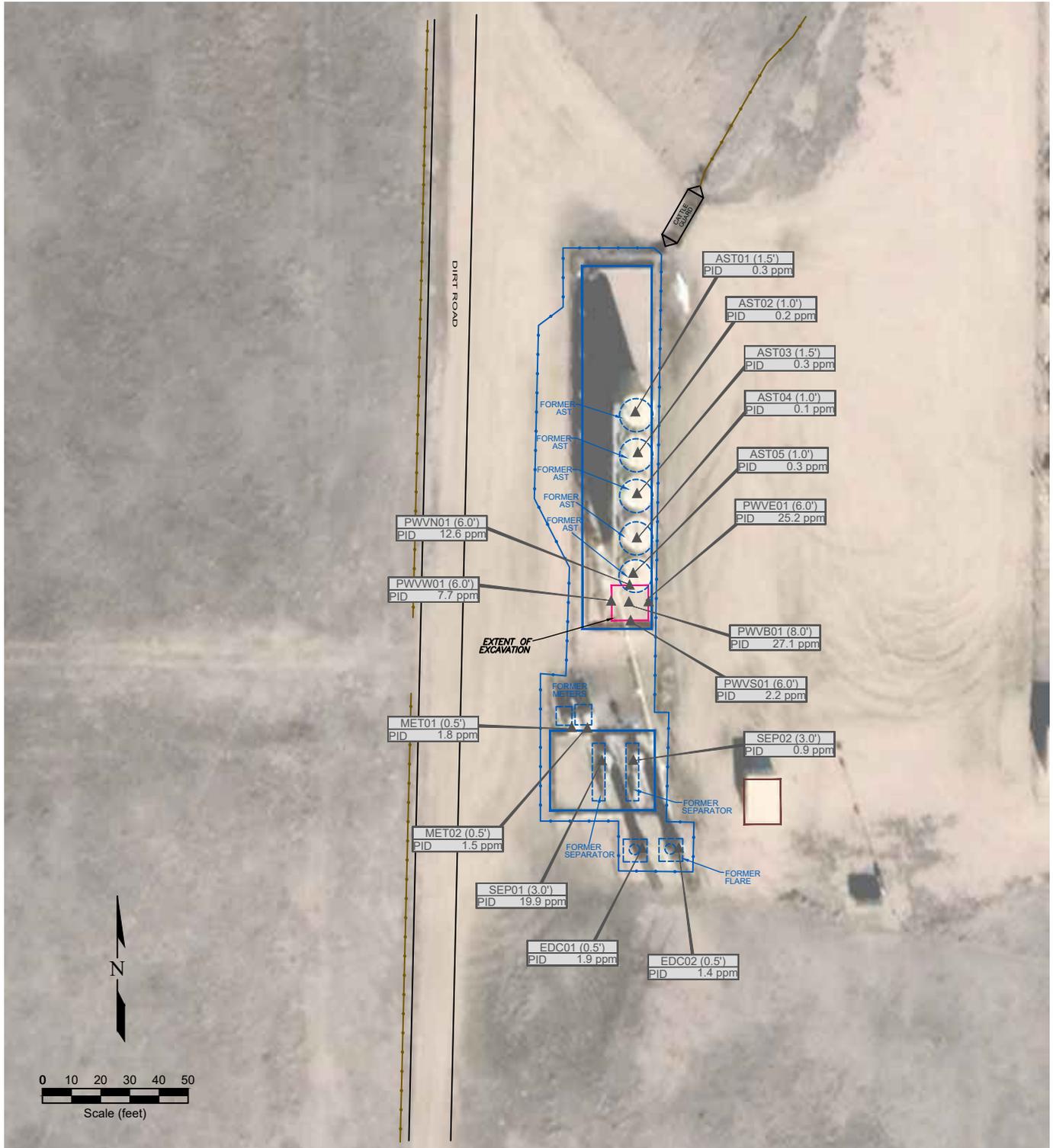
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
**SITE LOCATION MAP**

**Noble Energy, Inc. ~ Ball Ranch AC 15-65HN**  
 SWNW Sec. 15, T7N, R63W, 6th PM  
 Weld County, Colorado  
 40.575290°, -104.429520°

Project # <b>C022-124</b>	API # <b>05-123-35074</b>	Drawn By <b>TA</b>
Date <b>11/29/22</b>	Remediation # <b>23766</b>	Filename <b>22124T</b>





**LEGEND**

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

MET01 (0.5')  
PID 1.8 ppm

PID READING LOCATION IDENTIFICATION  
PHOTO IONIZATION DETECTION (ppm)

**Figure 2  
SITE MAP**

**Noble Energy, Inc. ~ Ball Ranch AC 15-03**  
 NWNW Sec. 15, T7N, R63W, 6th PM  
 Weld County, Colorado  
 40.577687°, -104.430380°

Project No. <b>C022-124</b>	Facility # <b>427188</b>	Drawn By <b>TA</b>
Date <b>12/22/22</b>	Remediation # <b>23764</b>	Filename <b>22124Q</b>



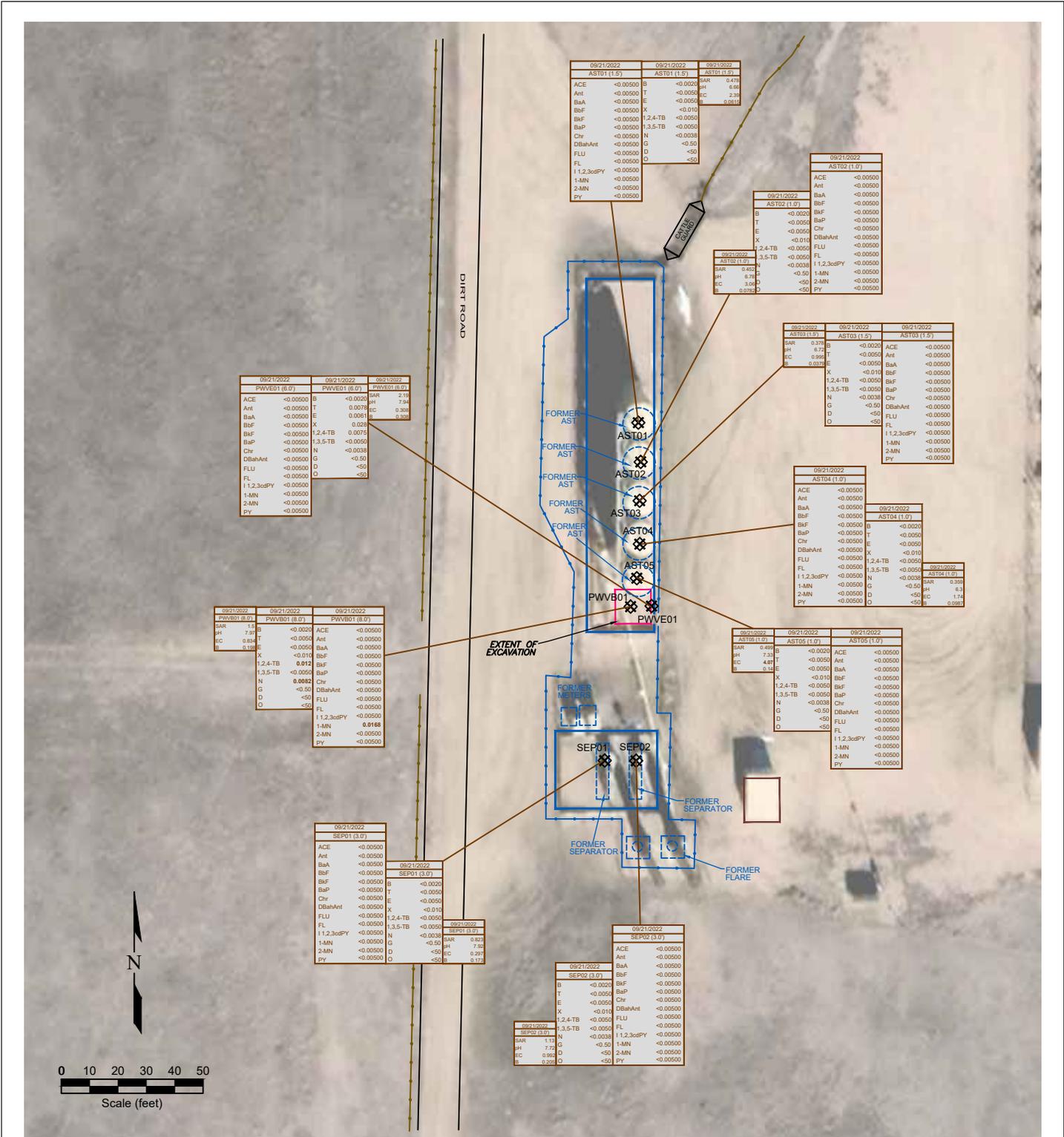


Figure 3  
SOIL CHEMISTRY MAP

Noble Energy, Inc. ~ Ball Ranch AC 15-03  
NWNW Sec. 15, T7N, R63W, 6th PM  
Weld County, Colorado  
40.577687°, -104.430380°

LEGEND	
	SOIL SAMPLE LOCATION
	ABOVE GROUND STORAGE TANK
	FORMER FACILITY
	BUILDING
	CONTAINMENT WALL
	EXTENT OF EXCAVATION
	FENCE LINE

09/21/2022	DATE SAMPLED	09/21/2022	DATE SAMPLED
AST01 (1.5')	SAMPLE ID and DEPTH (ft)	AST01 (1.5')	SAMPLE ID and DEPTH (ft)
ACE <0.0050	ACENAPHTHENE (mg/kg)	B <0.0020	BENZENE (mg/kg)
Ant <0.0050	ANTHRACENE (mg/kg)	T <0.0050	TOLUENE (mg/kg)
BaA <0.0050	BENZO (A) ANTHRACENE (mg/kg)	E <0.0050	ETHYLBENZENE (mg/kg)
BbF <0.0050	BENZO (B) FLUORANTHENE (mg/kg)	X <0.010	TOTAL XYLENES (mg/kg)
BaP <0.0050	BENZO (K) FLUORANTHENE (mg/kg)	1,2,4-TB <0.0050	1,2,4-TRIMETHYLBENZENE (mg/kg)
Chr <0.0050	CHRYSENE (mg/kg)	1,3,5-TB <0.0050	1,3,5-TRIMETHYLBENZENE (mg/kg)
DBaAnt <0.0050	DIBENZ (A,H) ANTHRACENE (mg/kg)	N <0.0038	NAPHTHALENE (mg/kg)
FLU <0.0050	FLUORANTHENE (mg/kg)	G <0.50	TPH-GRO (mg/kg)
FL <0.0050	FLUORANTHENE (mg/kg)	D <0.50	TPH-DRO (mg/kg)
1,1,2,3cdPY <0.0050	INDENO (1,2,3-CD) PYRENE (mg/kg)	1,1,2,3cdPY <0.0050	TPH-CORO (mg/kg)
1-MN <0.0050	1-METHYLNAPHTHALENE (mg/kg)	1-MN <0.0050	
2-MN <0.0050	2-METHYLNAPHTHALENE (mg/kg)	2-MN <0.0050	
PY <0.0050	PYRENE (mg/kg)	PY <0.0050	

09/21/2022	DATE SAMPLED
AST01 (1.5')	SAMPLE ID and DEPTH (ft)
SAR 0.42	SAR (ppm)
pH 6.98	pH (pH units)
EC 2.39	EC (microhm/cm)
B 0.0011	BORON (mg/L)

Project No. <b>C022-124</b>	Facility # <b>427188</b>	Drawn By <b>TA</b>	
Date <b>12/22/22</b>	Remediation # <b>23764</b>	Filename <b>22124Q</b>	

**TABLE 1**  
**SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**BALL RANCH AC15-03, WELD COUNTY, COLORADO**  
**FREMONT PROJECT C022-124**

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@1.5'	09/21/2022	1.5'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
AST02@1'	09/21/2022	1'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
AST03@1.5'	09/21/2022	1.5'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
AST04@1'	09/21/2022	1'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
AST05@1'	09/21/2022	1'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
PWVB01@8'	09/21/2022	8'	<0.0020	<0.0050	<0.0050	<0.010	<b>0.012</b>	<0.0050	<b>0.0082</b>	<0.50	<50	<50
PWVE01@6'	09/21/2022	6'	<0.0020	0.0078	0.0061	0.028	0.0075	<0.0050	<0.0038	<0.50	<50	<50
SEP01@3'	09/21/2022	3'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SEP02@3'	09/21/2022	3'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50

Bold faced values exceed the COGCC Table 915-1 concentrations

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

\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

**TABLE 2**  
**SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**BALL RANCH AC15-03, WELD COUNTY, COLORADO**  
**FREMONT PROJECT C022-124**

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@1.5'	09/21/2022	1.5'	<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
AST02@1'	09/21/2022	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
AST03@1.5'	09/21/2022	1.5'	<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
AST04@1'	09/21/2022	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
AST05@1'	09/21/2022	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
PWVB01@8'	09/21/2022	8'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<b>0.0168</b>	<0.00500
PWVE01@6'	09/21/2022	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
SEP01@3'	09/21/2022	3'	<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@3'	09/21/2022	3'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Bold faced values exceed the COGCC Table 915-1 concentrations

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

**TABLE 3**  
**SUMMARY OF SOIL SUITABILITY FOR RECLAMATION**  
**NOBLE ENERGY INC.**  
**BALL RANCH AC15-03, WELD COUNTY, COLORADO**  
**FREMONT PROJECT C022-124**

Sample ID	Sample Date	Depth (ft)	EC (mmhos/cm)	pH	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			<4	6 - 8.3	<6	2
AST01@1.5'	09/21/2022	1.5'	2.39	6.66	0.478	0.0615
AST02@1'	09/21/2022	1'	3.06	6.78	0.452	0.0782
AST03@1.5'	09/21/2022	1.5'	0.995	6.72	0.378	0.0379
AST04@1'	09/21/2022	1'	1.74	6.3	0.359	0.0987
AST05@1'	09/21/2022	1'	<b>4.07</b>	7.33	0.499	0.14
PWVB01@8'	09/21/2022	8'	0.834	7.97	1.5	0.198
PWVE01@6'	09/21/2022	6'	0.308	7.94	2.19	0.308
SEP01@3'	09/21/2022	3'	0.297	7.92	0.823	0.173
SEP02@3'	09/21/2022	3'	0.992	7.72	1.13	0.205

Bold faced values exceed the COGCC Table 915-1 concentrations

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

## Tank Battery Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: <b>Ball Ranch AC15-03</b>		Date: <b>9/21/2022</b>		Remediation Project #: <b>23764</b>				
Associated Wells: <b>123-35074</b>		Age of Site: <b>Unknown</b>		Number of Photos Attached: See attached				
Location: (GPS coordinates of southeaster berm) <b>40.577720, -104.430380</b>							Estimated Facility Size (acres):	

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

USCS Soil Type: **ML and CL**      Estimated Depth to Groundwater:

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.**

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	Crude	Produced Water	Produced Water				
Size (barrels)	500	500	500	500	500				
Age									
Construction Material	Steel	Steel	Steel	Fiberglass	Fiberglass				
Tank type (AST/DRV, etc.)	AST	AST	AST	AST	AST				
Visual Integrity of Tank									
Condition of tank footprint	Good	Good	Good	Good	Good				
PID Readings	0.3 ppm	0.2 ppm	0.3 ppm	0.1 ppm	0.3 ppm				
Soil impacts present at valves or hatches?	None observed	None observed	None observed	None observed	None observed				
PID Readings									
Sample taken? Location/ Sample ID#	See attached								
Photo Number(s)	See attached								

Other observations regarding tanks:  
**AST basin had intact liner. Soil samples were collected beneath the liner.**

#### Separators

Separator size	Unknown	Unknown							
Vertical or Horizontal	Horizontal	Horizontal							
Age	Unknown	Unknown							
Soil impacts present at hatches?	None observed	None observed							
PID Readings	19.9 ppm	0.9 ppm							
Sample taken? Location/ Sample ID#	See attached								
Photo Number(s)	See attached								

Other observations regarding separators

#### Third Party Equipment

Type	Meter Shed	Meter Shed							
Age	Unknown	Unknown							

<i>Third Party Removal Date</i>	Unknown	Unknown							
<i>Sample taken? Location/Container</i>	See attached	See attached							
<i>PID Readings</i>	1.8 ppm	1.5 ppm							
<i>Photo Number(s)</i>	See attached	See attached							

### Other Facility Equipment

<i>Equipment type</i>	ECD	ECD		
<i>Equipment Condition</i>	Unknown	Unknown		
<i>Age</i>	Unknown	Unknown		
<i>Soil impacts</i>	None observed	None observed		
<i>PID Readings</i>	1.9 ppm	1.4 ppm		
<i>Sample taken? Location/Container</i>	See attached	See attached		
<i>Photo Number(s)</i>	See attached	See attached		

*Other observations regarding other facility or third party equipment:*

### Summary

<i>Was impacted soil identified?</i>	
<b>No</b>	Yes - less than 10 cubic yards      Yes - more than 10 cubic yards
<i>Total number of samples field screened:</i> 15	<i>Total number of samples collected:</i> 16
<i>Highest PID Reading:</i> 27.1 ppm	<i>Total number of samples submitted to lab for analysis:</i> 9
<i>If more than 10 cubic yards of impacted soil were observed:</i> N/A	
<i>Vertical extent:</i>	<i>Estimated spill volume:</i>
<i>Lateral extent:</i>	<i>Volume of soil removed:</i>
<i>Is additional investigation required?</i> Yes	
<i>Was groundwater encountered during the investigation?</i>	
<b>No</b>	Yes - not impacted or in contact with impacted soils      Yes - groundwater impacted and/or in contact with impacted soils
<i>Measured depth to groundwater:</i>	<i>Was remedial groundwater removal conducted?</i> Yes      No
<i>Date Groundwater was encountered:</i>	<i>Commencement date of removal:</i>
<i>Sheen on groundwater?</i> Yes      No	<i>Volume of groundwater removed prior to sampling:</i>
<i>Free product observed?</i> Yes      No	<i>Volume of groundwater removed post sampling:</i>
<i>Total number of samples collected:</i>	<i>Total Volume of groundwater removed:</i>
<i>Total number of samples submitted to lab for analysis:</i>	

## 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: <b>Ball Ranch AC15-03</b>		Date: <b>9/21/2022</b>					Remediation Project #: <b>23764</b>		
Associated Wells: <b>123-35074</b>		Age of Site: <b>Unknown</b>					Number of Photos Attached: See attached		
Location: (GPS coordinates of vault or southeastern tank berm for multiple) <b>40.577720, -104.430380</b>							Estimated Facility Size (acres):		
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)  <b>Good Condition</b>									
USCS Soil Type: <b>ML and CL</b>					Estimated Depth to Groundwater:				
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) <b>No observed hydrocarbon impacted soil.</b>									
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) <b>No observed salt crusted soil or impacted vegetation.</b>									
Buried or Partially Buried Vessels									
Tank Contents	Produced Water								
Size (barrels)	Unknown								
Age	Unknown								
Construction Material	Concrete								
Visual Integrity of Tank	Unknown								
Condition of tank	Unknown								
PID Readings									
Condition of Access Line									
PID Readings	2.2 to 27.1 ppm								
Sample taken? Location/Sample ID#	See attached								
Photo Number(s)	See attached								
Other observations regarding partially buried vessels:									
Summary									
Was impacted soil identified? Impacted soil reported at the base of the PWV excavation, no impacted soil has been removed. <div style="display: flex; justify-content: space-around;"> <span>No</span> <span style="background-color: yellow;">Yes</span> - less than 10 cubic yards         <span>Yes</span> - more than 10 cubic yards       </div>									
Total number of samples field screened: <b>5</b>					Total number of samples collected: <b>5</b>				
Highest PID Reading: <b>27.1 ppm</b>					Total number of samples submitted to lab for analysis: <b>2</b>				
If more than 10 cubic yards of impacted soil were observed: <b>N/A</b>									
Vertical extent:					Estimated spill volume:				
Lateral extent:					Volume of soil removed:				
Is additional investigation required?									
Was groundwater encountered during the investigation? <div style="display: flex; justify-content: space-around;"> <span style="background-color: yellow;">No</span> <span>Yes</span> - not impacted or in contact with impacted soils         <span>Yes</span> - groundwater impacted and/or in contact with impacted soils       </div>									
Measured depth to groundwater:					Was remedial groundwater removal conducted? <span>Yes</span> <span>No</span>				
Date Groundwater was encountered:					Commencement date of removal:				
Sheen on groundwater? <span>Yes</span> <span>No</span>					Volume of groundwater removed prior to sampling:				
Free product observed? <span>Yes</span> <span>No</span>					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:									

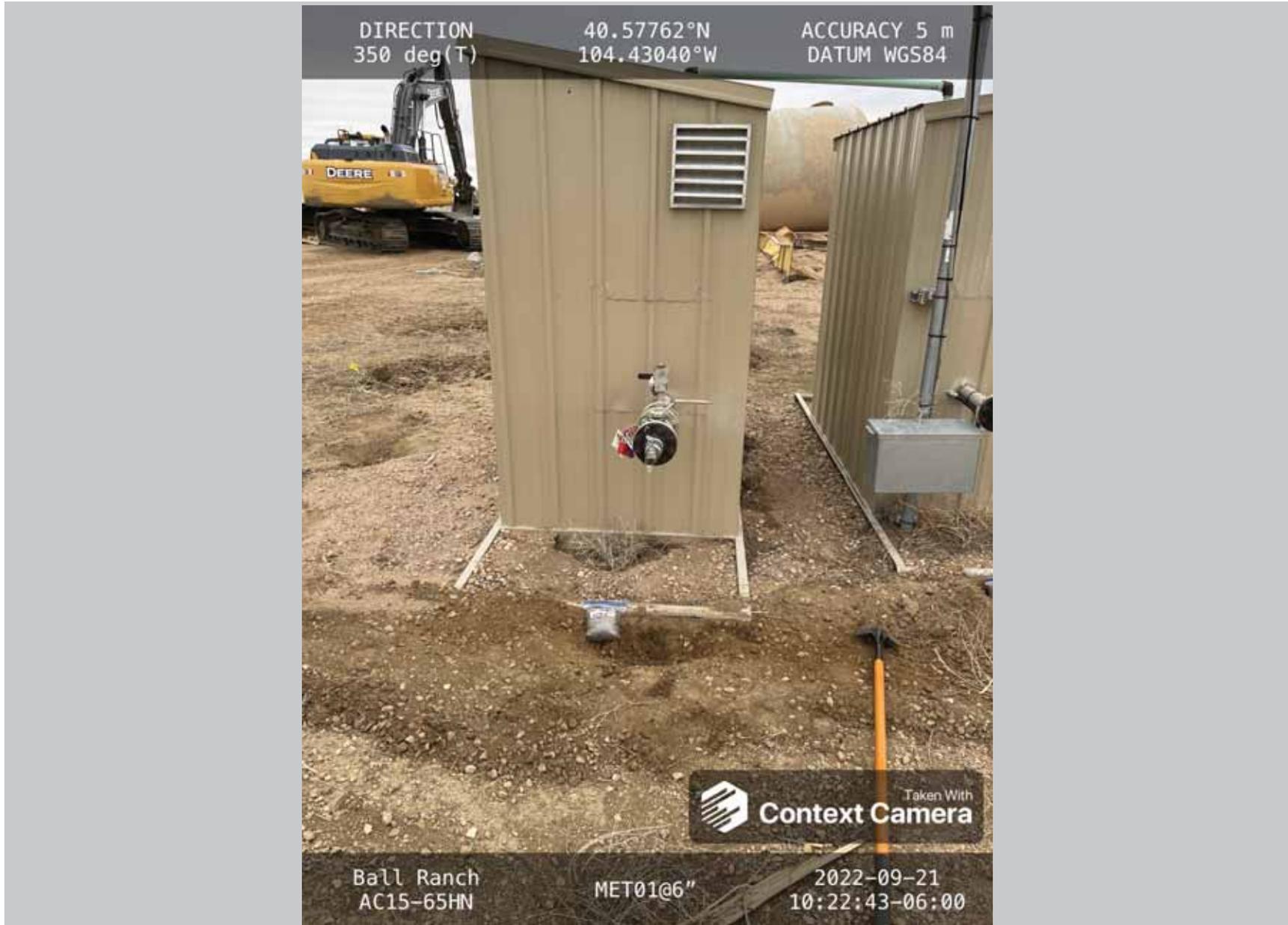
# Photo Log



**Description:**

Site Entrance

# Photo Log



**Description:**

MET01@6"

# Photo Log



**Description:**

MET02@6"

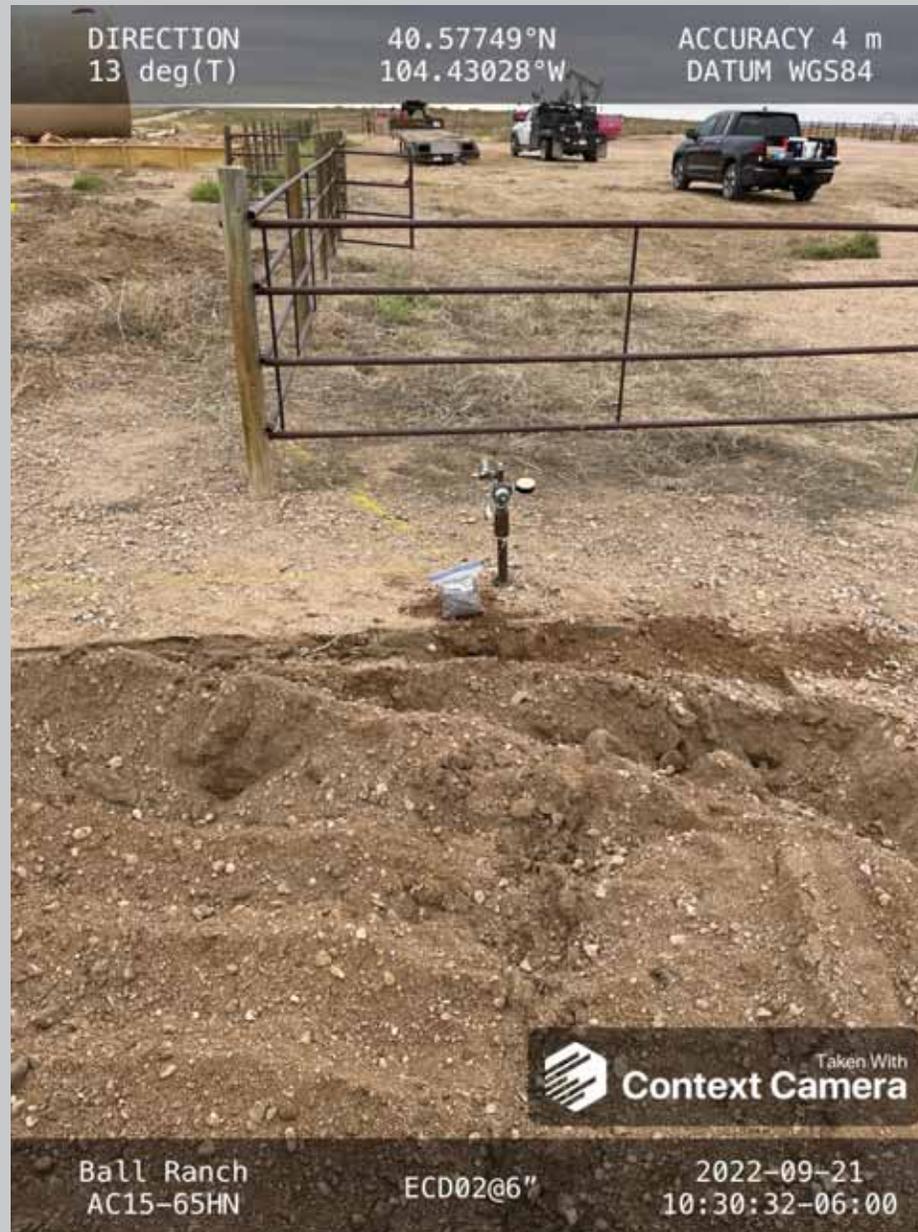
# Photo Log



**Description:**

ECD01@6"

# Photo Log



**Description:**

ECD02@6"

# Photo Log

DIRECTION  
17 deg(T)

40.57752°N  
104.43036°W

ACCURACY 5 m  
DATUM WGS84



Taken With  
**Context Camera**

Ball Ranch AC15-65HN

Separators

2022-09-21  
10:27:23-06:00

### Description:

Former Separator Locations

# Photo Log



**Description:**

SEP01@3'

# Photo Log



**Description:**

SEP02@3'

# Photo Log

DIRECTION  
337 deg(T)

40.57769°N  
104.43031°W

ACCURACY 5 m  
DATUM WGS84



Taken With  
 **Context Camera**

Ball Ranch AC15-65HN

Tanks

2022-09-21  
10:53:16-06:00

### *Description:*

Lined AST Containment

# Photo Log



**Description:**

AST01@1.5'

# Photo Log



**Description:**

AST02@1'

# Photo Log



**Description:**

AST03@1.5'

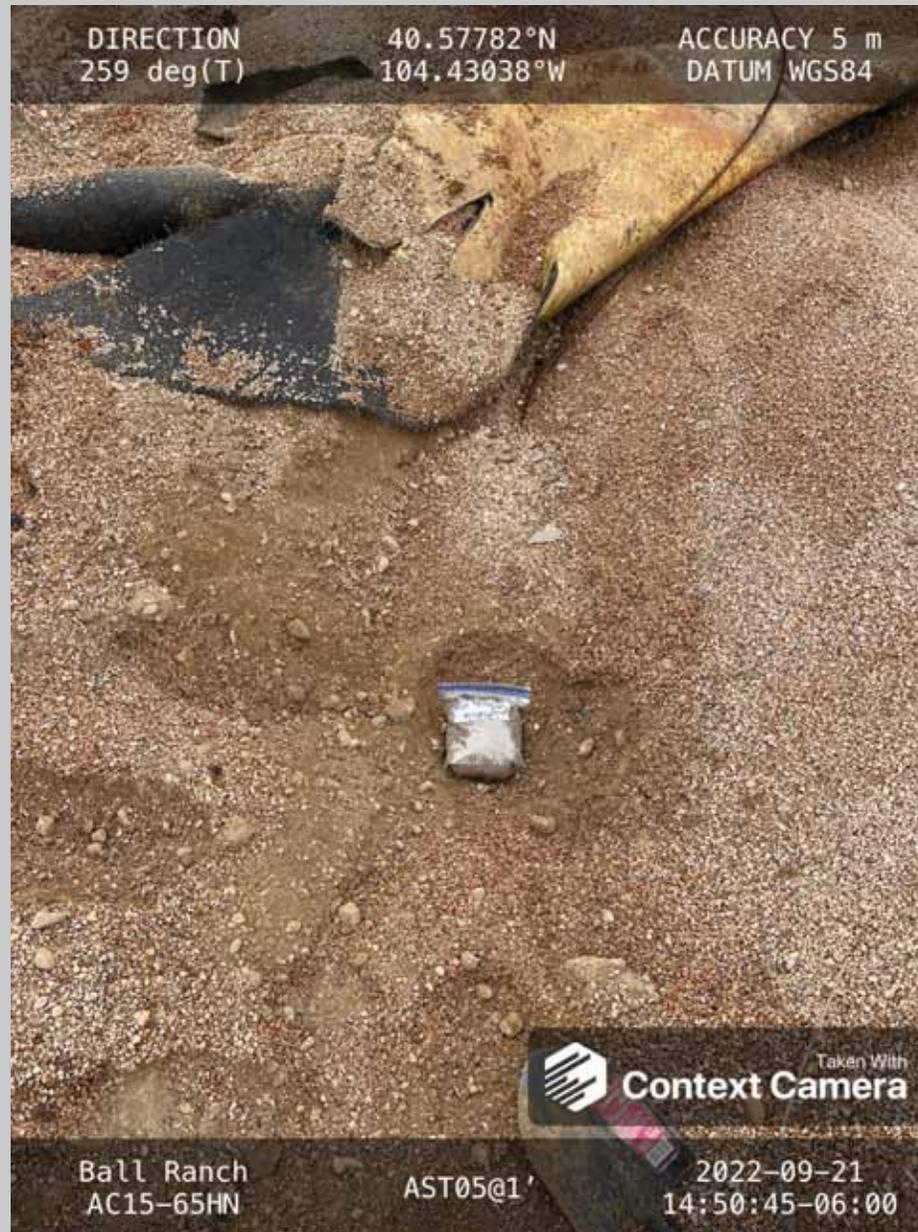
# Photo Log



**Description:**

AST04@1'

# Photo Log



**Description:**

AST05@1'

# Photo Log



### Description:

PWV Excavation with Samples Facing NE

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 05, 2022

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Ball Ranch AC15-03  
Work Order #2209453

Enclosed are the results of analyses for samples received by Summit Scientific on 09/22/22 12:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01@3'	2209453-01	Soil	09/21/22 00:00	09/22/22 12:50
SEP02@3'	2209453-02	Soil	09/21/22 00:00	09/22/22 12:50
AST01@1.5'	2209453-03	Soil	09/21/22 00:00	09/22/22 12:50
AST02@1'	2209453-04	Soil	09/21/22 00:00	09/22/22 12:50
AST03@1.5'	2209453-05	Soil	09/21/22 00:00	09/22/22 12:50
AST04@1'	2209453-06	Soil	09/21/22 00:00	09/22/22 12:50
AST05@1'	2209453-07	Soil	09/21/22 00:00	09/22/22 12:50
PWVB01@8'	2209453-08	Soil	09/21/22 00:00	09/22/22 12:50
PWVE01@6'	2209453-12	Soil	09/21/22 00:00	09/22/22 12:50

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

2209453.2

S<sub>2</sub>

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

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:

Phone:

Project Name: Ball Ranch AC15-03

Sampler Name: Chris Lattus

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	TPH, BTEX, TMBs, Naph	PAH (915)	EC, SAR, pH, Boron	Metals (915)	TDS, Chloride, Sulfate	HOLD	
1	AWVNG1 @ 6'	9/21/22		3			X			X									X
2	AWVEG1 @ 6'	↓		3			X			X			X	X					X
3	BKSG1 @ 6"	9/21/22		1			X			X									X
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: Chris Lattus	Date/Time: 12:50 9/22/22	Received by: [Signature]	Date/Time: 9:22 1250	Turn Around Time (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____	Notes: Facility
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: 89 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S<sub>2</sub>

2/2  
Sample Receipt Checklist

S2 Work Order# 2209453

Client: Fremont Client Project ID: Ball Ranch AC 15-03

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

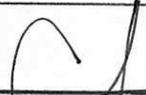
Matrix (Check all that apply) Air  Soil/Solid  Water  Other

Temp (°C) 8.9 Thermometer # 1

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

Additional Comments (if any):

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

  
Custodian Printed Name

9.22.22 19:40  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**SEP01@3'**  
**2209453-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BF10696	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BF10698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		81.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**SEP01@3'**  
**2209453-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/27/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.7 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.173</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 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: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**SEP01@3'**  
**2209453-01 (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	27.8	0.0579	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	7.41	0.0579	"	"	"	"	"	"	
Sodium	18.9	0.0579	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.823	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.3		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.297	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.92		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**SEP02@3'**  
**2209453-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0696	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		61.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**SEP02@3'**  
**2209453-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/27/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		46.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.6 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.205</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 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: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**SEP02@3'**  
**2209453-02 (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	95.4	0.0597	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	38.6	0.0597	"	"	"	"	"	"	
Sodium	51.7	0.0597	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.13	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.7		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.992	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.72		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST01@1.5'**  
**2209453-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0696	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		92.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.9 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		81.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST01@1.5'**  
**2209453-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/27/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		74.5 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0615</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 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: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST01@1.5'**  
**2209453-03 (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	234	0.0562	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	91.9	0.0562	"	"	"	"	"	"	
Sodium	34.1	0.0562	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.478	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.0		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.39	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.66		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST02@1'**  
**2209453-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0696	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		96.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		88.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST02@1'**  
**2209453-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/27/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		49.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		71.8 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0782</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 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: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**AST02@1'**  
**2209453-04 (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	345	0.0572	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	109	0.0572	"	"	"	"	"	"	
Sodium	37.6	0.0572	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.452	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.4		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.06	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.78		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST03@1.5'**  
**2209453-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0696	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		84.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST03@1.5'**  
**2209453-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/27/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.6 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0379</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 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: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**AST03@1.5'**  
**2209453-05 (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	79.9	0.0535	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	32.7	0.0535	"	"	"	"	"	"	
Sodium	15.9	0.0535	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.378	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.4		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.995	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.72		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST04@1'**  
**2209453-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0696	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		94.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST04@1'**  
**2209453-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		69.7 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0987</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 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: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST04@1'**  
**2209453-06 (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	158	0.0578	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	64.2	0.0578	"	"	"	"	"	"	
Sodium	21.2	0.0578	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.359	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.5		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.74	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.30		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**AST05@1'**  
**2209453-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0696	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		67.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST05@1'**  
**2209453-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.8 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.140</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 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: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**AST05@1'**  
**2209453-07 (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	458	0.0559	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	158	0.0559	"	"	"	"	"	"	
Sodium	48.6	0.0559	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.499	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.4		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.07	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.33		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**PWVB01@8'**  
**2209453-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BF10696	09/27/22	09/28/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.012</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0082</b>	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		94.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.9 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BF10698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**PWVB01@8'**  
**2209453-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/28/22	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	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0168</b>	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.5 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.198</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**PWVB01@8'**  
**2209453-08 (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	58.1	0.0546	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	29.8	0.0546	"	"	"	"	"	"	
Sodium	56.3	0.0546	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.50	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.6		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.834	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**PWVE01@6'**  
**2209453-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BF10696	09/27/22	09/28/22	EPA 8260B	
<b>Toluene</b>	<b>0.0078</b>	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.0061</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.028</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.0075</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		94.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BF10698	09/27/22	09/28/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		75.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**PWVE01@6'**  
**2209453-12 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10691	09/27/22	09/28/22	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: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		42.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		64.9 %	40-150		"	"	"	"	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.308</b>	0.0100	mg/L	1	BF10718	09/28/22	10/01/22	EPA 6020B	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**PWVE01@6'**  
**2209453-12 (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	257	0.0619	mg/L dry	1	BF10769	09/29/22	10/05/22	EPA 6020B	
Magnesium	119	0.0619	"	"	"	"	"	"	
Sodium	169	0.0619	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.19	0.00100	units	1	BFJ0107	10/05/22	10/05/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.8		%	1	BF10762	09/29/22	09/29/22	Calculation	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.308	0.0100	mmhos/cm	1	BF10771	09/29/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/21/22 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BF10772	09/29/22	09/30/22	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BFI0696 - EPA 5030 Soil MS

##### Blank (BFI0696-BLK1)

Prepared & Analyzed: 09/27/22

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0415</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>		<i>50-150</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>92.1</i>		<i>50-150</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.4</i>		<i>50-150</i>		

##### LCS (BFI0696-BS1)

Prepared & Analyzed: 09/27/22

Benzene	0.0566	0.0020	mg/kg	0.0750		75.4		70-130		
Toluene	0.0661	0.0050	"	0.0750		88.1		70-130		
Ethylbenzene	0.0552	0.0050	"	0.0750		73.6		70-130		
m,p-Xylene	0.109	0.010	"	0.150		72.5		70-130		
o-Xylene	0.0583	0.0050	"	0.0750		77.7		70-130		
1,2,4-Trimethylbenzene	0.0545	0.0050	"	0.0750		72.7		70-130		
1,3,5-Trimethylbenzene	0.0533	0.0050	"	0.0750		71.1		70-130		
Naphthalene	0.0537	0.0038	"	0.0750		71.6		70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0387</i>		<i>"</i>	<i>0.0400</i>		<i>96.7</i>		<i>50-150</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0406</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>		<i>50-150</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.0</i>		<i>50-150</i>		

##### Matrix Spike (BFI0696-MS1)

Source: 2209452-01

Prepared & Analyzed: 09/27/22

Benzene	0.0624	0.0020	mg/kg	0.0750	ND	83.2		70-130		
Toluene	0.0623	0.0050	"	0.0750	ND	83.1		70-130		
Ethylbenzene	0.0550	0.0050	"	0.0750	ND	73.3		70-130		
m,p-Xylene	0.119	0.010	"	0.150	ND	79.4		70-130		
o-Xylene	0.0588	0.0050	"	0.0750	ND	78.4		70-130		
1,2,4-Trimethylbenzene	0.0586	0.0050	"	0.0750	ND	78.1		70-130		
1,3,5-Trimethylbenzene	0.0555	0.0050	"	0.0750	ND	74.0		70-130		
Naphthalene	0.0643	0.0038	"	0.0750	ND	85.7		70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>		<i>50-150</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.4</i>		<i>50-150</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>		<i>50-150</i>		

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**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 BFI0696 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BFI0696-MSD1)</b>	<b>Source: 2209452-01</b>			<b>Prepared &amp; Analyzed: 09/27/22</b>						
Benzene	0.0632	0.0020	mg/kg	0.0750	ND	84.3	70-130	1.24	30	
Toluene	0.0640	0.0050	"	0.0750	ND	85.4	70-130	2.66	30	
Ethylbenzene	0.0530	0.0050	"	0.0750	ND	70.7	70-130	3.61	30	
m,p-Xylene	0.119	0.010	"	0.150	ND	79.5	70-130	0.227	30	
o-Xylene	0.0566	0.0050	"	0.0750	ND	75.5	70-130	3.69	30	
1,2,4-Trimethylbenzene	0.0546	0.0050	"	0.0750	ND	72.8	70-130	7.10	30	
1,3,5-Trimethylbenzene	0.0536	0.0050	"	0.0750	ND	71.4	70-130	3.63	30	
Naphthalene	0.0633	0.0038	"	0.0750	ND	84.4	70-130	1.51	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0417</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0419</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0383</i>		<i>"</i>	<i>0.0400</i>		<i>95.8</i>	<i>50-150</i>			

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 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**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 BFI0698 - EPA 3550A**

**Blank (BFI0698-BLK1)**

Prepared: 09/27/22 Analyzed: 09/28/22

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

**LCS (BFI0698-BS1)**

Prepared: 09/27/22 Analyzed: 09/28/22

C10-C28 (DRO)	584	50	mg/kg	500	117	70-130				
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**Matrix Spike (BFI0698-MS1)**

Source: 2209452-01

Prepared: 09/27/22 Analyzed: 09/28/22

C10-C28 (DRO)	543	50	mg/kg	500	41.6	100	70-130			
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**Matrix Spike Dup (BFI0698-MSD1)**

Source: 2209452-01

Prepared: 09/27/22 Analyzed: 09/28/22

C10-C28 (DRO)	592	50	mg/kg	500	41.6	110	70-130	8.65	20	
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**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 BFI0691 - EPA 5030 Soil MS**

**Blank (BFI0691-BLK1)**

Prepared & Analyzed: 09/27/22

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0262		"	0.0333		78.5	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0342		"	0.0333		103	40-150			

**LCS (BFI0691-BS1)**

Prepared & Analyzed: 09/27/22

Acenaphthene	0.0312	0.00500	mg/kg	0.0333		93.5	31-137			
Anthracene	0.0301	0.00500	"	0.0333		90.4	30-120			
Benzo (a) anthracene	0.0286	0.00500	"	0.0333		85.8	30-120			
Benzo (a) pyrene	0.0244	0.00500	"	0.0333		73.1	30-120			
Benzo (b) fluoranthene	0.0249	0.00500	"	0.0333		74.7	30-120			
Benzo (k) fluoranthene	0.0327	0.00500	"	0.0333		98.2	30-120			
Chrysene	0.0348	0.00500	"	0.0333		104	30-120			
Dibenz (a,h) anthracene	0.0198	0.00500	"	0.0333		59.4	30-120			
Fluoranthene	0.0309	0.00500	"	0.0333		92.7	30-120			
Fluorene	0.0320	0.00500	"	0.0333		96.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0188	0.00500	"	0.0333		56.4	30-120			
Pyrene	0.0355	0.00500	"	0.0333		107	35-142			
1-Methylnaphthalene	0.0277	0.00500	"	0.0333		83.1	35-142			
2-Methylnaphthalene	0.0312	0.00500	"	0.0333		93.6	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0308		"	0.0333		92.4	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0310		"	0.0333		93.1	40-150			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

**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 BFI0691 - EPA 5030 Soil MS**

<b>Matrix Spike (BFI0691-MS1)</b>		<b>Source: 2209453-01</b>			<b>Prepared &amp; Analyzed: 09/27/22</b>						
Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.1	31-137				
Anthracene	0.0204	0.00500	"	0.0333	ND	61.3	30-120				
Benzo (a) anthracene	0.0199	0.00500	"	0.0333	0.00176	54.5	30-120				
Benzo (a) pyrene	0.0153	0.00500	"	0.0333	ND	45.8	30-120				
Benzo (b) fluoranthene	0.0155	0.00500	"	0.0333	ND	46.6	30-120				
Benzo (k) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120				
Chrysene	0.0221	0.00500	"	0.0333	ND	66.3	30-120				
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333	ND	46.8	30-120				
Fluoranthene	0.0211	0.00500	"	0.0333	ND	63.4	30-120				
Fluorene	0.0205	0.00500	"	0.0333	ND	61.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0151	0.00500	"	0.0333	ND	45.3	30-120				
Pyrene	0.0223	0.00500	"	0.0333	ND	66.9	35-142				
1-Methylnaphthalene	0.0184	0.00500	"	0.0333	0.00352	44.5	15-130				
2-Methylnaphthalene	0.0231	0.00500	"	0.0333	ND	69.3	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0171</i>		<i>"</i>	<i>0.0333</i>		<i>51.2</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0223</i>		<i>"</i>	<i>0.0333</i>		<i>66.9</i>	<i>40-150</i>				

<b>Matrix Spike Dup (BFI0691-MSD1)</b>		<b>Source: 2209453-01</b>			<b>Prepared &amp; Analyzed: 09/27/22</b>						
Acenaphthene	0.0202	0.00500	mg/kg	0.0333	ND	60.7	31-137	2.63	30		
Anthracene	0.0205	0.00500	"	0.0333	ND	61.6	30-120	0.633	30		
Benzo (a) anthracene	0.0205	0.00500	"	0.0333	0.00176	56.2	30-120	2.89	30		
Benzo (a) pyrene	0.0156	0.00500	"	0.0333	ND	46.7	30-120	1.86	30		
Benzo (b) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.1	30-120	5.24	30		
Benzo (k) fluoranthene	0.0165	0.00500	"	0.0333	ND	49.6	30-120	3.86	30		
Chrysene	0.0209	0.00500	"	0.0333	ND	62.7	30-120	5.50	30		
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	47.9	30-120	2.27	30		
Fluoranthene	0.0205	0.00500	"	0.0333	ND	61.5	30-120	3.04	30		
Fluorene	0.0202	0.00500	"	0.0333	ND	60.6	30-120	1.58	30		
Indeno (1,2,3-cd) pyrene	0.0141	0.00500	"	0.0333	ND	42.3	30-120	6.89	30		
Pyrene	0.0220	0.00500	"	0.0333	ND	65.9	35-142	1.50	30		
1-Methylnaphthalene	0.0212	0.00500	"	0.0333	0.00352	53.0	15-130	14.3	50		
2-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.6	15-130	11.8	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0195</i>		<i>"</i>	<i>0.0333</i>		<i>58.6</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0216</i>		<i>"</i>	<i>0.0333</i>		<i>64.9</i>	<i>40-150</i>				

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**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 BFI0718 - EPA 3050B**

**Blank (BFI0718-BLK1)**

Prepared: 09/28/22 Analyzed: 10/01/22

Boron ND 0.0100 mg/L

**LCS (BFI0718-BS1)**

Prepared: 09/28/22 Analyzed: 10/01/22

Boron 5.08 0.0100 mg/L 5.00 102 80-120

**Duplicate (BFI0718-DUP1)**

Source: 2209452-01

Prepared: 09/28/22 Analyzed: 10/01/22

Boron 0.200 0.0100 mg/L 0.199 0.386 20

**Matrix Spike (BFI0718-MS1)**

Source: 2209452-01

Prepared: 09/28/22 Analyzed: 10/01/22

Boron 5.08 0.0100 mg/L 5.00 0.199 97.5 75-125

**Matrix Spike Dup (BFI0718-MSD1)**

Source: 2209452-01

Prepared: 09/28/22 Analyzed: 10/01/22

Boron 5.11 0.0100 mg/L 5.00 0.199 98.2 75-125 0.620 25

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**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 BFI0769 - General Preparation**

**Blank (BFI0769-BLK1)**

Prepared: 09/29/22 Analyzed: 10/05/22

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

**LCS (BFI0769-BS1)**

Prepared: 09/29/22 Analyzed: 10/05/22

Calcium	6.44	0.0500	mg/L wet	5.00		129	70-130			
Magnesium	5.63	0.0500	"	5.00		113	70-130			
Sodium	5.22	0.0500	"	5.00		104	70-130			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

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

**Summit Scientific**

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

**Batch BFI0762 - General Preparation**

**Duplicate (BFI0762-DUP1)**

**Source: 2209323-01**

Prepared & Analyzed: 09/29/22

% Solids	88.4		%		87.8			0.626	20	
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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

**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 BFI0771 - General Preparation**

**Blank (BFI0771-BLK1)**

Prepared: 09/29/22 Analyzed: 09/30/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFI0771-BS1)**

Prepared: 09/29/22 Analyzed: 09/30/22

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

**Duplicate (BFI0771-DUP1)**

Source: 2209453-01

Prepared: 09/29/22 Analyzed: 09/30/22

Specific Conductance (EC) 0.297 0.0100 mmhos/cm 0.297 0.00 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 10/05/22 14:39

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

**Summit Scientific**

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

**Batch BFI0772 - General Preparation**

**LCS (BFI0772-BS1)**

Prepared: 09/29/22 Analyzed: 09/30/22

pH	9.11	pH Units	9.18	99.2	95-105
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**Duplicate (BFI0772-DUP1)**

Source: 2209453-01

Prepared: 09/29/22 Analyzed: 09/30/22

pH	7.92	pH Units	7.92	0.00	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Ball Ranch AC15-03

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
10/05/22 14:39

### 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