

SITE INFORMATION

Report Type: Closure Report NRM2014839790

General Site Information:

Site:	Freedom 36 State SWD 1					
Company:	Cimarex Energy					
Section, Township and Range	Unit M	Sec. 36	T 24S	R 26E		
Lease Number:	API No.					
County:	Eddy County					
GPS:	32.169928° N			104.252560° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From intersection of 748 & 720, head south on 748 for 3.89 miles. Turn right onto lease road, follow for 0.87 miles. Turn left onto lease road, follow for 1.23 miles. Location on right.					

Release Data:

Date Released:	5/26/2020
Type Release:	Produced Water
Source of Contamination:	Pinhole Leak in Pump
Fluid Released:	15 bbls
Fluids Recovered:	10 bbls

Official Communication:

Name:	Laci Luig		Brittany Long
Company:	Cimarex Energy		Tetra Tech
Address:	600 N. Marienfield St.		901 W. Wall St.
	Ste 600		Ste 100
City:	Midland Texas, 79701		Midland, Texas, 79701
Phone number:	(432) 571-7810		(432) 682-4559
Fax:			
Email:	Lluig@Cimarex.com		Brittany.Long@TetraTech.com

Site Characterization

Depth to Groundwater:	Less than 50' below surface
Karst Potential:	High

Recommended Remedial Action Levels (RRALs)

Benzene	Total BTEX	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	Chlorides
10 mg/kg	50 mg/kg	100 mg/kg	100 mg/kg	600 mg/kg



July 1, 2021

Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the Cimarex Energy, Freedom 36 State SWD #1, Unit M, Section 36, Township 24 South, Range 26 East, Eddy County, New Mexico. NRM2014839790

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by Cimarex Energy to assess and remediate a release that occurred at the Freedom 36 State SWD #1, Unit M, Section 36, Township 24 South, Range 26 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.169928°, W 104.252560°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on May 26, 2020, due to a pinhole leak in a charge pump of an SWD injection pump. A total of 15 barrels of produced water was released, and approximately 10 barrels of the produced water were recovered. The release impacted an area measuring approximately 195' x 63'. The C-141 Form is included in Appendix A.

Site Characterization

A site characterization was performed for the site, and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. However, the site is in a high karst potential area.

The nearest well is listed in the USGS National Water Information Database website in Section 26, approximately 1.96 miles northwest of the site, and has a reported depth to groundwater of 16.03 feet below ground surface. Site characterization data is included in Appendix B.

Tetra Tech

901 West Wall, Suite 100, Midland, TX 79701

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



Regulatory

A risk-based evaluation was performed for the site following the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based on the site characterization, the proposed RRAL for TPH is 100 mg/kg (GRO+DRO+MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 600 mg/kg.

Soil Assessment and Analytical Results

On December 20, 2020, Tetra Tech personnel were on site to evaluate and sample the release area. Seven auger holes (AH-1 through AH-7) were installed in the spill area to assess and define the extents of the release. Additionally, nine horizontals (Horizontal-1 through Horizontal 9) were installed to delineate the area. Select samples were submitted to Xenco Laboratory and analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, none of the submitted samples reported benzene, BTEX, or TPH concentrations above laboratory reporting limits. However, in the areas of auger holes (AH-2 through AH-5), chloride concentrations above RRALs were detected at depths from surface to 6.5' below surface, with reported concentration highs of 2,120 mg/kg, 11,500 mg/kg, 9,540 mg/kg, and 1,800 mg/kg, respectively. Additionally, chloride concentrations showed decreasing trends with depth. The spill area surrounding the pumps (AH-2 through AH-4) was not vertically defined by the installed auger holes. The area of auger hole (AH-5) showed vertical delineation at 1.0' below surface. Additionally, the remaining auger holes (AH-1, AH-6, and AH-7) and all horizontal samples (Horizontal-1 through Horizontal-9) reported chloride concentrations below RRALs.

Remediation and Reclamation Activities

Based on the results of the soil assessment, Tetra Tech personnel were onsite June 7, 2021 through June 11, 2021, to supervise the remediation activities and collect confirmation samples. The impacted areas were excavated to total depths ranging from 1.0' to 7.0' below surface. The excavation area and depths are shown on Figure 4 and Table 2.

Confirmation bottom hole and sidewall samples were collected every 200 square feet. A total of thirteen (13) bottom hole samples (BH-1 through BH-13) and a total of thirteen (13) sidewall samples (SW-1 through SW-13) were collected to ensure proper



removal of the impacted soils. The samples were submitted to the laboratory to be analyzed for TPH method 8015 modified, BTEX method 8021B, and Chloride by EPA Method 300.0. The sampling results are summarized in Table 2. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix D. The excavation depths and sample locations are shown in Figure 4.

Referring to Table 2, all final confirmation samples collected showed benzene, total BTEX, and TPH concentrations below the RRALs. Additionally, all final samples showed chloride concentrations below the 600 mg/kg threshold.

Approximately 335 cubic yards of material was excavated and transported offsite for proper disposal. The areas were then backfilled with clean material to surface grade.

Conclusion

Based on the laboratory results and remediation activities performed, Cimarex requests closure of this spill issue. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

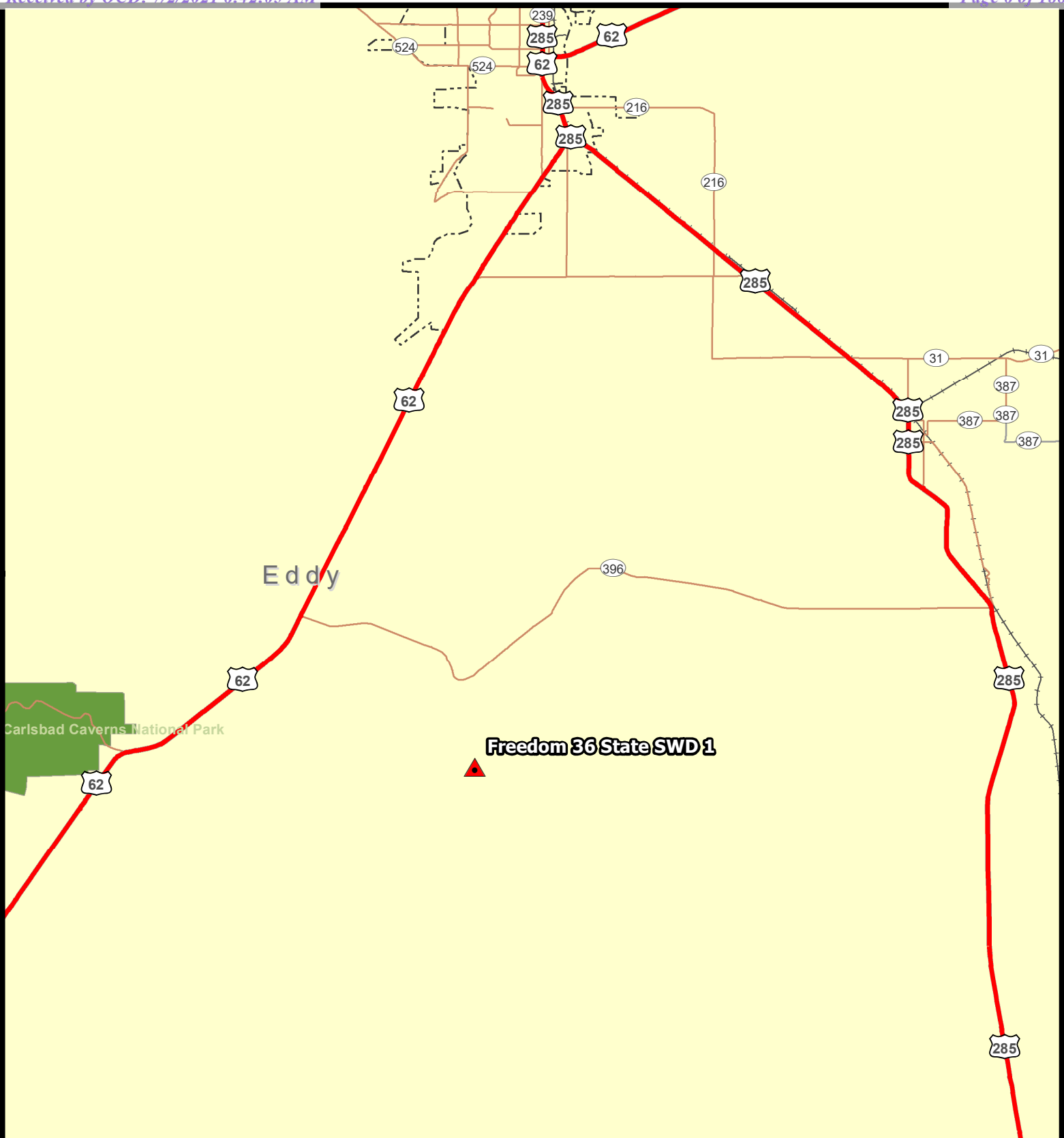
A handwritten signature in blue ink, appearing to read 'Brittany Long'.

Brittany Long,
Project Manager

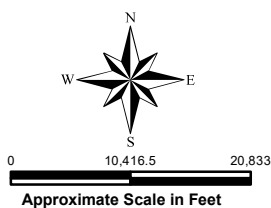
A handwritten signature in blue ink, appearing to read 'Clair Gonzales'.

Clair Gonzales,
Senior Project Manager

Figures



 SITE LOCATION

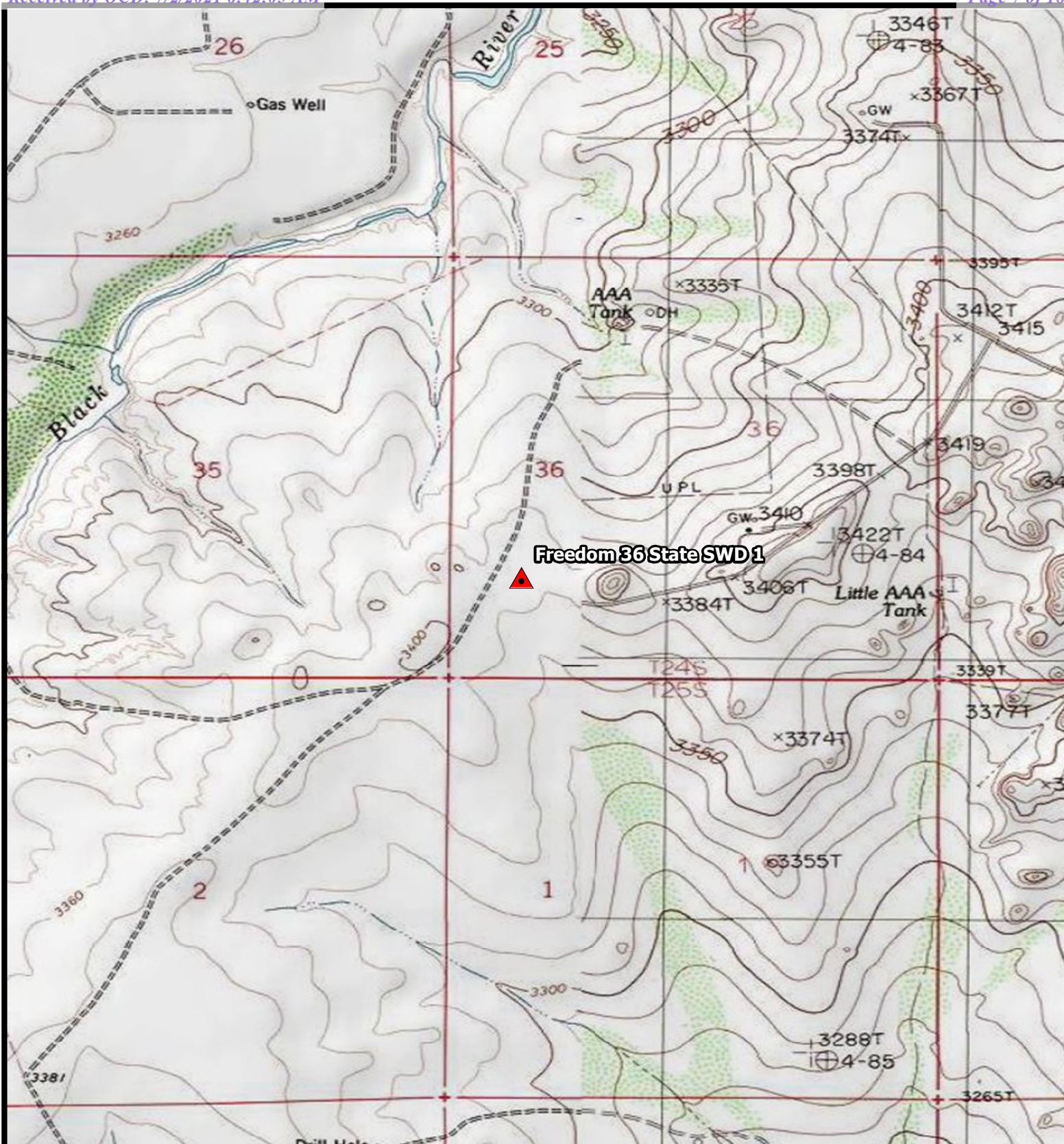


OVERVIEW MAP
 FREEDOM 36 STATE SWD 1
 Property located at coordinates 32.169928°, -104.252560°
 EDDY COUNTY, NEW MEXICO

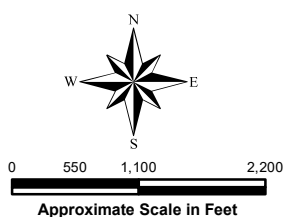


TETRA TECH
 901 W Wall St Ste. 100,
 Midland, TX 79701
 (432) 682-4559
 Project #: 212C-MD-02375
 Date: 01-19-2021
 Drawn By: Ezequiel Moreno

FIGURE
 1



SITE LOCATION

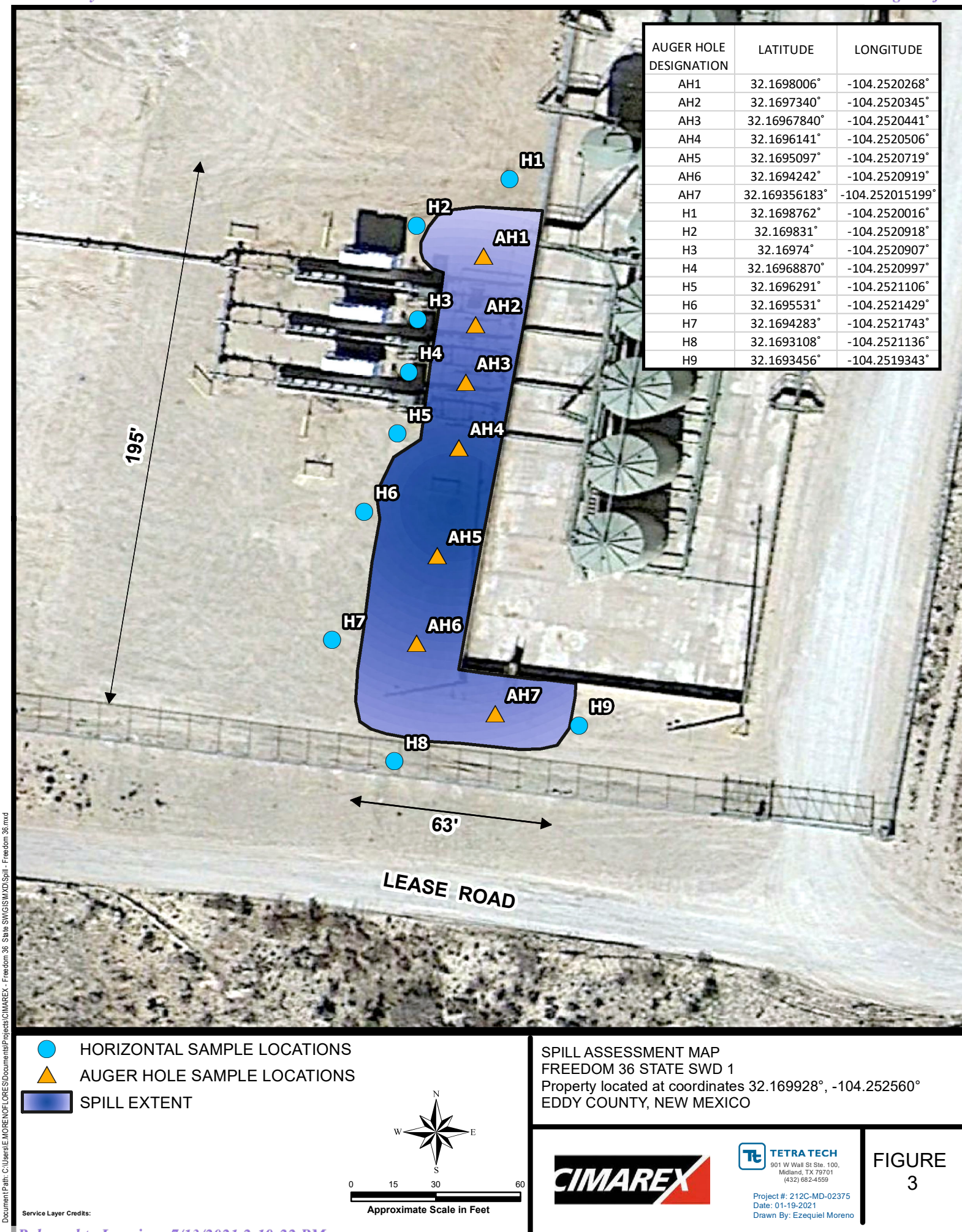


TOPOGRAPHIC MAP
 FREEDOM 36 STATE SWD 1
 Property located at coordinates 32.169928°, -104.252560°
 EDDY COUNTY, NEW MEXICO

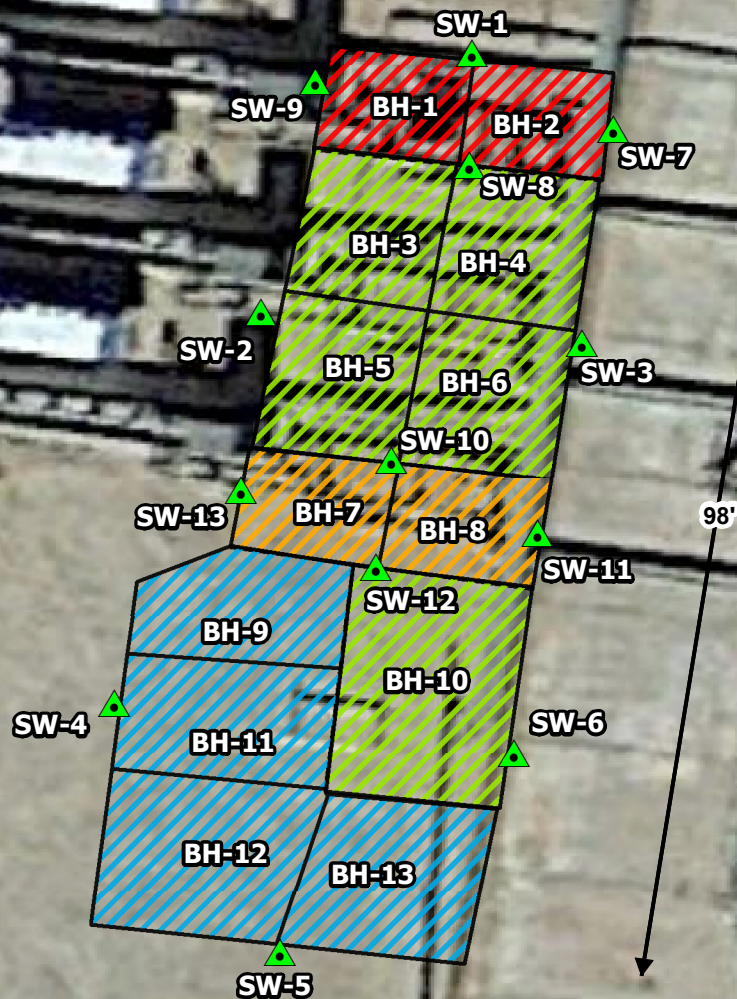
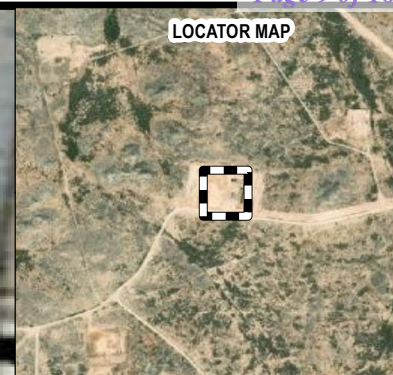


Project #: 212C-MD-02375
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FIGURE
 2



SAMPLE DESIGNATION	LATITUDE	LONGITUDE
BH-1	32.1697618°	-104.252043878°
BH-2	32.16975625°	-104.252007801°
BH-3	32.169720655°	-104.252050104°
BH-4	32.169715129°	-104.25201765°
BH-5	32.169683876°	-104.252057853°
BH-6	32.16967955°	-104.252023229°
BH-7	32.169640826°	-104.252066802°
BH-8	32.1696354°	-104.252029677°
BH-9	32.1696055°	-104.2520942°
BH-10	32.1695907°	-104.2520373°
BH-11	32.1695725°	-104.2520951°
BH-12	32.1695393°	-104.2520974°
BH-13	32.1695331°	-104.2520536°
SW-1	32.1697757°	-104.252024°
SW-2	32.1696987°	-104.2520868°
SW-3	32.1696894°	-104.2519913°
SW-4	32.1695824°	-104.2521305°
SW-5	32.1695085°	-104.2520812°
SW-6	32.1695676°	-104.2520114°
SW-7	32.1697533°	-104.2519819°
SW-8	32.1697425°	-104.2520248°
SW-9	32.1697676°	-104.2520707°
SW-10	32.1696549°	-104.252048°
SW-11	32.169633°	-104.2520044°
SW-12	32.1696228°	-104.2520525°
SW-13	32.1696459°	-104.2520928°



BH BOTTOMHOLE SAMPLE LOCATIONS

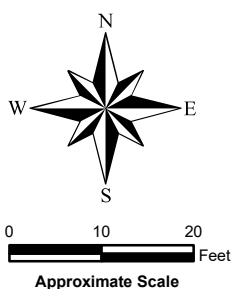
▲ SIDEWALL SAMPLE LOCATIONS

1' EXCAVATED DEPTH AREA

3' EXCAVATED DEPTH AREA

5' EXCAVATED DEPTH AREA

7' EXCAVATED DEPTH AREA



EXCAVATION AREA & DEPTH MAP

FREEDOM 36 STATE SWD 1

Property located at coordinates 32.169928°, -104.252560°
EDDY COUNTY, NEW MEXICO



Project #:
212C-MD-02375

FIGURE

4

Tables

Table 1
Cimarex
Freedom 36 State SWD 1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
AH-1	12/9/2020	0-1	X		<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	181
	"	1.0-1.5	X		<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	46.3
	"	2.0-2.5	X											121
	"	3.0-3.5	X											104
AH-2	12/10/2020	0-1	X		<50.2	<50.2	<50.2	<50.2	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	2120
	"	1.0-1.5	X		<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	1410
	"	2.0-2.5	X											763
	"	3.0-3.5	X											538
	"	4.0-4.5	X											571
	"	5.0-5.5	X											1900
AH-3	12/10/2020	0-1	X		<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	11500
	"	1.0-1.5	X		<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	11100
	"	2.0-2.5	X											7420
	"	3.0-3.5	X											1050
AH-4	12/10/2020	0-1	X		<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	9540
	"	1.0-1.5	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	6640
	"	2.0-2.5	X											5750
	"	3.0-3.5	X											2060
	"	4.0-4.5	X											924
	"	5.0-5.5	X											1580
AH-5	12/10/2020	0-1	X		<50.2	<50.2	<50.2	<50.2	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	1800
	"	1.0-1.5	X		<50.1	<50.1	<50.1	<50.1	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	497
	"	2.0-2.5	X											17.2
	"	3.0-3.5	X											149
	"	4.0-4.5	X											324
AH-6	12/10/2020	0-1	X		<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	132
	"	1.0-1.5	X		<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	144
	"	2.0-2.5	X											183
	"	3.0-3.5	X											200
	"	4.0-4.5	X											126
AH-6	"	5.0-5.5	X											140

Table 1
Cimarex
Freedom 36 State SWD 1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
AH-7	12/10/2020	0-1	X		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.001990	<0.001990	20.1
	"	1.0-1.5	X		<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	<0.00200	<0.002000	<0.002000	20.7
	"	2.0-2.5	X											14.8
	"	3.0-3.5	X											22.3
	"	4.0-4.5	X											14.3
Horizontal-1	12/9/2020	0-1	X		<49.8	<49.8	<49.8	<49.80	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	128
Horizontal-2	12/9/2020	0-1	X		<50.3	<50.3	<50.3	<50.30	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	140
Horizontal-3	12/9/2020	0-1	X		<49.9	<49.9	<49.9	<49.90	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	209
Horizontal-4	12/9/2020	0-1	X		<49.9	<49.9	<49.9	<49.90	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	80.8
Horizontal-5	12/9/2020	0-1	X		<49.8	<49.8	<49.8	<49.80	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	110
Horizontal-6	12/9/2020	0-1	X		<49.8	<49.8	<49.8	<49.80	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	114
Horizontal-7	12/9/2020	0-1	X		<50.0	<50.0	<50.0	<50.00	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	90.6
Horizontal-8	12/9/2020	0-1	X		<50.2	<50.2	<50.2	<50.20	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	132
Horizontal-9	12/9/2020	0-1	X		<50.0	<50.0	<50.0	<50.00	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	141

(-)
Not Analyzed
Excavated

Table 2
Cimarex
Freedom 36 State SWD 1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
Bottom Hole-1	6/8/2021	7.0	X		<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	225
Bottom Hole-2	6/8/2021	7.0	X		<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	<0.00202	<0.00403	<0.00403	246
Bottom Hole-3	6/8/2021	3.0	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	169
Bottom Hole-4	6/8/2021	3.0	X		<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	194
Bottom Hole-5	6/8/2021	3.0	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	331
Bottom Hole-6	6/8/2021	3.0	X		<49.8	<49.8	<49.8	<49.8	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	1510
	6/11/2021	5.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	80.0
Bottom Hole-7	6/8/2021	5.0	X		<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	516
Bottom Hole-8	6/8/2021	5.0	X		<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	138
Bottom Hole-9	6/8/2021	1.0	X		<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	191
Bottom Hole-10	6/8/2021	3.0	X		<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	222
Bottom Hole-11	6/8/2021	1.0	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	195
Bottom Hole-12	6/8/2021	1.0	X		<49.7	<49.7	<49.7	<49.7	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	558
Bottom Hole-13	6/8/2021	1.0	X		<49.8	<49.8	<49.8	<49.8	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	636
	6/11/2021	3.0	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
Sidewall-1	6/8/2021	-	X		<49.7	<49.7	<49.7	<49.7	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	172
Sidewall-2	6/8/2021	-	X		<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	154
Sidewall-3	6/8/2021	-	X		<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	2690
	6/11/2021	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	128
Sidewall-4	6/8/2021	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	512
	6/11/2021	-	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	400

Table 2
Cimarex
Freedom 36 State SWD 1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
Sidewall-5	6/8/2021	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	212
Sidewall-6	6/8/2021	-	X		<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	389
Sidewall-7	6/8/2021	-	X		<50.0	<50.0	<50.0	<50.0	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	278
Sidewall-8	6/8/2021	-	X		<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	299
Sidewall-9	6/8/2021	-	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	394
Sidewall-10	6/8/2021	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	347
Sidewall-11	6/8/2021	-	X		<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	314
Sidewall-12	6/8/2021	-	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	235
Sidewall-13	6/8/2021	-	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	380

(-) Not Analyzed
 Excavated

Photos

Cimarex Energy
Freedom 36 State SWD 1
Eddy County, New Mexico



View of Remediation – View Northeast



View of Remediation – View Southeast

Cimarex Energy
Freedom 36 State SWD 1
Eddy County, New Mexico



TETRA TECH



View of Remediation – View East

Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NRM2014839790
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Cimarex Energy Co.	OGRID: 215099
Contact Name: Laci Luig	Contact Telephone: (432) 571-7800
Contact email: llug@cimarex.com	Incident # (assigned by OCD)
Contact mailing address: 600 N Marienfeld Street, Ste. 600 Midland, TX 79701	

Location of Release Source

Latitude 32.16977 _____ Longitude -104.25203 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Freedom 36 State SWD 1	Site Type: Battery Pad
Date Release Discovered: 5/26/2020	API# (if applicable) 30-015-44489

Unit Letter	Section	Township	Range	County
M	36	24S	26E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 15 bbls	Volume Recovered (bbls) 10 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Mechanical Failure

We found a pin hole in the suction side of charge pump going to the SWD injection pump. We replaced the leaking spoil piece with a plastic coated spoil piece to prevent this from happening again. We released 15 barrels of produced water outside of containment and recovered 10 barrels. We will hydrovac the impacted soil and delineate area to determine pathway forward.

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

Released to Imaging: 7/13/2021 2:19:22 PM

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _____ Title: _____

Signature: *lac. Lj* Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

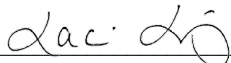
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

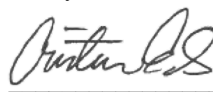
Signature:  Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Cristina Eads Date: 07/02/2021

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 07/13/2021

Printed Name: Cristina Eads Title: Environmental Specialist

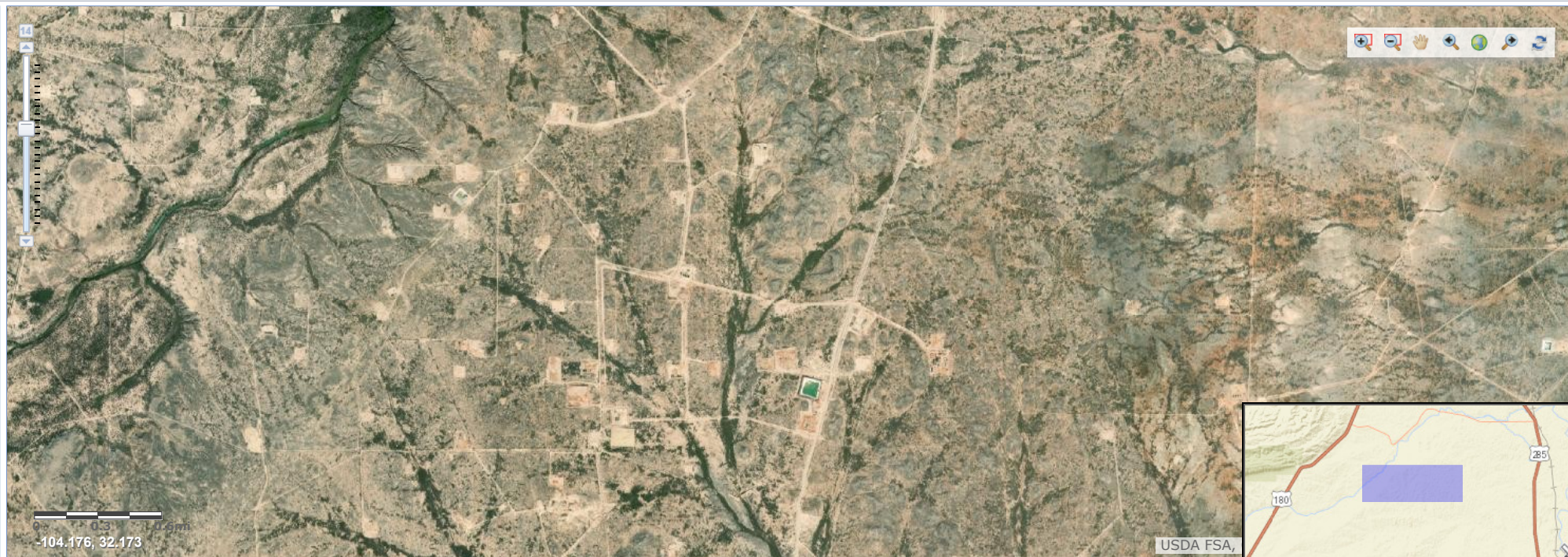
Appendix B



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

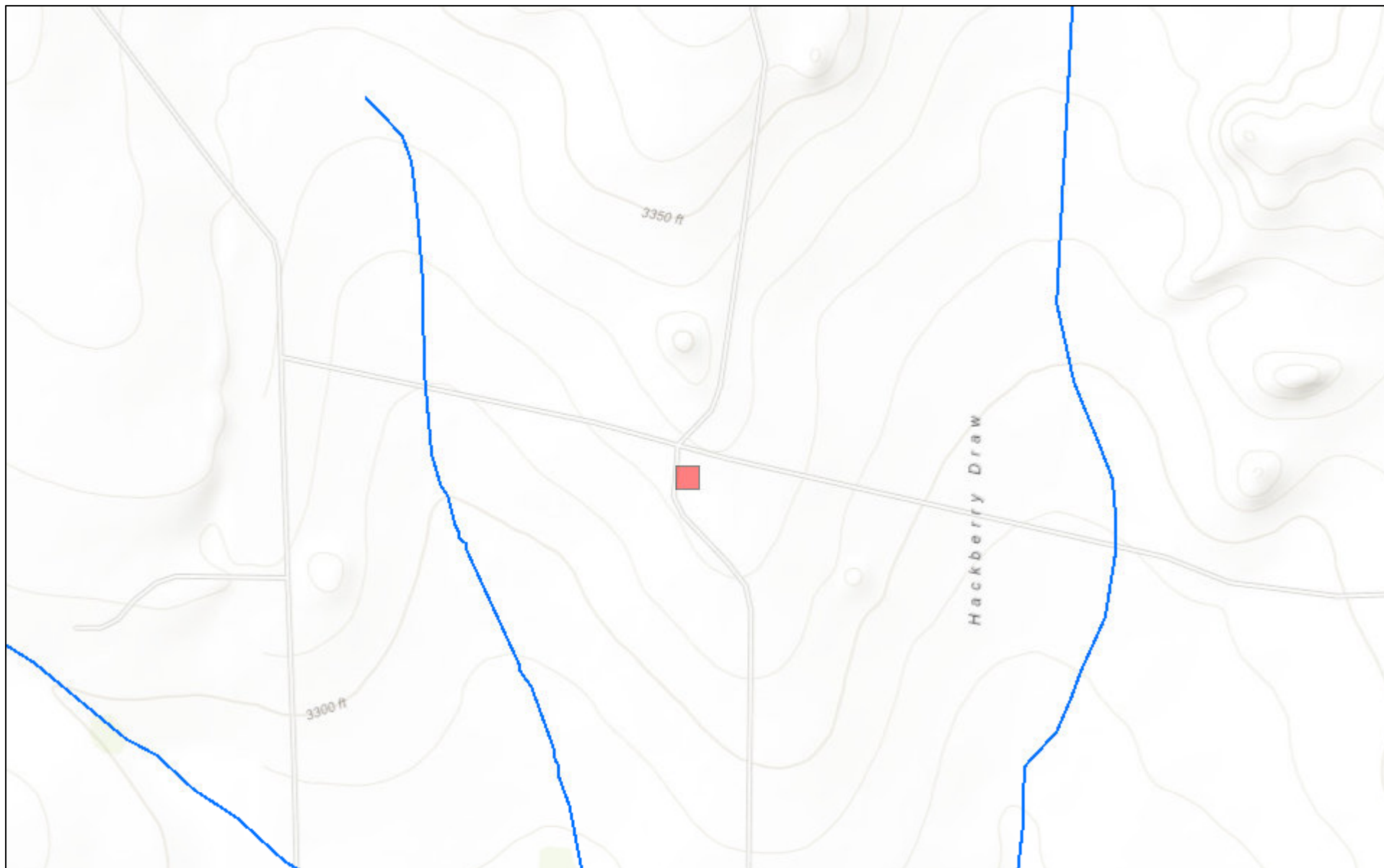
National Water Information System: Mapper

[Help](#) [Info](#)

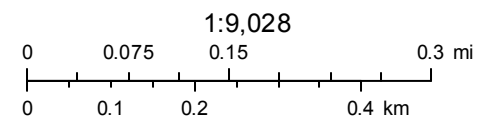


Site Information

New Mexico NFHL Data



January 5, 2021



FEMA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Groundwater

Geographic Area:

New Mexico

GO

Click to hide
News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for New Mexico

Click to hide
state-specific text

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 321136104160701

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 321136104160701 24S.26E.26.113311

Eddy County, New Mexico

Latitude 32°11'35.3", Longitude 104°16'17.7" NAD83

Land-surface elevation 3,276.90 feet above NGVD29

The depth of the well is 60 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement
1978-01-05		D	72019	19.38				U
1983-01-24		D	72019	32.39				U
1988-02-10		D	72019	21.44				U
1992-11-13		D	72019	26.61				S
1998-01-06		D	72019	29.02				S

Date	Time	Water-level date-time accuracy	Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	Status	Method of measurement
2003-02-05		D	72019	13.80				S
2013-01-08	16:30 MST	m	72019	16.03				S

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	72019	Depth to water level, feet below land surface
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	A	Reported by another government agency (do not use "A" if reported by owner, use "O").
Source of measurement	R	Reported by person other than the owner, driller, or another government agency.
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)

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[Automated retrievals](#)

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for New Mexico: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>



Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2021-01-27 00:03:02 EST

0.34 0.3 nadww01



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 00100 A		CUB	ED	1	1	3	24	24S	26E	570284	3563053	51	26	25
C 00262	R	C	ED	4	3	1	24	24S	26E	570481	3563253*	50		
C 00262 POD2		C	ED	4	3	1	24	24S	26E	570234	3562337	45	18	27
C 00293		C	ED	3	2	3	10	24S	26E	567445	3566100*	250		
C 00369	C	CUB	ED	2	1	23	24S	26E	569207	3563757*				
C 00396	C	CUB	ED	2	2	23	24S	26E	570003	3563758*		2032		
C 00517		C	ED	1	3	2	23	24S	26E	569498	3563456*	80	31	49
C 00669		C	ED	2	4	3	07	24S	26E	562799	3565796*	330	250	80
C 00690		C	ED	1	3	3	24	24S	26E	570288	3562653*	30	10	20
C 00692		C	ED	3	3	1	24	24S	26E	570281	3563253*	50	42	8
C 00755		C	ED	4	1	15	24S	26E	567564	3564984*		270		
C 00792		C	ED	4	2	27	24S	26E	568397	3561747*		70	30	40
C 00819		C	ED	4	4	26	24S	26E	570022	3560935*		62	42	20
C 00829		C	ED	1	4	23	24S	26E	569591	3562957*		50	19	31
C 00883		C	ED	3	2	4	23	24S	26E	569887	3562855*	60	14	46
C 00928		C	ED	1	1	23	24S	26E	568806	3563757*		91	7	84
C 00949		C	ED	1	1	3	24	24S	26E	570284	3563053*	62	35	27
C 00957		C	ED	1	4	18	24S	26E	563106	3564511*		753	650	103
C 01085		C	ED	4	2	23	24S	26E	569990	3563356*		127	60	67
C 01202		C	ED	1	29	24S	26E	564138	3561903*			75	19	56
C 01386		C	ED	3	1	29	24S	26E	563937	3561702*		84	72	12
C 01454		C	ED	1	3	20	24S	26E	563917	3562912*		87	70	17
C 01616		C	ED	2	4	23	24S	26E	569988	3562956*		84	84	0
C 01869	R	C	ED	2	3	4	23	24S	26E	569753	3562679	110	30	80
C 02043		C	ED	2	1	24	24S	26E	570805	3563758*		42	28	14
C 02174		C	ED	2	10	24S	26E	568143	3566804*			263	233	30

*UTM location was derived from PLSS - see Help

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD															
		Sub-	Q Q Q												
POD Number	Code	basin	County	64	16	4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column	
C 02700		C	ED	1	1	3	29	24S	26E	563844	3561400*		180		
C 03110		C	ED	4	1	4	23	24S	26E	569690	3562856*		35	12	23
C 03192		C	ED	1	2	1	13	24S	26E	570697	3565474*		200		
C 03200 POD1		C	ED	2	3	4	34	24S	26E	568206	3559349		80	52	28
C 03414 POD1		C	ED	3	1	2	14	24S	26E	569513	3565188		80	60	20
C 03414 POD1	R	C	ED	3	1	2	14	24S	26E	569513	3565188		80	60	20
C 03414 POD2		C	ED	3	1	2	14	24S	26E	569509	3565257		100	32	68
C 03526 POD1		C	ED	1	4	4	23	24S	26E	569788	3562666		200		
C 03675		C	ED	2	2	2	23	24S	26E	570134	3563860		59	38	21
C 03777 POD1		C	ED	3	1	2	24	24S	26E	571120	3563571		55	28	27
C 04365 POD1		C	ED	4	2	4	14	24S	26E	569455	3564422				

Average Depth to Water: **73 feet**

Minimum Depth: **7 feet**

Maximum Depth: **650 feet**

Record Count: 37

Basin/County Search:

County: Eddy

PLSS Search:

Township: 24S

Range: 26E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

High Karst

Cimarex Energy
Freedom 36 State SWD 1

Legend

-  Freedom 36 State SWD 1
-  High
-  Low
-  Medium



Whites City



Freedom 36 State SWD 1



62

720



Black River Village Rd



Water Well Data
Average Depth to Groundwater (ft)
Cimarex - Freedom 36 State SWD 1
Eddy County, New Mexico

23 South			25 East		
6	5	4	3	2	1
485					
7	8	9	10	11	12
		593	55		90
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
				511	

23 South			26 East		
6	5	4	3	2	1
			220		
7	8	267	9	10	11
18	17	16	15	14	13
19	20	21	22	224	23
30	29	28	27	26	25
31	32	223	33	34	35

23 South			27 East		
6	5	83	4	90	3
7	8		9	10	11
18	17		15	14	75
19	20		21	22	23
30	29	103	28	27	26
31	32		33	34	35

24 South			25 East		
6	5	14	4	440	3
209			44		
7	8		9	10	11
					27
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
			150	500	

24 South			26 East		
6	5	63	4	3	2
7	8	250	9	10	11
18	17	16	15	14	13
19	20	21	22	23	24
30	29	46	28	27	26
31	32	111	33	34	35
		109			

24 South			27 East		
6	5	4	3	2	1
7	8	17	9	10	11
18	17	26	16	15	14
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South			25 East		
6	5	30	4	46	3
				20	
7	8		9	10	11
				43	39
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South			26 East		
6	5	4	3	2	1
7	8	9	45	10	11
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South			27 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
 Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

Appendix C

Certificate of Analysis Summary 680743



Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-001	680743-002	680743-003	680743-004	680743-005	680743-006
	<i>Field Id:</i>	H-1	H-1	H-3	H-4	H-5	H-6
	<i>Depth:</i>	0-6 ft	0-6 ft	0-6 ft	0-6 ft	0-6 ft	0-6 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 10:25	12.09.2020 10:30	12.10.2020 09:30	12.09.2020 10:40	12.10.2020 09:40	12.09.2020 10:50
BTEX by EPA 8021B	<i>Extracted:</i>	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24
	<i>Analyzed:</i>	12.14.2020 17:36	12.14.2020 17:58	12.14.2020 18:21	12.14.2020 18:43	12.14.2020 19:06	12.14.2020 19:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00401 0.00401	<0.00396 0.00396	<0.00399 0.00399	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17
	<i>Analyzed:</i>	12.12.2020 02:16	12.12.2020 02:33	12.12.2020 02:39	12.12.2020 02:44	12.12.2020 02:50	12.12.2020 03:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		128 9.90	140 49.8	209 50.5	80.8 50.1	110 49.7	114 49.9
TPH By SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00
	<i>Analyzed:</i>	12.14.2020 15:43	12.14.2020 16:04	12.14.2020 16:24	12.14.2020 16:45	12.14.2020 17:05	12.14.2020 17:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.8 49.8
Diesel Range Organics (DRO)		<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.3 50.3	<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.8 49.8
Total TPH		<49.80 49.80	<50.30 50.30	<49.90 49.90	<49.90 49.90	<49.80 49.80	<49.80 49.80

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Certificate of Analysis Summary 680743



Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-007	680743-008	680743-009	680743-010	680743-011	680743-012
	<i>Field Id:</i>	H-7	H-8	H-9	AH1	AH1	AH1
	<i>Depth:</i>	0-6 ft	0-6 ft	0-6 ft	0-1 ft	1-1.5 ft	2-2.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 11:00	12.09.2020 11:10	12.09.2020 11:15	12.09.2020 11:30	12.09.2020 11:40	12.09.2020 11:50
BTEX by EPA 8021B	<i>Extracted:</i>	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.11.2020 17:00	
	<i>Analyzed:</i>	12.14.2020 19:51	12.14.2020 20:14	12.14.2020 20:36	12.14.2020 20:59	12.12.2020 02:29	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00400 0.00400	<0.00402 0.00402	<0.00398 0.00398	
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.001990 0.001990	
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.001990 0.001990	
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17
	<i>Analyzed:</i>	12.12.2020 03:12	12.12.2020 03:18	12.12.2020 03:23	12.12.2020 03:29	12.12.2020 03:34	12.12.2020 03:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		90.6 50.4	132 50.1	141 50.1	181 49.7	46.3 9.88	121 50.1
TPH By SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.15.2020 11:00	12.15.2020 11:00	
	<i>Analyzed:</i>	12.14.2020 17:46	12.14.2020 18:06	12.14.2020 18:27	12.15.2020 14:53	12.15.2020 13:51	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.2 50.2	<50.0 50.0	<49.9 49.9	<49.8 49.8	
Diesel Range Organics (DRO)		<50.0 50.0	<50.2 50.2	<50.0 50.0	<49.9 49.9	<49.8 49.8	
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.2 50.2	<50.0 50.0	<49.9 49.9	<49.8 49.8	
Total TPH		<50.00 50.00	<50.20 50.20	<50.00 50.00	<49.9 49.9	<49.8 49.8	

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Certificate of Analysis Summary 680743



Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-013	680743-014	680743-015	680743-016	680743-017	680743-018
	<i>Field Id:</i>	AH1	AH2	AH2	AH2	AH2	AH2
	<i>Depth:</i>	3-3.5 ft	0-1 ft	1-1.5 ft	2-2.5 ft	3-3.5 ft	4-4.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 12:00	12.10.2020 11:40	12.10.2020 11:45	12.10.2020 11:50	12.10.2020 11:55	12.10.2020 12:00
BTEX by EPA 8021B	<i>Extracted:</i>		12.11.2020 17:00	12.11.2020 17:00			
	<i>Analyzed:</i>		12.12.2020 02:52	12.12.2020 03:14			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Benzene			<0.00198 0.00198	<0.00200 0.00200			
Toluene			<0.00198 0.00198	<0.00200 0.00200			
Ethylbenzene			<0.00198 0.00198	<0.00200 0.00200			
m,p-Xylenes			<0.00397 0.00397	<0.00401 0.00401			
o-Xylene			<0.00198 0.00198	<0.00200 0.00200			
Total Xylenes			<0.001980 0.001980	<0.002000 0.002000			
Total BTEX			<0.001980 0.001980	<0.002000 0.002000			
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:17
	<i>Analyzed:</i>	12.12.2020 03:57	12.12.2020 04:13	12.12.2020 04:19	12.12.2020 04:25	12.12.2020 04:30	12.12.2020 04:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		104 50.2	2120 49.6	1410 49.9	763 200	538 200	571 199
TPH By SW8015 Mod	<i>Extracted:</i>		12.15.2020 11:00	12.15.2020 11:00			
	<i>Analyzed:</i>		12.15.2020 15:13	12.15.2020 15:34			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)			<50.2 50.2	<50.1 50.1			
Diesel Range Organics (DRO)			<50.2 50.2	<50.1 50.1			
Motor Oil Range Hydrocarbons (MRO)			<50.2 50.2	<50.1 50.1			
Total TPH			<50.2 50.2	<50.1 50.1			

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Certificate of Analysis Summary 680743



Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-019	680743-020	680743-021	680743-022	680743-023	680743-024
	<i>Field Id:</i>	AH2	AH2	AH3	AH3	AH3	AH3
	<i>Depth:</i>	5-5.5 ft	6-6.5 ft	0-1 ft	1-1.5 ft	2-2.5 ft	3-3.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 12:05	12.10.2020 12:10	12.10.2020 12:30	12.10.2020 12:35	12.10.2020 12:45	12.10.2020 12:55
BTEX by EPA 8021B	<i>Extracted:</i>			12.11.2020 17:00	12.11.2020 17:00		
	<i>Analyzed:</i>			12.12.2020 03:36	12.12.2020 03:59		
	<i>Units/RL:</i>			mg/kg RL	mg/kg RL		
Benzene				<0.00202 0.00202	<0.00202 0.00202		
Toluene				<0.00202 0.00202	<0.00202 0.00202		
Ethylbenzene				<0.00202 0.00202	<0.00202 0.00202		
m,p-Xylenes				<0.00404 0.00404	<0.00403 0.00403		
o-Xylene				<0.00202 0.00202	<0.00202 0.00202		
Total Xylenes				<0.002020 0.002020	<0.002020 0.002020		
Total BTEX				<0.002020 0.002020	<0.002020 0.002020		
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 17:17	12.11.2020 17:17	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20
	<i>Analyzed:</i>	12.12.2020 04:41	12.12.2020 04:47	12.12.2020 05:20	12.12.2020 05:37	12.12.2020 05:43	12.12.2020 05:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1900 200	918 200	11500 200	11100 200	7420 200	1050 49.8
TPH By SW8015 Mod	<i>Extracted:</i>			12.15.2020 11:00	12.15.2020 11:00		
	<i>Analyzed:</i>			12.15.2020 15:54	12.15.2020 16:15		
	<i>Units/RL:</i>			mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)				<50.0 50.0	<49.9 49.9		
Diesel Range Organics (DRO)				<50.0 50.0	<49.9 49.9		
Motor Oil Range Hydrocarbons (MRO)				<50.0 50.0	<49.9 49.9		
Total TPH				<50.0 50.0	<49.9 49.9		

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Certificate of Analysis Summary 680743



Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-025	680743-026	680743-027	680743-028	680743-029	680743-030
	<i>Field Id:</i>	AH4	AH4	AH4	AH4	AH4	AH4
	<i>Depth:</i>	0-1 ft	1-1.5 ft	2-2.5 ft	3-3.5 ft	4-4.5 ft	5-5.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 10:05	12.10.2020 10:10	12.10.2020 10:20	12.10.2020 10:25	12.10.2020 10:45	12.10.2020 10:55
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 17:00	12.11.2020 17:00				
	<i>Analyzed:</i>	12.12.2020 04:21	12.12.2020 04:44				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.00198 0.00198	<0.00200 0.00200				
Toluene		<0.00198 0.00198	<0.00200 0.00200				
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200				
m,p-Xylenes		<0.00397 0.00397	<0.00399 0.00399				
o-Xylene		<0.00198 0.00198	<0.00200 0.00200				
Total Xylenes		<0.001980 0.001980	<0.002000 0.002000				
Total BTEX		<0.001980 0.001980	<0.002000 0.002000				
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20
	<i>Analyzed:</i>	12.12.2020 05:54	12.12.2020 06:11	12.12.2020 06:16	12.12.2020 06:22	12.12.2020 06:27	12.12.2020 06:33
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		9540 199	6640 201	5750 201	2060 200	924 49.9	1580 49.9
TPH By SW8015 Mod	<i>Extracted:</i>	12.15.2020 11:00	12.15.2020 11:00				
	<i>Analyzed:</i>	12.15.2020 16:36	12.15.2020 16:56				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0				
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0				
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0				
Total TPH		<49.9 49.9	<50.0 50.0				

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Certificate of Analysis Summary 680743



Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-031	680743-032	680743-033	680743-034	680743-035	680743-036
	<i>Field Id:</i>	AH4	AH5	AH5	AH5	AH5	AH5
	<i>Depth:</i>	6-6.5 ft	0-1 ft	1-1.5 ft	2-2.5 ft	3-3.5 ft	4-4.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 11:00	12.10.2020 09:00	12.10.2020 09:05	12.10.2020 09:10	12.10.2020 09:20	12.10.2020 09:25
BTEX by EPA 8021B	<i>Extracted:</i>		12.11.2020 17:00	12.11.2020 17:00			
	<i>Analyzed:</i>		12.12.2020 05:06	12.12.2020 05:28			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Benzene			<0.00202 0.00202	<0.00202 0.00202			
Toluene			<0.00202 0.00202	<0.00202 0.00202			
Ethylbenzene			<0.00202 0.00202	<0.00202 0.00202			
m,p-Xylenes			<0.00404 0.00404	<0.00404 0.00404			
o-Xylene			<0.00202 0.00202	<0.00202 0.00202			
Total Xylenes			<0.002020 0.002020	<0.002020 0.002020			
Total BTEX			<0.002020 0.002020	<0.002020 0.002020			
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20
	<i>Analyzed:</i>	12.12.2020 06:38	12.12.2020 06:55	12.12.2020 07:01	12.12.2020 07:17	12.12.2020 07:23	12.12.2020 07:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1420 49.6	1800 202	497 50.5	17.2 10.0	149 49.6	324 49.9
TPH By SW8015 Mod	<i>Extracted:</i>		12.15.2020 11:00	12.15.2020 11:00			
	<i>Analyzed:</i>		12.15.2020 17:17	12.15.2020 17:37			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)			<50.2 50.2	<50.1 50.1			
Diesel Range Organics (DRO)			<50.2 50.2	<50.1 50.1			
Motor Oil Range Hydrocarbons (MRO)			<50.2 50.2	<50.1 50.1			
Total TPH			<50.2 50.2	<50.1 50.1			

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Certificate of Analysis Summary 680743



Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-037	680743-038	680743-039	680743-040	680743-041	680743-042
	<i>Field Id:</i>	AH5	AH6	AH6	AH6	AH6	AH6
	<i>Depth:</i>	5-5.5 ft	0-5.5 ft	1-1.5 ft	2-2.5 ft	3-3.5 ft	4-4.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 09:35	12.10.2020 08:30	12.10.2020 08:35	12.10.2020 08:40	12.10.2020 08:45	12.10.2020 08:50
BTEX by EPA 8021B	<i>Extracted:</i>		12.11.2020 17:00	12.11.2020 17:00			
	<i>Analyzed:</i>		12.12.2020 05:51	12.12.2020 07:08			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Benzene			<0.00198 0.00198	<0.00200 0.00200			
Toluene			<0.00198 0.00198	<0.00200 0.00200			
Ethylbenzene			<0.00198 0.00198	<0.00200 0.00200			
m,p-Xylenes			<0.00397 0.00397	<0.00399 0.00399			
o-Xylene			<0.00198 0.00198	<0.00200 0.00200			
Total Xylenes			<0.001980 0.001980	<0.002000 0.002000			
Total BTEX			<0.001980 0.001980	<0.002000 0.002000			
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 17:20	12.11.2020 16:13	12.11.2020 16:13
	<i>Analyzed:</i>	12.12.2020 07:34	12.12.2020 07:40	12.12.2020 07:45	12.12.2020 07:51	12.12.2020 00:37	12.12.2020 00:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		105 50.1	132 49.8	144 49.9	183 50.1	200 49.6	126 49.9
TPH By SW8015 Mod	<i>Extracted:</i>		12.15.2020 11:00	12.15.2020 11:00			
	<i>Analyzed:</i>		12.15.2020 18:18	12.15.2020 18:39			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)			<50.0 50.0	<49.9 49.9			
Diesel Range Organics (DRO)			<50.0 50.0	<49.9 49.9			
Motor Oil Range Hydrocarbons (MRO)			<50.0 50.0	<49.9 49.9			
Total TPH			<50.0 50.0	<49.9 49.9			

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Tetra Tech- Midland, Midland, TX

Project Name: Cimarex Freedom 36 State SWD 1

Project Id: 212C-MD-02375
Contact: Brittany Long
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu 12.10.2020 17:12
Report Date: 12.16.2020 15:27
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680743-043	680743-044	680743-045	680743-046	680743-047	680743-048
	<i>Field Id:</i>	AH6	AH7	AH7	AH7	AH7	AH7
	<i>Depth:</i>	5-5.5 ft	0-1 ft	1-1.5 ft	2-2.5 ft	3-3.5 ft	4-4.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 08:55	12.09.2020 09:05	12.09.2020 09:10	12.09.2020 09:30	12.09.2020 09:50	12.09.2020 10:20
BTEX by EPA 8021B	<i>Extracted:</i>		12.11.2020 17:00	12.11.2020 17:00			
	<i>Analyzed:</i>		12.12.2020 07:31	12.12.2020 07:53			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Benzene			<0.00199 0.00199	<0.00200 0.00200			
Toluene			<0.00199 0.00199	<0.00200 0.00200			
Ethylbenzene			<0.00199 0.00199	<0.00200 0.00200			
m,p-Xylenes			<0.00398 0.00398	<0.00401 0.00401			
o-Xylene			<0.00199 0.00199	<0.00200 0.00200			
Total Xylenes			<0.001990 0.001990	<0.002000 0.002000			
Total BTEX			<0.001990 0.001990	<0.002000 0.002000			
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13
	<i>Analyzed:</i>	12.12.2020 00:57	12.12.2020 01:13	12.12.2020 01:18	12.12.2020 01:23	12.12.2020 01:28	12.12.2020 01:33
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		140 49.7	20.1 10.1	20.7 10.1	14.8 10.0	22.3 9.92	14.3 9.98
TPH By SW8015 Mod	<i>Extracted:</i>		12.15.2020 11:00	12.15.2020 11:00			
	<i>Analyzed:</i>		12.15.2020 19:00	12.15.2020 19:20			
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)			<50.0 50.0	<50.1 50.1			
Diesel Range Organics (DRO)			<50.0 50.0	<50.1 50.1			
Motor Oil Range Hydrocarbons (MRO)			<50.0 50.0	<50.1 50.1			
Total TPH			<50.0 50.0	<50.1 50.1			

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Analytical Report 680743

for

Tetra Tech- Midland

Project Manager: Brittany Long

Cimarex Freedom 36 State SWD 1

212C-MD-02375

12.16.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.16.2020

Project Manager: **Brittany Long**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: Eurofins Xenco, LLC Report No(s): **680743**

Cimarex Freedom 36 State SWD 1

Project Address: Eddy County, New Mexico

Brittany Long:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 680743. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 680743 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads "Jessica Kramer".

Jessica Kramer

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
H-1	S	12.09.2020 10:25	0 - 6 ft	680743-001
H-1	S	12.09.2020 10:30	0 - 6 ft	680743-002
H-3	S	12.10.2020 09:30	0 - 6 ft	680743-003
H-4	S	12.09.2020 10:40	0 - 6 ft	680743-004
H-5	S	12.10.2020 09:40	0 - 6 ft	680743-005
H-6	S	12.09.2020 10:50	0 - 6 ft	680743-006
H-7	S	12.09.2020 11:00	0 - 6 ft	680743-007
H-8	S	12.09.2020 11:10	0 - 6 ft	680743-008
H-9	S	12.09.2020 11:15	0 - 6 ft	680743-009
AH1	S	12.09.2020 11:30	0 - 1 ft	680743-010
AH1	S	12.09.2020 11:40	1 - 1.5 ft	680743-011
AH1	S	12.09.2020 11:50	2 - 2.5 ft	680743-012
AH1	S	12.09.2020 12:00	3 - 3.5 ft	680743-013
AH2	S	12.10.2020 11:40	0 - 1 ft	680743-014
AH2	S	12.10.2020 11:45	1 - 1.5 ft	680743-015
AH2	S	12.10.2020 11:50	2 - 2.5 ft	680743-016
AH2	S	12.10.2020 11:55	3 - 3.5 ft	680743-017
AH2	S	12.10.2020 12:00	4 - 4.5 ft	680743-018
AH2	S	12.10.2020 12:05	5 - 5.5 ft	680743-019
AH2	S	12.10.2020 12:10	6 - 6.5 ft	680743-020
AH3	S	12.10.2020 12:30	0 - 1 ft	680743-021
AH3	S	12.10.2020 12:35	1 - 1.5 ft	680743-022
AH3	S	12.10.2020 12:45	2 - 2.5 ft	680743-023
AH3	S	12.10.2020 12:55	3 - 3.5 ft	680743-024
AH4	S	12.10.2020 10:05	0 - 1 ft	680743-025
AH4	S	12.10.2020 10:10	1 - 1.5 ft	680743-026
AH4	S	12.10.2020 10:20	2 - 2.5 ft	680743-027
AH4	S	12.10.2020 10:25	3 - 3.5 ft	680743-028
AH4	S	12.10.2020 10:45	4 - 4.5 ft	680743-029
AH4	S	12.10.2020 10:55	5 - 5.5 ft	680743-030
AH4	S	12.10.2020 11:00	6 - 6.5 ft	680743-031
AH5	S	12.10.2020 09:00	0 - 1 ft	680743-032
AH5	S	12.10.2020 09:05	1 - 1.5 ft	680743-033
AH5	S	12.10.2020 09:10	2 - 2.5 ft	680743-034
AH5	S	12.10.2020 09:20	3 - 3.5 ft	680743-035
AH5	S	12.10.2020 09:25	4 - 4.5 ft	680743-036
AH5	S	12.10.2020 09:35	5 - 5.5 ft	680743-037
AH6	S	12.10.2020 08:30	0 - 5.5 ft	680743-038
AH6	S	12.10.2020 08:35	1 - 1.5 ft	680743-039
AH6	S	12.10.2020 08:40	2 - 2.5 ft	680743-040
AH6	S	12.10.2020 08:45	3 - 3.5 ft	680743-041
AH6	S	12.10.2020 08:50	4 - 4.5 ft	680743-042
AH6	S	12.10.2020 08:55	5 - 5.5 ft	680743-043

**Sample Cross Reference 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

AH7	S	12.09.2020 09:05	0 - 1 ft	680743-044
AH7	S	12.09.2020 09:10	1 - 1.5 ft	680743-045
AH7	S	12.09.2020 09:30	2 - 2.5 ft	680743-046
AH7	S	12.09.2020 09:50	3 - 3.5 ft	680743-047
AH7	S	12.09.2020 10:20	4 - 4.5 ft	680743-048



CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Cimarex Freedom 36 State SWD 1

Project ID: 212C-MD-02375
Work Order Number(s): 680743

Report Date: 12.16.2020
Date Received: 12.10.2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-1** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-001 Date Collected: 12.09.2020 10:25 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	128	9.90	mg/kg	12.12.2020 02:16		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 15:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.14.2020 15:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 15:43	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.14.2020 15:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.14.2020 15:43		
o-Terphenyl	84-15-1	108	%	70-135	12.14.2020 15:43		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-1**
Lab Sample Id: 680743-001

Matrix: Soil
Date Collected: 12.09.2020 10:25

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 17:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 17:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 17:36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 17:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 17:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 17:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 17:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.14.2020 17:36		
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.14.2020 17:36		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-1** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-002 Date Collected: 12.09.2020 10:30 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	140	49.8	mg/kg	12.12.2020 02:33		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.14.2020 16:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.14.2020 16:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.14.2020 16:04	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.14.2020 16:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	118	%	70-135	12.14.2020 16:04		
o-Terphenyl	84-15-1	96	%	70-135	12.14.2020 16:04		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-1**
Lab Sample Id: 680743-002

Matrix: Soil
Date Collected: 12.09.2020 10:30

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 17:58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 17:58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 17:58	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.14.2020 17:58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 17:58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 17:58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 17:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.14.2020 17:58	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.14.2020 17:58	



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-3** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-003 Date Collected: 12.10.2020 09:30 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	209	50.5	mg/kg	12.12.2020 02:39		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.14.2020 16:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.14.2020 16:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.14.2020 16:24	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.14.2020 16:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	12.14.2020 16:24		
o-Terphenyl	84-15-1	101	%	70-135	12.14.2020 16:24		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-3**
Lab Sample Id: 680743-003

Matrix: Soil
Date Collected: 12.10.2020 09:30

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.14.2020 18:21	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.14.2020 18:21	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.14.2020 18:21	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.14.2020 18:21	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.14.2020 18:21	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.14.2020 18:21	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.14.2020 18:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 18:21		
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.14.2020 18:21		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-4** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-004 Date Collected: 12.09.2020 10:40 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.8	50.1	mg/kg	12.12.2020 02:44		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.14.2020 16:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.14.2020 16:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.14.2020 16:45	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.14.2020 16:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.14.2020 16:45		
o-Terphenyl	84-15-1	102	%	70-135	12.14.2020 16:45		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-4**
Lab Sample Id: 680743-004

Matrix: Soil
Date Collected: 12.09.2020 10:40

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 18:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 18:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 18:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 18:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 18:43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 18:43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 18:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.14.2020 18:43		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.14.2020 18:43		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-5** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-005 Date Collected: 12.10.2020 09:40 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	110	49.7	mg/kg	12.12.2020 02:50		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 17:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.14.2020 17:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 17:05	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.14.2020 17:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	12.14.2020 17:05		
o-Terphenyl	84-15-1	96	%	70-135	12.14.2020 17:05		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-5**
Lab Sample Id: 680743-005

Matrix: Soil
Date Collected: 12.10.2020 09:40

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 19:06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 19:06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 19:06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 19:06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 19:06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 19:06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 19:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	12.14.2020 19:06	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.14.2020 19:06	



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-6** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-006 Date Collected: 12.09.2020 10:50 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	114	49.9	mg/kg	12.12.2020 03:06		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 17:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.14.2020 17:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 17:25	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.14.2020 17:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	121	%	70-135	12.14.2020 17:25		
o-Terphenyl	84-15-1	108	%	70-135	12.14.2020 17:25		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-6**
Lab Sample Id: 680743-006

Matrix: Soil
Date Collected: 12.09.2020 10:50

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 19:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 19:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 19:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 19:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 19:28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 19:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 19:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.14.2020 19:28		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.14.2020 19:28		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-7** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-007 Date Collected: 12.09.2020 11:00 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	90.6	50.4	mg/kg	12.12.2020 03:12		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 17:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 17:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 17:46	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.14.2020 17:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.14.2020 17:46		
o-Terphenyl	84-15-1	90	%	70-135	12.14.2020 17:46		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-7**
Lab Sample Id: 680743-007

Matrix: Soil
Date Collected: 12.09.2020 11:00

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 19:51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 19:51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 19:51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 19:51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 19:51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 19:51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 19:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.14.2020 19:51	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.14.2020 19:51	



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-8** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-008 Date Collected: 12.09.2020 11:10 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	132	50.1	mg/kg	12.12.2020 03:18		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.14.2020 18:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.14.2020 18:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.14.2020 18:06	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.14.2020 18:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-135	12.14.2020 18:06		
o-Terphenyl	84-15-1	108	%	70-135	12.14.2020 18:06		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-8**
Lab Sample Id: 680743-008

Matrix: Soil
Date Collected: 12.09.2020 11:10

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 20:14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 20:14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 20:14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 20:14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 20:14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 20:14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 20:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.14.2020 20:14		
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.14.2020 20:14		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-9** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-009 Date Collected: 12.09.2020 11:15 Sample Depth: 0 - 6 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	141	50.1	mg/kg	12.12.2020 03:23		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.11.2020 17:00 % Moisture:
 Seq Number: 3144878 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 18:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 18:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 18:27	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.14.2020 18:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-135	12.14.2020 18:27		
o-Terphenyl	84-15-1	112	%	70-135	12.14.2020 18:27		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **H-9**
Lab Sample Id: 680743-009

Matrix: Soil
Date Collected: 12.09.2020 11:15

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 20:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 20:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 20:36	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.14.2020 20:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 20:36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 20:36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 20:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.14.2020 20:36		
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.14.2020 20:36		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH1** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-010 Date Collected: 12.09.2020 11:30 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	181	49.7	mg/kg	12.12.2020 03:29		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.15.2020 14:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.15.2020 14:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.15.2020 14:53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.15.2020 14:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-135	12.15.2020 14:53		
o-Terphenyl	84-15-1	98	%	70-135	12.15.2020 14:53		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH1**
Lab Sample Id: 680743-010

Matrix: Soil
Date Collected: 12.09.2020 11:30

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.14.2020 20:59	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.14.2020 20:59	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.14.2020 20:59	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.14.2020 20:59	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.14.2020 20:59	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.14.2020 20:59	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.14.2020 20:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.14.2020 20:59		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.14.2020 20:59		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH1** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-011 Date Collected: 12.09.2020 11:40 Sample Depth: 1 - 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.3	9.88	mg/kg	12.12.2020 03:34		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.15.2020 13:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.15.2020 13:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.15.2020 13:51	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.15.2020 13:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	111	%	70-135	12.15.2020 13:51		
o-Terphenyl	84-15-1	106	%	70-135	12.15.2020 13:51		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH1**
Lab Sample Id: 680743-011

Matrix: Soil
Date Collected: 12.09.2020 11:40

Date Received: 12.10.2020 17:12
Sample Depth: 1 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.2020 02:29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.2020 02:29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.2020 02:29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.2020 02:29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.2020 02:29	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.12.2020 02:29	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.12.2020 02:29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.12.2020 02:29		
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.12.2020 02:29		

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH1** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-012 Date Collected: 12.09.2020 11:50 Sample Depth: 2 - 2.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	121	50.1	mg/kg	12.12.2020 03:51		5

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Cimarex Freedom 36 State SWD 1

Sample Id: **AH1** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-013 Date Collected: 12.09.2020 12:00 Sample Depth: 3 - 3.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	104	50.2	mg/kg	12.12.2020 03:57		5



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-014 Date Collected: 12.10.2020 11:40 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2120	49.6	mg/kg	12.12.2020 04:13		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.15.2020 15:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.15.2020 15:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.15.2020 15:13	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.15.2020 15:13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	12.15.2020 15:13		
o-Terphenyl	84-15-1	106	%	70-135	12.15.2020 15:13		



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Cimarex Freedom 36 State SWD 1

Sample Id: **AH2**
Lab Sample Id: 680743-014

Matrix: Soil
Date Collected: 12.10.2020 11:40

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.2020 02:52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.2020 02:52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.2020 02:52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.12.2020 02:52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.2020 02:52	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.12.2020 02:52	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.12.2020 02:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.12.2020 02:52		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 02:52		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-015 Date Collected: 12.10.2020 11:45 Sample Depth: 1 - 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
 Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1410	49.9	mg/kg	12.12.2020 04:19		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.15.2020 15:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.15.2020 15:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.15.2020 15:34	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.15.2020 15:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	12.15.2020 15:34		
o-Terphenyl	84-15-1	102	%	70-135	12.15.2020 15:34		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2**
Lab Sample Id: 680743-015

Matrix: Soil
Date Collected: 12.10.2020 11:45

Date Received: 12.10.2020 17:12
Sample Depth: 1 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.2020 03:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.2020 03:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.2020 03:14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.12.2020 03:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.2020 03:14	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.12.2020 03:14	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.12.2020 03:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.12.2020 03:14		
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.12.2020 03:14		

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-016 Date Collected: 12.10.2020 11:50 Sample Depth: 2 - 2.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	763	200	mg/kg	12.12.2020 04:25		20

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-017 Date Collected: 12.10.2020 11:55 Sample Depth: 3 - 3.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	538	200	mg/kg	12.12.2020 04:30		20

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-018 Date Collected: 12.10.2020 12:00 Sample Depth: 4 - 4.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	571	199	mg/kg	12.12.2020 04:36		20

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-019 Date Collected: 12.10.2020 12:05 Sample Depth: 5 - 5.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1900	200	mg/kg	12.12.2020 04:41		20

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH2** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-020 Date Collected: 12.10.2020 12:10 Sample Depth: 6 - 6.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:17 % Moisture:
Seq Number: 3144750 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	918	200	mg/kg	12.12.2020 04:47		20



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH3** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-021 Date Collected: 12.10.2020 12:30 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11500	200	mg/kg	12.12.2020 05:20		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.15.2020 15:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.15.2020 15:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.15.2020 15:54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.15.2020 15:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.15.2020 15:54		
o-Terphenyl	84-15-1	106	%	70-135	12.15.2020 15:54		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH3**
Lab Sample Id: 680743-021

Matrix: Soil
Date Collected: 12.10.2020 12:30

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.12.2020 03:36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.12.2020 03:36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.12.2020 03:36	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.12.2020 03:36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.12.2020 03:36	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.12.2020 03:36	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.12.2020 03:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.12.2020 03:36		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.12.2020 03:36		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH3** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-022 Date Collected: 12.10.2020 12:35 Sample Depth: 1 - 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11100	200	mg/kg	12.12.2020 05:37		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.15.2020 16:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.15.2020 16:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.15.2020 16:15	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.15.2020 16:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	12.15.2020 16:15		
o-Terphenyl	84-15-1	98	%	70-135	12.15.2020 16:15		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH3**
Lab Sample Id: 680743-022

Matrix: Soil
Date Collected: 12.10.2020 12:35

Date Received: 12.10.2020 17:12
Sample Depth: 1 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.12.2020 03:59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.12.2020 03:59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.12.2020 03:59	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.12.2020 03:59	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.12.2020 03:59	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.12.2020 03:59	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.12.2020 03:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.12.2020 03:59		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 03:59		

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH3** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-023 Date Collected: 12.10.2020 12:45 Sample Depth: 2 - 2.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7420	200	mg/kg	12.12.2020 05:43		20

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH3** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-024 Date Collected: 12.10.2020 12:55 Sample Depth: 3 - 3.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1050	49.8	mg/kg	12.12.2020 05:48		5



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-025 Date Collected: 12.10.2020 10:05 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9540	199	mg/kg	12.12.2020 05:54		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.15.2020 16:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.15.2020 16:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.15.2020 16:36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.15.2020 16:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	118	%	70-135	12.15.2020 16:36		
o-Terphenyl	84-15-1	110	%	70-135	12.15.2020 16:36		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4**
Lab Sample Id: 680743-025

Matrix: Soil
Date Collected: 12.10.2020 10:05

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.2020 04:21	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.2020 04:21	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.2020 04:21	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.12.2020 04:21	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.2020 04:21	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.12.2020 04:21	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.12.2020 04:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.12.2020 04:21		
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.12.2020 04:21		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-026 Date Collected: 12.10.2020 10:10 Sample Depth: 1 - 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6640	201	mg/kg	12.12.2020 06:11		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.15.2020 16:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.15.2020 16:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.15.2020 16:56	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.15.2020 16:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	126	%	70-135	12.15.2020 16:56		
o-Terphenyl	84-15-1	104	%	70-135	12.15.2020 16:56		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4**
Lab Sample Id: 680743-026

Matrix: Soil
Date Collected: 12.10.2020 10:10

Date Received: 12.10.2020 17:12
Sample Depth: 1 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.2020 04:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.2020 04:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.2020 04:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.12.2020 04:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.2020 04:44	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.12.2020 04:44	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.12.2020 04:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.12.2020 04:44	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.12.2020 04:44	

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-027 Date Collected: 12.10.2020 10:20 Sample Depth: 2 - 2.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5750	201	mg/kg	12.12.2020 06:16		20

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-028 Date Collected: 12.10.2020 10:25 Sample Depth: 3 - 3.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2060	200	mg/kg	12.12.2020 06:22		20

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-029 Date Collected: 12.10.2020 10:45 Sample Depth: 4 - 4.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	924	49.9	mg/kg	12.12.2020 06:27		5

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-030 Date Collected: 12.10.2020 10:55 Sample Depth: 5 - 5.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1580	49.9	mg/kg	12.12.2020 06:33		5

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH4** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-031 Date Collected: 12.10.2020 11:00 Sample Depth: 6 - 6.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1420	49.6	mg/kg	12.12.2020 06:38		5



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-032 Date Collected: 12.10.2020 09:00 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1800	202	mg/kg	12.12.2020 06:55		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.15.2020 17:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.15.2020 17:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.15.2020 17:17	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.15.2020 17:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	12.15.2020 17:17		
o-Terphenyl	84-15-1	96	%	70-135	12.15.2020 17:17		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5**
Lab Sample Id: 680743-032

Matrix: Soil
Date Collected: 12.10.2020 09:00

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.12.2020 05:06	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.12.2020 05:06	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.12.2020 05:06	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.12.2020 05:06	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.12.2020 05:06	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.12.2020 05:06	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.12.2020 05:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 05:06		
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.12.2020 05:06		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-033 Date Collected: 12.10.2020 09:05 Sample Depth: 1 - 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	497	50.5	mg/kg	12.12.2020 07:01		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.15.2020 17:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.15.2020 17:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.15.2020 17:37	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.15.2020 17:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	12.15.2020 17:37		
o-Terphenyl	84-15-1	112	%	70-135	12.15.2020 17:37		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5**
Lab Sample Id: 680743-033

Matrix: Soil
Date Collected: 12.10.2020 09:05

Date Received: 12.10.2020 17:12
Sample Depth: 1 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.12.2020 05:28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.12.2020 05:28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.12.2020 05:28	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.12.2020 05:28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.12.2020 05:28	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.12.2020 05:28	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.12.2020 05:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.12.2020 05:28		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.12.2020 05:28		

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-034 Date Collected: 12.10.2020 09:10 Sample Depth: 2 - 2.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.2	10.0	mg/kg	12.12.2020 07:17		1

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-035 Date Collected: 12.10.2020 09:20 Sample Depth: 3 - 3.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	149	49.6	mg/kg	12.12.2020 07:23		5

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-036 Date Collected: 12.10.2020 09:25 Sample Depth: 4 - 4.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	324	49.9	mg/kg	12.12.2020 07:29		5

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH5** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-037 Date Collected: 12.10.2020 09:35 Sample Depth: 5 - 5.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	105	50.1	mg/kg	12.12.2020 07:34		5



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH6** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-038 Date Collected: 12.10.2020 08:30 Sample Depth: 0 - 5.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	132	49.8	mg/kg	12.12.2020 07:40		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.15.2020 18:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.15.2020 18:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.15.2020 18:18	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.15.2020 18:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	12.15.2020 18:18		
o-Terphenyl	84-15-1	96	%	70-135	12.15.2020 18:18		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH6**
Lab Sample Id: 680743-038

Matrix: Soil
Date Collected: 12.10.2020 08:30

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 5.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.2020 05:51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.2020 05:51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.2020 05:51	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.12.2020 05:51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.2020 05:51	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.12.2020 05:51	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.12.2020 05:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.12.2020 05:51		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 05:51		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH6** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-039 Date Collected: 12.10.2020 08:35 Sample Depth: 1 - 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
 Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	144	49.9	mg/kg	12.12.2020 07:45		5

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.15.2020 18:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.15.2020 18:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.15.2020 18:39	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.15.2020 18:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.15.2020 18:39		
o-Terphenyl	84-15-1	102	%	70-135	12.15.2020 18:39		



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH6**
Lab Sample Id: 680743-039

Matrix: Soil
Date Collected: 12.10.2020 08:35

Date Received: 12.10.2020 17:12
Sample Depth: 1 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.2020 07:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.2020 07:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.2020 07:08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.12.2020 07:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.2020 07:08	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.12.2020 07:08	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.12.2020 07:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.12.2020 07:08		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.12.2020 07:08		

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH6** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-040 Date Collected: 12.10.2020 08:40 Sample Depth: 2 - 2.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 17:20 % Moisture:
Seq Number: 3144752 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	183	50.1	mg/kg	12.12.2020 07:51		5

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH6** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-041 Date Collected: 12.10.2020 08:45 Sample Depth: 3 - 3.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	200	49.6	mg/kg	12.12.2020 00:37		5

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH6** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-042 Date Collected: 12.10.2020 08:50 Sample Depth: 4 - 4.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	126	49.9	mg/kg	12.12.2020 00:52		5

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Cimarex Freedom 36 State SWD 1

Sample Id: **AH6** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-043 Date Collected: 12.10.2020 08:55 Sample Depth: 5 - 5.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	140	49.7	mg/kg	12.12.2020 00:57		5



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Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH7** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-044 Date Collected: 12.09.2020 09:05 Sample Depth: 0 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
 Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.1	10.1	mg/kg	12.12.2020 01:13		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.15.2020 19:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.15.2020 19:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.15.2020 19:00	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.15.2020 19:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.15.2020 19:00	
o-Terphenyl	84-15-1	108	%	70-135	12.15.2020 19:00	



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH7**
Lab Sample Id: 680743-044

Matrix: Soil
Date Collected: 12.09.2020 09:05

Date Received: 12.10.2020 17:12
Sample Depth: 0 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.2020 07:31	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.2020 07:31	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.2020 07:31	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.2020 07:31	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.2020 07:31	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.12.2020 07:31	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.12.2020 07:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.12.2020 07:31	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.12.2020 07:31	



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH7** Matrix: Soil Date Received: 12.10.2020 17:12
 Lab Sample Id: 680743-045 Date Collected: 12.09.2020 09:10 Sample Depth: 1 - 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
 Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.7	10.1	mg/kg	12.12.2020 01:18		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.15.2020 11:00 % Moisture:
 Seq Number: 3145054 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.15.2020 19:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.15.2020 19:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.15.2020 19:20	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.15.2020 19:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.15.2020 19:20		
o-Terphenyl	84-15-1	110	%	70-135	12.15.2020 19:20		



Certificate of Analytical Results 680743

Tetra Tech- Midland, Midland, TX

Cimarex Freedom 36 State SWD 1

Sample Id: **AH7**
Lab Sample Id: 680743-045

Matrix: Soil
Date Collected: 12.09.2020 09:10

Date Received: 12.10.2020 17:12
Sample Depth: 1 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.2020 07:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.2020 07:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.2020 07:53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.12.2020 07:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.2020 07:53	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.12.2020 07:53	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.12.2020 07:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.12.2020 07:53		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.12.2020 07:53		

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH7** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-046 Date Collected: 12.09.2020 09:30 Sample Depth: 2 - 2.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.8	10.0	mg/kg	12.12.2020 01:23		1

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH7** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-047 Date Collected: 12.09.2020 09:50 Sample Depth: 3 - 3.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.3	9.92	mg/kg	12.12.2020 01:28		1

**Certificate of Analytical Results 680743****Tetra Tech- Midland, Midland, TX**

Cimarex Freedom 36 State SWD 1

Sample Id: **AH7** Matrix: Soil Date Received: 12.10.2020 17:12
Lab Sample Id: 680743-048 Date Collected: 12.09.2020 10:20 Sample Depth: 4 - 4.5 ft
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 12.11.2020 16:13 % Moisture:
Seq Number: 3144749 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.3	9.98	mg/kg	12.12.2020 01:33		1

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



Tetra Tech- Midland
Cimarex Freedom 36 State SWD 1

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144749

Matrix: Solid

Prep Method: E300P

Date Prep: 12.11.2020

MB Sample Id: 7716954-1-BLK

LCS Sample Id: 7716954-1-BKS

LCSD Sample Id: 7716954-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	243	97	245	98	90-110	1	20	mg/kg	12.11.2020 23:16	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144750

Matrix: Solid

Prep Method: E300P

Date Prep: 12.11.2020

MB Sample Id: 7716955-1-BLK

LCS Sample Id: 7716955-1-BKS

LCSD Sample Id: 7716955-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	242	97	244	98	90-110	1	20	mg/kg	12.12.2020 02:05	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144752

Matrix: Solid

Prep Method: E300P

Date Prep: 12.11.2020

MB Sample Id: 7716956-1-BLK

LCS Sample Id: 7716956-1-BKS

LCSD Sample Id: 7716956-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	242	97	244	98	90-110	1	20	mg/kg	12.12.2020 05:09	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144749

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680640-001

MS Sample Id: 680640-001 S

MSD Sample Id: 680640-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	202	322	90	326	93	90-110	1	20	mg/kg	12.11.2020 23:31	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144749

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680743-041

MS Sample Id: 680743-041 S

MSD Sample Id: 680743-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	200	199	380	90	380	90	90-110	0	20	mg/kg	12.12.2020 00:42	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144750

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680743-001

MS Sample Id: 680743-001 S

MSD Sample Id: 680743-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	128.0	200	324	98	326	98	90-110	1	20	mg/kg	12.12.2020 02:22	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Tetra Tech- Midland

Cimarex Freedom 36 State SWD 1

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144750

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680743-011

MS Sample Id: 680743-011 S

MSD Sample Id: 680743-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	46.30	203	233	92	233	92	90-110	0	20	mg/kg	12.12.2020 03:40	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144752

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680743-021

MS Sample Id: 680743-021 S

MSD Sample Id: 680743-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11500	199	11700	101	11700	100	90-110	0	20	mg/kg	12.12.2020 05:26	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3144752

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680743-031

MS Sample Id: 680743-031 S

MSD Sample Id: 680743-031 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1420	199	1610	95	1610	95	90-110	0	20	mg/kg	12.12.2020 06:44	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3144878

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.11.2020

MB Sample Id: 7716952-1-BLK

LCS Sample Id: 7716952-1-BKS

LCSD Sample Id: 7716952-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1080	108	1160	116	70-135	7	35	mg/kg	12.14.2020 10:38	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1110	111	70-135	3	35	mg/kg	12.14.2020 10:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		105		103		70-135	%	12.14.2020 10:38
o-Terphenyl	105		113		105		70-135	%	12.14.2020 10:38

Analytical Method: TPH By SW8015 Mod

Seq Number: 3145054

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.15.2020

MB Sample Id: 7717211-1-BLK

LCS Sample Id: 7717211-1-BKS

LCSD Sample Id: 7717211-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1090	109	1180	118	70-135	8	35	mg/kg	12.15.2020 13:10	
Diesel Range Organics (DRO)	<50.0	1000	938	94	1060	106	70-135	12	35	mg/kg	12.15.2020 13:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		77		108		70-135	%	12.15.2020 13:10
o-Terphenyl	114		72		105		70-135	%	12.15.2020 13:10

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec

Tetra Tech- Midland

Cimarex Freedom 36 State SWD 1

Analytical Method: TPH By SW8015 Mod

Seq Number: 3144878

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.11.2020

MB Sample Id: 7716952-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.14.2020 10:18	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3145054

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.15.2020

MB Sample Id: 7717211-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.15.2020 12:49	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3144878

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.11.2020

Parent Sample Id: 680640-001

MS Sample Id: 680640-001 S

MSD Sample Id: 680640-001 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	989	99	1070	107	70-135	8	35	mg/kg	12.14.2020 11:38	
Diesel Range Organics (DRO)	<49.9	997	1110	111	994	100	70-135	11	35	mg/kg	12.14.2020 11:38	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		104		70-135	%	12.14.2020 11:38
o-Terphenyl	115		105		70-135	%	12.14.2020 11:38

Analytical Method: TPH By SW8015 Mod

Seq Number: 3145054

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.15.2020

Parent Sample Id: 680743-011

MS Sample Id: 680743-011 S

MSD Sample Id: 680743-011 SD

Parameter

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1100	110	1120	112	70-135	2	35	mg/kg	12.15.2020 14:11	
Diesel Range Organics (DRO)	<50.1	1000	999	100	1050	105	70-135	5	35	mg/kg	12.15.2020 14:11	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		105		70-135	%	12.15.2020 14:11
o-Terphenyl	106		112		70-135	%	12.15.2020 14:11

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Tetra Tech- Midland
Cimarex Freedom 36 State SWD 1

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144738

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.11.2020

MB Sample Id: 7716960-1-BLK

LCS Sample Id: 7716960-1-BKS

LCSD Sample Id: 7716960-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.0937	94	70-130	8	35	mg/kg	12.12.2020 00:27	
Toluene	<0.00200	0.100	0.0980	98	0.0917	92	70-130	7	35	mg/kg	12.12.2020 00:27	
Ethylbenzene	<0.00200	0.100	0.0906	91	0.0855	86	71-129	6	35	mg/kg	12.12.2020 00:27	
m,p-Xylenes	<0.00400	0.200	0.184	92	0.174	87	70-135	6	35	mg/kg	12.12.2020 00:27	
o-Xylene	<0.00200	0.100	0.0930	93	0.0869	87	71-133	7	35	mg/kg	12.12.2020 00:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		96		91		70-130	%	12.12.2020 00:27
4-Bromofluorobenzene	85		88		79		70-130	%	12.12.2020 00:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144882

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.14.2020

MB Sample Id: 7717019-1-BLK

LCS Sample Id: 7717019-1-BKS

LCSD Sample Id: 7717019-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.002000	0.1000	0.09333	93	0.09553	96	70-130	2	35	mg/kg	12.14.2020 10:42	
Toluene	<0.002000	0.1000	0.08951	90	0.09126	91	70-130	2	35	mg/kg	12.14.2020 10:42	
Ethylbenzene	<0.002000	0.1000	0.09599	96	0.09781	98	71-129	2	35	mg/kg	12.14.2020 10:42	
m,p-Xylenes	<0.004000	0.2000	0.1943	97	0.2027	101	70-135	4	35	mg/kg	12.14.2020 10:42	
o-Xylene	<0.002000	0.1000	0.09415	94	0.09977	100	71-133	6	35	mg/kg	12.14.2020 10:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		99		99		70-130	%	12.14.2020 10:42
4-Bromofluorobenzene	115		110		109		70-130	%	12.14.2020 10:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144738

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.11.2020

Parent Sample Id: 680743-011

MS Sample Id: 680743-011 S

MSD Sample Id: 680743-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0978	98	0.103	103	70-130	5	35	mg/kg	12.12.2020 01:12	
Toluene	<0.00200	0.0998	0.100	100	0.0992	99	70-130	1	35	mg/kg	12.12.2020 01:12	
Ethylbenzene	<0.00200	0.0998	0.0963	96	0.0912	91	71-129	5	35	mg/kg	12.12.2020 01:12	
m,p-Xylenes	<0.00399	0.200	0.197	99	0.185	93	70-135	6	35	mg/kg	12.12.2020 01:12	
o-Xylene	<0.00200	0.0998	0.0981	98	0.0931	93	71-133	5	35	mg/kg	12.12.2020 01:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		93		70-130	%	12.12.2020 01:12
4-Bromofluorobenzene	94		85		70-130	%	12.12.2020 01:12

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Work Order No: 1680743

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crashtad, NM (432) 704-5440

Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Brittany Long	Bill to: (if different)	Glenn Garza
Company Name:	Tetra Tech	Company Name:	Cimarex
Address:	901 West Wall Street Ste 100	Address:	606 N Marientfield St
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-741-5813	Email:	Brittany.Long@tetatech.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting Level: ☐ I ☐ Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: ☐ EDD ☐ ADAPT ☐ Other:

Project Name:	Cimarex Freedom 36 state 5N2	Turn Around	☒
Project Number:	212C-MD-02375	Route:	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Ezequiel Moreno	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	0.8/0.6	Thermometer ID	1-NM-007	
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.7	
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	48	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Preservative Codes
H1	S		12/09/20	1025	0-6"	1	MeOH: Me None: NO HNO3: HN H2SO4: H2 HCL: HL NaOH: Na Zn Acetate+ NaOH: Zn
H2			12/9/20	1030		X	BTEX
H3			12/10/20	0930		X	TPH
H4			12/9/20	1040		X	Chloride
H5			12/10/20	0940			
H6			12/9/20	1050			
H7				1100			
H8				1110			
H9				1115			
AH1				1130	6-1'		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Ezequiel Moreno</i>	<i>Cec Clifton</i>	12-10-20 1712			



Chain of Custody

Work Order No: 1686743

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crystal, NM (432) 704-5440

Phoenix, AZ (480) 365-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager: Brittany Long		Bill to: (if different) Gloria Garza	
Company Name: Tetra Tech		Company Name: Cimarex	
Address: 961 West Main Street St. 100		Address: 600 N. Marlenfield	
City, State ZIP: Midland, TX 79701		City, State ZIP: Midland, TX 79701	
Phone: 432-741-5813		Email: Brittany.Long@tetratech.com	

Program: ☐ PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project: ☐ Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Reporting Level: ☐ EDD ☐ ADAPT ☐ Other: ☐	

Project Name: Cimarex Freedom 36 State SWD	Turn Around
Project Number: 212C-MD-02375	Routine ☒
Project Location: Eddy County	Rush: ☐
Sampler's Name: Ezequiel Moreno	Due Date: ☐
PO #: ☐	Quote #: ☐

SAMPLE RECEIPT	
Temperature (°C):	Temp Blank: Yes ☐ No ☐
Received Intact: Yes ☐ No ☐	Thermometer ID: ☐
Cooler Custody Seals: Yes ☐ No ☐ N/A ☐	Correction Factor: ☐
Sample Custody Seals: Yes ☐ No ☐ N/A ☐	Total Containers: ☐

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
AH1	↓	S	12/9/20	1140	1-1.5'	1	BTEX	MeOH: Me	↓
					2-2.5'		TPH	None: NO	↓
					3-3.5'		Chloride	HNO3: HN	↓
AH2	↓		12/10/20	1200	3-3.5'			H2SO4: H2	↓
				1140	0-1'			HCL: HL	↓
				1145	1-1.5'			NaOH: Na	↓
				1150	2-2.5'			Zn Acetate+ NaOH: Zn	↓
				1155	3-3.5'			TAT starts the day received by the lab, if received by 4:00pm	↓
				1200	4-4.5'				↓
				1205	5-5.5'				↓
				1210	6-6.5'				↓

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

Signature: *Handwritten Signature*

Signature: *Handwritten Signature*

Date/Time: 12-10-20 17:12

2

4

6



Chain of Custody

Work Order No: 1680743

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Corsado, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 889-6701

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Page 3 of 5

Project Manager:	Brittany Long	Bill to: (if different)	Gloria Garza
Company Name:	Tetra Tech	Company Name:	Cimarex
Address:	901 West Main St Suite 100	Address:	600 N. Marientfield
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-741-5813	Email:	Brittany.Long@tetratech.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting Level: ☐ Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	Cimarex Freedom 36 State SWD	Turn Around	☒
Project Number:	212C-MD-02375	Routine	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Ezequiel Moreno	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):				Thermometer ID		
Received Intact:	Yes	No		Correction Factor		
Cooler Custody Seals:	Yes	No	N/A	Total Containers:		
Sample Custody Seals:	Yes	No	N/A			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
	AH3	S	12/10/20	1230	0-1'	1	X BTEX	MeOH: Me	Puv 30
				1235	1-1.5'		X TPH	None: NO	Puv 30
				1245	2-2.5'		X Chloride	HNO3: HN	Puv 30
				1255	3-3.5'			H2SO4: H2	Q
	AH4			1005	0-1'			HCL: HL	Puv 30
				1010	1-1.5'			NaOH: Na	Puv 30
				1020	2-2.5'			Zn Acetate+ NaOH: Zn	Q
				1025	3-3.5'			TAT starts the day received by the lab, if received by 4:00pm	
				1045	4-4.5'				
				1055	5-5.5'				

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Ezra Moreno	Chae Giff	12.10.20 1712			



Chain of Custody

Work Order No: 680743

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland TX (432) 704-5440 El Paso, TX (957) 525-4444

Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 999-0300
Lubbock, TX (806) 794-1296 Crasbad, NM (432) 704-5440

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Project Manager:	Brittany Long	Bill to: (if different)	Florida Garza
Company Name:	Tetra Tech	Company Name:	Cinmarex
Address:	901 W Wall St Ste 100	Address:	600 N. Marvenfield
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-741-5813	Email:	Brittany.long@tetratech.com
Project Name:			

1) 689-6-701 www.xenco.com Page 4 of 5

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	Complex Freedom State Sand	Turn Around
Project Number:	212C - MD-02375	Routine ☒
Project Location:	Eddy County	Rush:
Sampler's Name:	Eziqueta Moreno	Due Date:
PO #:		Quote #:

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet ice:	Yes	No
Temperature (°C):							
Received intact:		Yes	No				
Cooler Custody Seals:		Yes	No	N/A			
Sample Custody Seals:		Yes	No	N/A			
		Total Containers:					

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	BTE	TPH	Chloro	Sample Comments
	AH4	S	12/10/20	1100	6-6.5'	1	X	X	X	cl Pom soil
	AHS			900	0-1		X	X	X	cl Pom soil
				905	1-1.5		X	X	X	Pom soil
				910	2-2.5		X	X	X	cl Pom soil
				920	3-3.5		X	X	X	
				925	4-4.5		X	X	X	
				935	5-5.5		X	X	X	
	AH6			830	0-1		X	X	X	cl Pom soil
				835	1-1.5		X	X	X	Pom soil
				840	2-2.5		X	X	X	cl Pom soil
Total	200.7 / 6010	200.8 / 6020:	8RCRA	13PPM	Texas 11	Al Sh As Ba Pb P Cd Cr Cu Fe Hg Mn Ni Se Sn Tl V Zn				

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Ni S A T

1631 / 245.1 / 7470 / 7471 : Ho

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Elmer Wilson</i>	<i>Alfred Linton</i>	12.10.20 1712
		2
		4
		6



Chain of Custody

Work Order No: 1686 743

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Grapeland, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Brittany Long	Bill to: (if different)	Gloria Garza
Company Name:	Tetra Tech	Company Name:	Cimarex
Address:	901 W Wall Street Suite 100	Address:	600 N Marientfield
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-741-5813	Email:	Brittany.Long@tetratech.com

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting Level: I ☐ Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	Cimarex Freedom 3 State	Turn Around	☒
Project Number:	212C-MD-02375	Routine	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Eddiye Albreno	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Thermometer ID	Yes	No
	Received Intact:	Yes	No	Correction Factor:	Yes	No
	Cooler Custody Seals:	Yes	No	Total Containers:	Yes	No
	Sample Custody Seals:	Yes	No		Yes	No

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	ANALYSIS REQUEST	Preservative Codes	Sample Comments
AH6		S	7/10/20	845	3-3.5	1	X	BTEX	MeOH: Me	
			7/10/20	850	4-4.5		X	TPH	None: NO	
			7/10/20	855	5-5.5		X	Chloride	HNO3: HN	
AH7			7/10/20	905	0-1				H2SO4: H2	
			7/10/20	910	1-1.5				HCL: HL	
			7/10/20	930	2-2.5				NaOH: Na	
			7/10/20	950	3-3.5				Zn Acetate+ NaOH: Zn	
			7/10/20	1020	4-4.5				TAT starts the day received by the lab, if received by 4:00pm	

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
 1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Eddy Albreno	Cire Cufre	12-16-20 Fri 12			



Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-792-1

Laboratory Sample Delivery Group: Eddy County New Mexico
Client Project/Site: Freedom 36 State SWD 1
Revision: 1

For:

Tetra Tech, Inc.
901 W Wall
Ste 100
Midland, Texas 79701

Attn: Clair Gonzales

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
6/14/2021 9:51:37 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Laboratory Job ID: 890-792-1
SDG: Eddy County New Mexico

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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Eurofins Xenco, Carlsbad

Case Narrative

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Job ID: 890-792-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-792-1

Receipt

The samples were received on 6/9/2021 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: BH-1 (890-792-1), BH-2 (890-792-2), BH-3 (890-792-3), BH-4 (890-792-4), BH-5 (890-792-5), BH-6 (890-792-6), BH-7 (890-792-7), BH-8 (890-792-8), BH-9 (890-792-9), BH-10 (890-792-10), BH-11 (890-792-11), BH-12 (890-792-12), BH-13 (890-792-13), SW-1 (890-792-14), SW-2 (890-792-15), SW-3 (890-792-16), SW-4 (890-792-17), SW-5 (890-792-18), SW-6 (890-792-19), SW-7 (890-792-20), SW-8 (890-792-21), SW-9 (890-792-22), SW-10 (890-792-23), SW-11 (890-792-24), SW-12 (890-792-25) and SW-13 (890-792-26).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH-2 (890-792-2), BH-3 (890-792-3), BH-4 (890-792-4), BH-5 (890-792-5), BH-6 (890-792-6), BH-7 (890-792-7), BH-8 (890-792-8), BH-9 (890-792-9), BH-10 (890-792-10), BH-12 (890-792-12), BH-13 (890-792-13), SW-1 (890-792-14), SW-2 (890-792-15), SW-3 (890-792-16), SW-5 (890-792-18), SW-6 (890-792-19) and SW-7 (890-792-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Internal standard responses were outside of acceptance limits for the following samples: SW-11 (890-792-24), SW-12 (890-792-25) and SW-13 (890-792-26). The sample(s) shows evidence of matrix interference.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW-11 (890-792-24) and SW-13 (890-792-26). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-1

Lab Sample ID: 890-792-1

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/09/21 17:48	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/09/21 17:48	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/09/21 17:48	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		06/09/21 13:00	06/09/21 17:48	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/09/21 17:48	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		06/09/21 13:00	06/09/21 17:48	1
Total BTEX	<0.00397	U	0.00397		mg/Kg		06/09/21 13:00	06/09/21 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130	06/09/21 13:00	06/09/21 17:48	1
1,4-Difluorobenzene (Surr)	111		70 - 130	06/09/21 13:00	06/09/21 17:48	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/09/21 16:11	06/09/21 22:38	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/09/21 22:38	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/09/21 22:38	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/09/21 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130	06/09/21 16:11	06/09/21 22:38	1
o-Terphenyl	116		70 - 130	06/09/21 16:11	06/09/21 22:38	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	225		4.97		mg/Kg			06/10/21 09:31	1

Client Sample ID: BH-2

Lab Sample ID: 890-792-2

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		06/09/21 13:00	06/09/21 18:09	1
Toluene	<0.00202	U	0.00202		mg/Kg		06/09/21 13:00	06/09/21 18:09	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		06/09/21 13:00	06/09/21 18:09	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		06/09/21 13:00	06/09/21 18:09	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		06/09/21 13:00	06/09/21 18:09	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		06/09/21 13:00	06/09/21 18:09	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		06/09/21 13:00	06/09/21 18:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	06/09/21 13:00	06/09/21 18:09	1
1,4-Difluorobenzene (Surr)	124		70 - 130	06/09/21 13:00	06/09/21 18:09	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-2

Lab Sample ID: 890-792-2

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/09/21 16:11	06/09/21 23:40	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/09/21 23:40	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/09/21 23:40	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/09/21 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	06/09/21 16:11	06/09/21 23:40	1
o-Terphenyl	100		70 - 130	06/09/21 16:11	06/09/21 23:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	246		5.03		mg/Kg			06/10/21 09:47	1

Client Sample ID: BH-3

Lab Sample ID: 890-792-3

Date Collected: 06/07/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:30	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 18:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:30	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 18:30	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	06/09/21 13:00	06/09/21 18:30	1
1,4-Difluorobenzene (Surr)	128		70 - 130	06/09/21 13:00	06/09/21 18:30	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		06/09/21 16:11	06/10/21 00:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 00:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 00:01	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	06/09/21 16:11	06/10/21 00:01	1
o-Terphenyl	89		70 - 130	06/09/21 16:11	06/10/21 00:01	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	169		4.98		mg/Kg			06/10/21 09:53	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-4

Lab Sample ID: 890-792-4

Date Collected: 06/07/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:50	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 18:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 18:50	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 18:50	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	06/09/21 13:00	06/09/21 18:50	1
1,4-Difluorobenzene (Surr)	115		70 - 130	06/09/21 13:00	06/09/21 18:50	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/09/21 16:11	06/10/21 00:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 00:21	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 00:21	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 00:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	06/09/21 16:11	06/10/21 00:21	1
o-Terphenyl	115		70 - 130	06/09/21 16:11	06/10/21 00:21	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	194		5.05		mg/Kg			06/10/21 09:58	1

Client Sample ID: BH-5

Lab Sample ID: 890-792-5

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:11	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:11	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 19:11	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:11	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 19:11	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	06/09/21 13:00	06/09/21 19:11	1
1,4-Difluorobenzene (Surr)	123		70 - 130	06/09/21 13:00	06/09/21 19:11	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-5

Lab Sample ID: 890-792-5

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		06/09/21 16:11	06/10/21 00:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 00:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 00:42	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 00:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	06/09/21 16:11	06/10/21 00:42	1
o-Terphenyl	99		70 - 130	06/09/21 16:11	06/10/21 00:42	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	331		4.99		mg/Kg			06/10/21 10:03	1

Client Sample ID: BH-6

Lab Sample ID: 890-792-6

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 19:32	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 19:32	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 19:32	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/09/21 19:32	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 19:32	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/09/21 19:32	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/09/21 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	06/09/21 13:00	06/09/21 19:32	1
1,4-Difluorobenzene (Surr)	123		70 - 130	06/09/21 13:00	06/09/21 19:32	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:09	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:09	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:09	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	06/09/21 16:11	06/10/21 01:09	1
o-Terphenyl	106		70 - 130	06/09/21 16:11	06/10/21 01:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1510		49.7		mg/Kg			06/14/21 15:20	10

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-7

Lab Sample ID: 890-792-7

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:53	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:53	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:53	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 19:53	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 19:53	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 19:53	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 19:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	06/09/21 13:00	06/09/21 19:53	1
1,4-Difluorobenzene (Surr)	121		70 - 130	06/09/21 13:00	06/09/21 19:53	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:29	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:29	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:29	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 01:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	06/09/21 16:11	06/10/21 01:29	1
o-Terphenyl	101		70 - 130	06/09/21 16:11	06/10/21 01:29	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	516		4.99		mg/Kg			06/10/21 10:25	1

Client Sample ID: BH-8

Lab Sample ID: 890-792-8

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 20:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 20:13	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	06/09/21 13:00	06/09/21 20:13	1
1,4-Difluorobenzene (Surr)	101		70 - 130	06/09/21 13:00	06/09/21 20:13	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-8

Lab Sample ID: 890-792-8

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:00	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:00	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	06/09/21 16:11	06/10/21 02:00	1
o-Terphenyl	98		70 - 130	06/09/21 16:11	06/10/21 02:00	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	138		4.96		mg/Kg			06/10/21 10:31	1

Client Sample ID: BH-9

Lab Sample ID: 890-792-9

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 20:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 20:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 20:34	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 20:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	06/09/21 13:00	06/09/21 20:34	1
1,4-Difluorobenzene (Surr)	121		70 - 130	06/09/21 13:00	06/09/21 20:34	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:21	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	06/09/21 16:11	06/10/21 02:21	1
o-Terphenyl	97		70 - 130	06/09/21 16:11	06/10/21 02:21	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	192		5.01		mg/Kg			06/10/21 10:36	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-10

Lab Sample ID: 890-792-10

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 20:55	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 20:55	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 20:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/09/21 20:55	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/09/21 20:55	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/09/21 20:55	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/09/21 20:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	06/09/21 13:00	06/09/21 20:55	1
1,4-Difluorobenzene (Surr)	110		70 - 130	06/09/21 13:00	06/09/21 20:55	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:42	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 02:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	06/09/21 16:11	06/10/21 02:42	1
o-Terphenyl	104		70 - 130	06/09/21 16:11	06/10/21 02:42	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	222		5.02		mg/Kg			06/10/21 10:42	1

Client Sample ID: BH-11

Lab Sample ID: 890-792-11

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:18	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 22:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:18	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 22:18	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 22:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	06/09/21 13:00	06/09/21 22:18	1
1,4-Difluorobenzene (Surr)	118		70 - 130	06/09/21 13:00	06/09/21 22:18	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-11

Lab Sample ID: 890-792-11

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		06/09/21 16:11	06/10/21 03:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 03:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 03:25	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 03:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	06/09/21 16:11	06/10/21 03:25	1
o-Terphenyl	99		70 - 130	06/09/21 16:11	06/10/21 03:25	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	195		4.98		mg/Kg			06/10/21 10:47	1

Client Sample ID: BH-12

Lab Sample ID: 890-792-12

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:38	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 22:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 22:38	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 22:38	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		06/09/21 13:00	06/09/21 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	06/09/21 13:00	06/09/21 22:38	1
1,4-Difluorobenzene (Surr)	130		70 - 130	06/09/21 13:00	06/09/21 22:38	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U *1	49.7		mg/Kg		06/09/21 16:11	06/10/21 03:48	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		06/09/21 16:11	06/10/21 03:48	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		06/09/21 16:11	06/10/21 03:48	1
Total TPH	<49.7	U	49.7		mg/Kg		06/09/21 16:11	06/10/21 03:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130	06/09/21 16:11	06/10/21 03:48	1
o-Terphenyl	83		70 - 130	06/09/21 16:11	06/10/21 03:48	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	558		5.02		mg/Kg			06/10/21 11:04	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-13

Lab Sample ID: 890-792-13

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 22:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 22:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 22:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 22:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/09/21 22:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 22:59	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/09/21 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	06/09/21 13:00	06/09/21 22:59	1
1,4-Difluorobenzene (Surr)	111		70 - 130	06/09/21 13:00	06/09/21 22:59	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:10	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:10	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:10	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	06/09/21 16:11	06/10/21 04:10	1
o-Terphenyl	83		70 - 130	06/09/21 16:11	06/10/21 04:10	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	636		50.4		mg/Kg			06/14/21 09:38	10

Client Sample ID: SW-1

Lab Sample ID: 890-792-14

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:20	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/09/21 13:00	06/09/21 23:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:20	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/09/21 13:00	06/09/21 23:20	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		06/09/21 13:00	06/09/21 23:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	06/09/21 13:00	06/09/21 23:20	1
1,4-Difluorobenzene (Surr)	114		70 - 130	06/09/21 13:00	06/09/21 23:20	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-1

Lab Sample ID: 890-792-14

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U *1	49.7		mg/Kg		06/09/21 16:11	06/10/21 04:32	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		06/09/21 16:11	06/10/21 04:32	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		06/09/21 16:11	06/10/21 04:32	1
Total TPH	<49.7	U	49.7		mg/Kg		06/09/21 16:11	06/10/21 04:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	06/09/21 16:11	06/10/21 04:32	1
o-Terphenyl	100		70 - 130	06/09/21 16:11	06/10/21 04:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	172		5.03		mg/Kg			06/10/21 11:26	1

Client Sample ID: SW-2

Lab Sample ID: 890-792-15

Date Collected: 06/07/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:40	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/09/21 13:00	06/09/21 23:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 23:40	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/09/21 13:00	06/09/21 23:40	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		06/09/21 13:00	06/09/21 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	06/09/21 13:00	06/09/21 23:40	1
1,4-Difluorobenzene (Surr)	118		70 - 130	06/09/21 13:00	06/09/21 23:40	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:53	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:53	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:53	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 16:11	06/10/21 04:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	06/09/21 16:11	06/10/21 04:53	1
o-Terphenyl	108		70 - 130	06/09/21 16:11	06/10/21 04:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	154		5.03		mg/Kg			06/10/21 11:31	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-3

Lab Sample ID: 890-792-16

Date Collected: 06/07/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/10/21 00:01	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/10/21 00:01	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/10/21 00:01	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		06/09/21 13:00	06/10/21 00:01	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/09/21 13:00	06/10/21 00:01	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		06/09/21 13:00	06/10/21 00:01	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		06/09/21 13:00	06/10/21 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	06/09/21 13:00	06/10/21 00:01	1
1,4-Difluorobenzene (Surr)	109		70 - 130	06/09/21 13:00	06/10/21 00:01	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		06/09/21 16:11	06/10/21 05:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 05:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 05:13	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 05:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130	06/09/21 16:11	06/10/21 05:13	1
o-Terphenyl	114		70 - 130	06/09/21 16:11	06/10/21 05:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2690		50.5		mg/Kg			06/14/21 09:44	10

Client Sample ID: SW-4

Lab Sample ID: 890-792-17

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/10/21 00:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/10/21 00:22	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/10/21 00:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	06/09/21 13:00	06/10/21 00:22	1
1,4-Difluorobenzene (Surr)	106		70 - 130	06/09/21 13:00	06/10/21 00:22	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-4

Lab Sample ID: 890-792-17

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:34	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130	06/09/21 16:11	06/10/21 05:34	1
o-Terphenyl	103		70 - 130	06/09/21 16:11	06/10/21 05:34	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	512		50.2		mg/Kg			06/14/21 09:49	10

Client Sample ID: SW-5

Lab Sample ID: 890-792-18

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:42	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:42	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:42	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/10/21 00:42	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/21 13:00	06/10/21 00:42	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/10/21 00:42	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		06/09/21 13:00	06/10/21 00:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	06/09/21 13:00	06/10/21 00:42	1
1,4-Difluorobenzene (Surr)	120		70 - 130	06/09/21 13:00	06/10/21 00:42	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:54	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 16:11	06/10/21 05:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	06/09/21 16:11	06/10/21 05:54	1
o-Terphenyl	95		70 - 130	06/09/21 16:11	06/10/21 05:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	212		4.95		mg/Kg			06/10/21 11:48	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-6

Lab Sample ID: 890-792-19

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/10/21 01:03	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/10/21 01:03	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/10/21 01:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	06/09/21 13:00	06/10/21 01:03	1
1,4-Difluorobenzene (Surr)	121		70 - 130	06/09/21 13:00	06/10/21 01:03	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:17	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	06/09/21 16:11	06/10/21 06:17	1
o-Terphenyl	56	S1-	70 - 130	06/09/21 16:11	06/10/21 06:17	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	389		5.02		mg/Kg			06/10/21 11:53	1

Client Sample ID: SW-7

Lab Sample ID: 890-792-20

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:24	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:24	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:24	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/10/21 01:24	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/09/21 13:00	06/10/21 01:24	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/10/21 01:24	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		06/09/21 13:00	06/10/21 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	06/09/21 13:00	06/10/21 01:24	1
1,4-Difluorobenzene (Surr)	126		70 - 130	06/09/21 13:00	06/10/21 01:24	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-7

Lab Sample ID: 890-792-20

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:38	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/10/21 06:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	06/09/21 16:11	06/10/21 06:38	1
o-Terphenyl	99		70 - 130	06/09/21 16:11	06/10/21 06:38	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	278		5.01		mg/Kg			06/10/21 11:58	1

Client Sample ID: SW-8

Lab Sample ID: 890-792-21

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:50	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/09/21 15:45	06/09/21 17:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:50	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/09/21 15:45	06/09/21 17:50	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		06/09/21 15:45	06/09/21 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	06/09/21 15:45	06/09/21 17:50	1
1,4-Difluorobenzene (Surr)	101		70 - 130	06/09/21 15:45	06/09/21 17:50	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		06/09/21 15:00	06/09/21 19:09	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		06/09/21 15:00	06/09/21 19:09	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		06/09/21 15:00	06/09/21 19:09	1
Total TPH	<49.8	U	49.8		mg/Kg		06/09/21 15:00	06/09/21 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	06/09/21 15:00	06/09/21 19:09	1
o-Terphenyl	97		70 - 130	06/09/21 15:00	06/09/21 19:09	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	299		4.99		mg/Kg			06/10/21 10:10	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-9

Lab Sample ID: 890-792-22

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 7

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 18:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 18:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 18:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		06/09/21 15:45	06/09/21 18:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 18:10	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		06/09/21 15:45	06/09/21 18:10	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		06/09/21 15:45	06/09/21 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	06/09/21 15:45	06/09/21 18:10	1
1,4-Difluorobenzene (Surr)	102		70 - 130	06/09/21 15:45	06/09/21 18:10	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 19:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 19:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 19:30	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	06/09/21 15:00	06/09/21 19:30	1
o-Terphenyl	101		70 - 130	06/09/21 15:00	06/09/21 19:30	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	394		4.97		mg/Kg			06/10/21 10:25	1

Client Sample ID: SW-10

Lab Sample ID: 890-792-23

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/09/21 15:45	06/09/21 18:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/09/21 15:45	06/09/21 18:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/09/21 15:45	06/09/21 18:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		06/09/21 15:45	06/09/21 18:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/09/21 15:45	06/09/21 18:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		06/09/21 15:45	06/09/21 18:30	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		06/09/21 15:45	06/09/21 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	06/09/21 15:45	06/09/21 18:30	1
1,4-Difluorobenzene (Surr)	103		70 - 130	06/09/21 15:45	06/09/21 18:30	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-10

Lab Sample ID: 890-792-23

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 19:51	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 19:51	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 19:51	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	06/09/21 15:00	06/09/21 19:51	1
o-Terphenyl	103		70 - 130	06/09/21 15:00	06/09/21 19:51	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	347		4.99		mg/Kg			06/10/21 10:29	1

Client Sample ID: SW-11

Lab Sample ID: 890-792-24

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		06/09/21 15:45	06/09/21 18:51	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/09/21 15:45	06/09/21 18:51	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		06/09/21 15:45	06/09/21 18:51	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		06/09/21 15:45	06/09/21 18:51	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/09/21 15:45	06/09/21 18:51	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		06/09/21 15:45	06/09/21 18:51	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		06/09/21 15:45	06/09/21 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	142	S1+	70 - 130	06/09/21 15:45	06/09/21 18:51	1
1,4-Difluorobenzene (Surr)	90		70 - 130	06/09/21 15:45	06/09/21 18:51	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 20:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 20:12	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 20:12	1
Total TPH	<49.9	U	49.9		mg/Kg		06/09/21 15:00	06/09/21 20:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	06/09/21 15:00	06/09/21 20:12	1
o-Terphenyl	110		70 - 130	06/09/21 15:00	06/09/21 20:12	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	314		5.02		mg/Kg			06/10/21 10:34	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-12

Lab Sample ID: 890-792-25

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 19:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 19:11	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	123		70 - 130	06/09/21 15:45	06/09/21 19:11	1
1,4-Difluorobenzene (Surr)	100		70 - 130	06/09/21 15:45	06/09/21 19:11	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:33	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	06/09/21 15:00	06/09/21 20:33	1
o-Terphenyl	96		70 - 130	06/09/21 15:00	06/09/21 20:33	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	235		5.02		mg/Kg			06/10/21 10:39	1

Client Sample ID: SW-13

Lab Sample ID: 890-792-26

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 19:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 19:32	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 19:32	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	133	S1+	70 - 130	06/09/21 15:45	06/09/21 19:32	1
1,4-Difluorobenzene (Surr)	98		70 - 130	06/09/21 15:45	06/09/21 19:32	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-13

Lab Sample ID: 890-792-26

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Sample Depth: - 5

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:54	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:54	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 15:00	06/09/21 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130	06/09/21 15:00	06/09/21 20:54	1
o-Terphenyl	93		70 - 130	06/09/21 15:00	06/09/21 20:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	380		4.98		mg/Kg			06/10/21 10:54	1

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
890-792-1	BH-1	90	111
890-792-1 MS	BH-1	106	106
890-792-2	BH-2	104	124
890-792-3	BH-3	110	128
890-792-4	BH-4	96	115
890-792-5	BH-5	102	123
890-792-6	BH-6	101	123
890-792-7	BH-7	103	121
890-792-8	BH-8	96	101
890-792-9	BH-9	100	121
890-792-10	BH-10	100	110
890-792-11	BH-11	92	118
890-792-12	BH-12	105	130
890-792-13	BH-13	98	111
890-792-14	SW-1	113	114
890-792-15	SW-2	103	118
890-792-16	SW-3	106	109
890-792-17	SW-4	91	106
890-792-18	SW-5	105	120
890-792-19	SW-6	112	121
890-792-20	SW-7	109	126
890-792-21	SW-8	111	101
890-792-21 MS	SW-8	110	101
890-792-21 MSD	SW-8	110	99
890-792-22	SW-9	118	102
890-792-23	SW-10	117	103
890-792-24	SW-11	142 S1+	90
890-792-25	SW-12	123	100
890-792-26	SW-13	133 S1+	98
LCS 880-3911/1-A	Lab Control Sample	108	96
LCS 880-3935/1-A	Lab Control Sample	86	112
LCSD 880-3911/2-A	Lab Control Sample Dup	107	99
LCSD 880-3935/2-A	Lab Control Sample Dup	96	117
MB 880-3911/5-A	Method Blank	110	95
MB 880-3935/5-A	Method Blank	100	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
890-792-1 MSD	BH-1		

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Eurofins Xenco, Carlsbad

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		1CO1 (70-130)	OTPH1 (70-130)
890-792-1	BH-1	117	116
890-792-1 MS	BH-1	95	84
890-792-1 MSD	BH-1	110	96
890-792-2	BH-2	101	100
890-792-3	BH-3	95	89
890-792-4	BH-4	124	115
890-792-5	BH-5	102	99
890-792-6	BH-6	108	106
890-792-7	BH-7	102	101
890-792-8	BH-8	100	98
890-792-9	BH-9	98	97
890-792-10	BH-10	105	104
890-792-11	BH-11	103	99
890-792-12	BH-12	93	83
890-792-13	BH-13	91	83
890-792-14	SW-1	106	100
890-792-15	SW-2	109	108
890-792-16	SW-3	120	114
890-792-17	SW-4	113	103
890-792-18	SW-5	102	95
890-792-19	SW-6	105	56 S1-
890-792-20	SW-7	103	99
890-792-21	SW-8	97	97
890-792-22	SW-9	104	101
890-792-23	SW-10	105	103
890-792-24	SW-11	114	110
890-792-25	SW-12	100	96
890-792-26	SW-13	97	93
LCS 880-3917/2-A	Lab Control Sample	88	82
LCS 880-3945/2-A	Lab Control Sample	108	100
LCSD 880-3917/3-A	Lab Control Sample Dup	90	83
LCSD 880-3945/3-A	Lab Control Sample Dup	91	85
MB 880-3917/1-A	Method Blank	110	111
MB 880-3945/1-A	Method Blank	103	104

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3911/5-A

Matrix: Solid

Analysis Batch: 3913

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3911

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 17:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 15:45	06/09/21 17:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 17:21	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		06/09/21 15:45	06/09/21 17:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	06/09/21 15:45	06/09/21 17:21	1
1,4-Difluorobenzene (Surr)	95		70 - 130	06/09/21 15:45	06/09/21 17:21	1

Lab Sample ID: LCS 880-3911/1-A

Matrix: Solid

Analysis Batch: 3913

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3911

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07945		mg/Kg		79	70 - 130
Toluene	0.100	0.09493		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.1009		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2055		mg/Kg		103	70 - 130
o-Xylene	0.100	0.1053		mg/Kg		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-3911/2-A

Matrix: Solid

Analysis Batch: 3913

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3911

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08466		mg/Kg		85	70 - 130	6	35
Toluene	0.100	0.09593		mg/Kg		96	70 - 130	1	35
Ethylbenzene	0.100	0.1015		mg/Kg		102	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2068		mg/Kg		103	70 - 130	1	35
o-Xylene	0.100	0.1058		mg/Kg		106	70 - 130	0	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 890-792-21 MS

Matrix: Solid

Analysis Batch: 3913

Client Sample ID: SW-8

Prep Type: Total/NA

Prep Batch: 3911

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.100	0.09604		mg/Kg		96	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-792-21 MS

Matrix: Solid

Analysis Batch: 3913

Client Sample ID: SW-8

Prep Type: Total/NA

Prep Batch: 3911

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.100	0.1056		mg/Kg		105	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.1098		mg/Kg		110	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.2266		mg/Kg		113	70 - 130
o-Xylene	<0.00200	U	0.100	0.1125		mg/Kg		112	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-792-21 MSD

Matrix: Solid

Analysis Batch: 3913

Client Sample ID: SW-8

Prep Type: Total/NA

Prep Batch: 3911

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.08236		mg/Kg		82	70 - 130	15	35
Toluene	<0.00200	U	0.100	0.09142		mg/Kg		91	70 - 130	14	35
Ethylbenzene	<0.00200	U	0.100	0.09228		mg/Kg		92	70 - 130	17	35
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1914		mg/Kg		95	70 - 130	17	35
o-Xylene	<0.00200	U	0.100	0.09500		mg/Kg		95	70 - 130	17	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: MB 880-3935/5-A

Matrix: Solid

Analysis Batch: 3936

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 17:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 17:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 17:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 17:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/09/21 13:00	06/09/21 17:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 17:26	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		06/09/21 13:00	06/09/21 17:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	06/09/21 13:00	06/09/21 17:26	1
1,4-Difluorobenzene (Surr)	94		70 - 130	06/09/21 13:00	06/09/21 17:26	1

Lab Sample ID: LCS 880-3935/1-A

Matrix: Solid

Analysis Batch: 3936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1062		mg/Kg		106	70 - 130
Toluene	0.100	0.1066		mg/Kg		107	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-3935/1-A

Matrix: Solid

Analysis Batch: 3936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.09893		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.1925		mg/Kg		96	70 - 130
o-Xylene	0.100	0.09357		mg/Kg		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: LCSD 880-3935/2-A

Matrix: Solid

Analysis Batch: 3936

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3935

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.1059		mg/Kg		106	70 - 130	0	35
Toluene	0.100	0.1096		mg/Kg		110	70 - 130	3	35
Ethylbenzene	0.100	0.1054		mg/Kg		105	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2072		mg/Kg		104	70 - 130	7	35
o-Xylene	0.100	0.09968		mg/Kg		100	70 - 130	6	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	117		70 - 130

Lab Sample ID: 890-792-1 MSD

Matrix: Solid

Analysis Batch: 3936

Client Sample ID: BH-1

Prep Type: Total/NA

Prep Batch: 3935

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	<0.00198	U	0.0990	0.08179		mg/Kg					
Toluene	<0.00198	U	0.0990	0.08457		mg/Kg					
Ethylbenzene	<0.00198	U	0.0990	0.07726		mg/Kg					
m-Xylene & p-Xylene	<0.00397	U	0.198	0.1587		mg/Kg					
o-Xylene	<0.00198	U	0.0990	0.07470		mg/Kg					

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)			
1,4-Difluorobenzene (Surr)			

Lab Sample ID: 890-792-1 MS

Matrix: Solid

Analysis Batch: 3936

Client Sample ID: BH-1

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-3917/1-A

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/09/21 09:31	06/09/21 12:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 09:31	06/09/21 12:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 09:31	06/09/21 12:09	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 09:31	06/09/21 12:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130	06/09/21 09:31	06/09/21 12:09	1
o-Terphenyl	111		70 - 130	06/09/21 09:31	06/09/21 12:09	1

Lab Sample ID: LCS 880-3917/2-A

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	804.1		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	1000	971.6		mg/Kg		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: LCSD 880-3917/3-A

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3917

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	804.0		mg/Kg		80	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	1000	992.5		mg/Kg		99	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: MB 880-3945/1-A

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 3945

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/09/21 21:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/09/21 21:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/09/21 21:36	1
Total TPH	<50.0	U	50.0		mg/Kg		06/09/21 16:11	06/09/21 21:36	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	06/09/21 16:11	06/09/21 21:36	1
o-Terphenyl	104		70 - 130	06/09/21 16:11	06/09/21 21:36	1

Lab Sample ID: LCS 880-3945/2-A

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 3945

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	994.6		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1211		mg/Kg		121	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: LCSD 880-3945/3-A

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 3945

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	796.6	*1	mg/Kg		80	70 - 130	22	20
Diesel Range Organics (Over C10-C28)	1000	1013		mg/Kg		101	70 - 130	18	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 890-792-1 MS

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: BH-1

Prep Type: Total/NA

Prep Batch: 3945

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	999	910.4		mg/Kg		91	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	999	1129		mg/Kg		113	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: 890-792-1 MSD

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: BH-1

Prep Type: Total/NA

Prep Batch: 3945

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *1	998	1060		mg/Kg		106	70 - 130	15	20

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-792-1 MSD

Matrix: Solid

Analysis Batch: 3925

Client Sample ID: BH-1

Prep Type: Total/NA

Prep Batch: 3945

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1302		mg/Kg		130	70 - 130	14	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	110		70 - 130								
o-Terphenyl	96		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3943/1-A

Matrix: Solid

Analysis Batch: 3952

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/10/21 09:14	1

Lab Sample ID: LCS 880-3943/2-A

Matrix: Solid

Analysis Batch: 3952

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	242.1		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-3943/3-A

Matrix: Solid

Analysis Batch: 3952

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	243.0		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-792-1 MS

Matrix: Solid

Analysis Batch: 3952

Client Sample ID: BH-1

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	225		249	478.9		mg/Kg		102	90 - 110

Lab Sample ID: 890-792-1 MSD

Matrix: Solid

Analysis Batch: 3952

Client Sample ID: BH-1

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	225		249	466.2		mg/Kg		97	90 - 110	3	20

Lab Sample ID: 890-792-11 MS

Matrix: Solid

Analysis Batch: 3952

Client Sample ID: BH-11

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	195		249	441.7		mg/Kg		99	90 - 110

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-792-11 MSD

Matrix: Solid

Analysis Batch: 3952

Client Sample ID: BH-11

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	195		252	441.1		mg/Kg		98	90 - 110	0	20

Lab Sample ID: MB 880-3944/1-A

Matrix: Solid

Analysis Batch: 3954

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/10/21 09:55	1

Lab Sample ID: LCS 880-3944/2-A

Matrix: Solid

Analysis Batch: 3954

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	248.1		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-3944/3-A

Matrix: Solid

Analysis Batch: 3954

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	248.7		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-792-21 MS

Matrix: Solid

Analysis Batch: 3954

Client Sample ID: SW-8

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	299		250	531.3		mg/Kg		93	90 - 110

Lab Sample ID: 890-792-21 MSD

Matrix: Solid

Analysis Batch: 3954

Client Sample ID: SW-8

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	299		250	531.7		mg/Kg		93	90 - 110	0	20

Lab Sample ID: MB 880-3981/1-A

Matrix: Solid

Analysis Batch: 4047

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			06/11/21 16:00	1

Lab Sample ID: LCS 880-3981/2-A

Matrix: Solid

Analysis Batch: 4047

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	244.6		mg/Kg		98	90 - 110

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 880-3981/3-A

Matrix: Solid

Analysis Batch: 4047

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	244.7		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

GC VOA

Prep Batch: 3911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-21	SW-8	Total/NA	Solid	5035	
890-792-22	SW-9	Total/NA	Solid	5035	
890-792-23	SW-10	Total/NA	Solid	5035	
890-792-24	SW-11	Total/NA	Solid	5035	
890-792-25	SW-12	Total/NA	Solid	5035	
890-792-26	SW-13	Total/NA	Solid	5035	
MB 880-3911/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3911/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3911/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-792-21 MS	SW-8	Total/NA	Solid	5035	
890-792-21 MSD	SW-8	Total/NA	Solid	5035	

Analysis Batch: 3913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-21	SW-8	Total/NA	Solid	8021B	3911
890-792-22	SW-9	Total/NA	Solid	8021B	3911
890-792-23	SW-10	Total/NA	Solid	8021B	3911
890-792-24	SW-11	Total/NA	Solid	8021B	3911
890-792-25	SW-12	Total/NA	Solid	8021B	3911
890-792-26	SW-13	Total/NA	Solid	8021B	3911
MB 880-3911/5-A	Method Blank	Total/NA	Solid	8021B	3911
LCS 880-3911/1-A	Lab Control Sample	Total/NA	Solid	8021B	3911
LCSD 880-3911/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3911
890-792-21 MS	SW-8	Total/NA	Solid	8021B	3911
890-792-21 MSD	SW-8	Total/NA	Solid	8021B	3911

Prep Batch: 3935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-1	BH-1	Total/NA	Solid	5035	
890-792-2	BH-2	Total/NA	Solid	5035	
890-792-3	BH-3	Total/NA	Solid	5035	
890-792-4	BH-4	Total/NA	Solid	5035	
890-792-5	BH-5	Total/NA	Solid	5035	
890-792-6	BH-6	Total/NA	Solid	5035	
890-792-7	BH-7	Total/NA	Solid	5035	
890-792-8	BH-8	Total/NA	Solid	5035	
890-792-9	BH-9	Total/NA	Solid	5035	
890-792-10	BH-10	Total/NA	Solid	5035	
890-792-11	BH-11	Total/NA	Solid	5035	
890-792-12	BH-12	Total/NA	Solid	5035	
890-792-13	BH-13	Total/NA	Solid	5035	
890-792-14	SW-1	Total/NA	Solid	5035	
890-792-15	SW-2	Total/NA	Solid	5035	
890-792-16	SW-3	Total/NA	Solid	5035	
890-792-17	SW-4	Total/NA	Solid	5035	
890-792-18	SW-5	Total/NA	Solid	5035	
890-792-19	SW-6	Total/NA	Solid	5035	
890-792-20	SW-7	Total/NA	Solid	5035	
MB 880-3935/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3935/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3935/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

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QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

GC VOA (Continued)

Prep Batch: 3935 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-1 MSD	BH-1	Total/NA	Solid	5035	

Analysis Batch: 3936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-1	BH-1	Total/NA	Solid	8021B	3935
890-792-2	BH-2	Total/NA	Solid	8021B	3935
890-792-3	BH-3	Total/NA	Solid	8021B	3935
890-792-4	BH-4	Total/NA	Solid	8021B	3935
890-792-5	BH-5	Total/NA	Solid	8021B	3935
890-792-6	BH-6	Total/NA	Solid	8021B	3935
890-792-7	BH-7	Total/NA	Solid	8021B	3935
890-792-8	BH-8	Total/NA	Solid	8021B	3935
890-792-9	BH-9	Total/NA	Solid	8021B	3935
890-792-10	BH-10	Total/NA	Solid	8021B	3935
890-792-11	BH-11	Total/NA	Solid	8021B	3935
890-792-12	BH-12	Total/NA	Solid	8021B	3935
890-792-13	BH-13	Total/NA	Solid	8021B	3935
890-792-14	SW-1	Total/NA	Solid	8021B	3935
890-792-15	SW-2	Total/NA	Solid	8021B	3935
890-792-16	SW-3	Total/NA	Solid	8021B	3935
890-792-17	SW-4	Total/NA	Solid	8021B	3935
890-792-18	SW-5	Total/NA	Solid	8021B	3935
890-792-19	SW-6	Total/NA	Solid	8021B	3935
890-792-20	SW-7	Total/NA	Solid	8021B	3935
MB 880-3935/5-A	Method Blank	Total/NA	Solid	8021B	3935
LCS 880-3935/1-A	Lab Control Sample	Total/NA	Solid	8021B	3935
LCSD 880-3935/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3935
890-792-1 MS	BH-1	Total/NA	Solid	8021B	
890-792-1 MSD	BH-1	Total/NA	Solid	8021B	3935

GC Semi VOA

Prep Batch: 3917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-21	SW-8	Total/NA	Solid	8015NM Prep	
890-792-22	SW-9	Total/NA	Solid	8015NM Prep	
890-792-23	SW-10	Total/NA	Solid	8015NM Prep	
890-792-24	SW-11	Total/NA	Solid	8015NM Prep	
890-792-25	SW-12	Total/NA	Solid	8015NM Prep	
890-792-26	SW-13	Total/NA	Solid	8015NM Prep	
MB 880-3917/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3917/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3917/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 3925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-1	BH-1	Total/NA	Solid	8015B NM	3945
890-792-2	BH-2	Total/NA	Solid	8015B NM	3945
890-792-3	BH-3	Total/NA	Solid	8015B NM	3945
890-792-4	BH-4	Total/NA	Solid	8015B NM	3945
890-792-5	BH-5	Total/NA	Solid	8015B NM	3945

Eurofins Xenco, Carlsbad

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

GC Semi VOA (Continued)

Analysis Batch: 3925 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-6	BH-6	Total/NA	Solid	8015B NM	3945
890-792-7	BH-7	Total/NA	Solid	8015B NM	3945
890-792-8	BH-8	Total/NA	Solid	8015B NM	3945
890-792-9	BH-9	Total/NA	Solid	8015B NM	3945
890-792-10	BH-10	Total/NA	Solid	8015B NM	3945
890-792-11	BH-11	Total/NA	Solid	8015B NM	3945
890-792-12	BH-12	Total/NA	Solid	8015B NM	3945
890-792-13	BH-13	Total/NA	Solid	8015B NM	3945
890-792-14	SW-1	Total/NA	Solid	8015B NM	3945
890-792-15	SW-2	Total/NA	Solid	8015B NM	3945
890-792-16	SW-3	Total/NA	Solid	8015B NM	3945
890-792-17	SW-4	Total/NA	Solid	8015B NM	3945
890-792-18	SW-5	Total/NA	Solid	8015B NM	3945
890-792-19	SW-6	Total/NA	Solid	8015B NM	3945
890-792-20	SW-7	Total/NA	Solid	8015B NM	3945
890-792-21	SW-8	Total/NA	Solid	8015B NM	3917
890-792-22	SW-9	Total/NA	Solid	8015B NM	3917
890-792-23	SW-10	Total/NA	Solid	8015B NM	3917
890-792-24	SW-11	Total/NA	Solid	8015B NM	3917
890-792-25	SW-12	Total/NA	Solid	8015B NM	3917
890-792-26	SW-13	Total/NA	Solid	8015B NM	3917
MB 880-3917/1-A	Method Blank	Total/NA	Solid	8015B NM	3917
MB 880-3945/1-A	Method Blank	Total/NA	Solid	8015B NM	3945
LCS 880-3917/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3917
LCS 880-3945/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3945
LCSD 880-3917/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3917
LCSD 880-3945/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3945
890-792-1 MS	BH-1	Total/NA	Solid	8015B NM	3945
890-792-1 MSD	BH-1	Total/NA	Solid	8015B NM	3945

Prep Batch: 3945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-1	BH-1	Total/NA	Solid	8015NM Prep	
890-792-2	BH-2	Total/NA	Solid	8015NM Prep	
890-792-3	BH-3	Total/NA	Solid	8015NM Prep	
890-792-4	BH-4	Total/NA	Solid	8015NM Prep	
890-792-5	BH-5	Total/NA	Solid	8015NM Prep	
890-792-6	BH-6	Total/NA	Solid	8015NM Prep	
890-792-7	BH-7	Total/NA	Solid	8015NM Prep	
890-792-8	BH-8	Total/NA	Solid	8015NM Prep	
890-792-9	BH-9	Total/NA	Solid	8015NM Prep	
890-792-10	BH-10	Total/NA	Solid	8015NM Prep	
890-792-11	BH-11	Total/NA	Solid	8015NM Prep	
890-792-12	BH-12	Total/NA	Solid	8015NM Prep	
890-792-13	BH-13	Total/NA	Solid	8015NM Prep	
890-792-14	SW-1	Total/NA	Solid	8015NM Prep	
890-792-15	SW-2	Total/NA	Solid	8015NM Prep	
890-792-16	SW-3	Total/NA	Solid	8015NM Prep	
890-792-17	SW-4	Total/NA	Solid	8015NM Prep	
890-792-18	SW-5	Total/NA	Solid	8015NM Prep	
890-792-19	SW-6	Total/NA	Solid	8015NM Prep	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

GC Semi VOA (Continued)

Prep Batch: 3945 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-20	SW-7	Total/NA	Solid	8015NM Prep	
MB 880-3945/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3945/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3945/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-792-1 MS	BH-1	Total/NA	Solid	8015NM Prep	
890-792-1 MSD	BH-1	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 3943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-1	BH-1	Soluble	Solid	DI Leach	
890-792-2	BH-2	Soluble	Solid	DI Leach	
890-792-3	BH-3	Soluble	Solid	DI Leach	
890-792-4	BH-4	Soluble	Solid	DI Leach	
890-792-5	BH-5	Soluble	Solid	DI Leach	
890-792-7	BH-7	Soluble	Solid	DI Leach	
890-792-8	BH-8	Soluble	Solid	DI Leach	
890-792-9	BH-9	Soluble	Solid	DI Leach	
890-792-10	BH-10	Soluble	Solid	DI Leach	
890-792-11	BH-11	Soluble	Solid	DI Leach	
890-792-12	BH-12	Soluble	Solid	DI Leach	
890-792-14	SW-1	Soluble	Solid	DI Leach	
890-792-15	SW-2	Soluble	Solid	DI Leach	
890-792-18	SW-5	Soluble	Solid	DI Leach	
890-792-19	SW-6	Soluble	Solid	DI Leach	
890-792-20	SW-7	Soluble	Solid	DI Leach	
MB 880-3943/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3943/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3943/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-792-1 MS	BH-1	Soluble	Solid	DI Leach	
890-792-1 MSD	BH-1	Soluble	Solid	DI Leach	
890-792-11 MS	BH-11	Soluble	Solid	DI Leach	
890-792-11 MSD	BH-11	Soluble	Solid	DI Leach	

Leach Batch: 3944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-21	SW-8	Soluble	Solid	DI Leach	
890-792-22	SW-9	Soluble	Solid	DI Leach	
890-792-23	SW-10	Soluble	Solid	DI Leach	
890-792-24	SW-11	Soluble	Solid	DI Leach	
890-792-25	SW-12	Soluble	Solid	DI Leach	
890-792-26	SW-13	Soluble	Solid	DI Leach	
MB 880-3944/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3944/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3944/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-792-21 MS	SW-8	Soluble	Solid	DI Leach	
890-792-21 MSD	SW-8	Soluble	Solid	DI Leach	

Eurofins Xenco, Carlsbad

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

HPLC/IC

Analysis Batch: 3952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-1	BH-1	Soluble	Solid	300.0	3943
890-792-2	BH-2	Soluble	Solid	300.0	3943
890-792-3	BH-3	Soluble	Solid	300.0	3943
890-792-4	BH-4	Soluble	Solid	300.0	3943
890-792-5	BH-5	Soluble	Solid	300.0	3943
890-792-7	BH-7	Soluble	Solid	300.0	3943
890-792-8	BH-8	Soluble	Solid	300.0	3943
890-792-9	BH-9	Soluble	Solid	300.0	3943
890-792-10	BH-10	Soluble	Solid	300.0	3943
890-792-11	BH-11	Soluble	Solid	300.0	3943
890-792-12	BH-12	Soluble	Solid	300.0	3943
890-792-14	SW-1	Soluble	Solid	300.0	3943
890-792-15	SW-2	Soluble	Solid	300.0	3943
890-792-18	SW-5	Soluble	Solid	300.0	3943
890-792-19	SW-6	Soluble	Solid	300.0	3943
890-792-20	SW-7	Soluble	Solid	300.0	3943
MB 880-3943/1-A	Method Blank	Soluble	Solid	300.0	3943
LCS 880-3943/2-A	Lab Control Sample	Soluble	Solid	300.0	3943
LCSD 880-3943/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3943
890-792-1 MS	BH-1	Soluble	Solid	300.0	3943
890-792-1 MSD	BH-1	Soluble	Solid	300.0	3943
890-792-11 MS	BH-11	Soluble	Solid	300.0	3943
890-792-11 MSD	BH-11	Soluble	Solid	300.0	3943

Analysis Batch: 3954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-21	SW-8	Soluble	Solid	300.0	3944
890-792-22	SW-9	Soluble	Solid	300.0	3944
890-792-23	SW-10	Soluble	Solid	300.0	3944
890-792-24	SW-11	Soluble	Solid	300.0	3944
890-792-25	SW-12	Soluble	Solid	300.0	3944
890-792-26	SW-13	Soluble	Solid	300.0	3944
MB 880-3944/1-A	Method Blank	Soluble	Solid	300.0	3944
LCS 880-3944/2-A	Lab Control Sample	Soluble	Solid	300.0	3944
LCSD 880-3944/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3944
890-792-21 MS	SW-8	Soluble	Solid	300.0	3944
890-792-21 MSD	SW-8	Soluble	Solid	300.0	3944

Leach Batch: 3981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-13	BH-13	Soluble	Solid	DI Leach	
890-792-16	SW-3	Soluble	Solid	DI Leach	
890-792-17	SW-4	Soluble	Solid	DI Leach	
MB 880-3981/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3981/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3981/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 4047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-13	BH-13	Soluble	Solid	300.0	3981
890-792-16	SW-3	Soluble	Solid	300.0	3981

Eurofins Xenco, Carlsbad

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

HPLC/IC (Continued)

Analysis Batch: 4047 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-17	SW-4	Soluble	Solid	300.0	3981
MB 880-3981/1-A	Method Blank	Soluble	Solid	300.0	3981
LCS 880-3981/2-A	Lab Control Sample	Soluble	Solid	300.0	3981
LCSD 880-3981/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3981

Leach Batch: 4094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-6	BH-6	Soluble	Solid	DI Leach	

Analysis Batch: 4095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-792-6	BH-6	Soluble	Solid	300.0	4094

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-1

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 17:48	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 22:38	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 09:31	CH	XEN MID

Client Sample ID: BH-2

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 18:09	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 23:40	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 09:47	CH	XEN MID

Client Sample ID: BH-3

Date Collected: 06/07/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 18:30	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 00:01	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 09:53	CH	XEN MID

Client Sample ID: BH-4

Date Collected: 06/07/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 18:50	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 00:21	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 09:58	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-5

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 19:11	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 00:42	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 10:03	CH	XEN MID

Client Sample ID: BH-6

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 19:32	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 01:09	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	4094	06/14/21 14:53	CH	XEN MID
Soluble	Analysis	300.0		10			4095	06/14/21 15:20	CH	XEN MID

Client Sample ID: BH-7

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 19:53	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 01:29	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 10:25	CH	XEN MID

Client Sample ID: BH-8

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 20:13	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 02:00	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 10:31	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-9

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 20:34	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 02:21	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 10:36	CH	XEN MID

Client Sample ID: BH-10

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 20:55	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 02:42	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 10:42	CH	XEN MID

Client Sample ID: BH-11

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-11

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 22:18	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 03:25	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 10:47	CH	XEN MID

Client Sample ID: BH-12

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-12

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 22:38	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 03:48	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 11:04	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: BH-13

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-13

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 22:59	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 04:10	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	3981	06/11/21 12:08	SC	XEN MID
Soluble	Analysis	300.0		10			4047	06/14/21 09:38	CH	XEN MID

Client Sample ID: SW-1

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 23:20	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 04:32	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 11:26	CH	XEN MID

Client Sample ID: SW-2

Date Collected: 06/07/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/09/21 23:40	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 04:53	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 11:31	CH	XEN MID

Client Sample ID: SW-3

Date Collected: 06/07/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-16

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/10/21 00:01	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 05:13	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	3981	06/11/21 12:08	SC	XEN MID
Soluble	Analysis	300.0		10			4047	06/14/21 09:44	CH	XEN MID

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Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-4

Lab Sample ID: 890-792-17

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/10/21 00:22	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 05:34	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3981	06/11/21 12:08	SC	XEN MID
Soluble	Analysis	300.0		10			4047	06/14/21 09:49	CH	XEN MID

Client Sample ID: SW-5

Lab Sample ID: 890-792-18

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/10/21 00:42	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 05:54	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 11:48	CH	XEN MID

Client Sample ID: SW-6

Lab Sample ID: 890-792-19

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/10/21 01:03	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 06:17	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 11:53	CH	XEN MID

Client Sample ID: SW-7

Lab Sample ID: 890-792-20

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	3935	06/09/21 13:00	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3936	06/10/21 01:24	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	3945	06/09/21 16:11	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/10/21 06:38	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	3943	06/09/21 16:09	CH	XEN MID
Soluble	Analysis	300.0		1			3952	06/10/21 11:58	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-8

Lab Sample ID: 890-792-21

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	3911	06/09/21 15:45	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3913	06/09/21 17:50	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	3917	06/09/21 15:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 19:09	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	3944	06/09/21 16:11	CH	XEN MID
Soluble	Analysis	300.0		1			3954	06/10/21 10:10	CH	XEN MID

Client Sample ID: SW-9

Lab Sample ID: 890-792-22

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	3911	06/09/21 15:45	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3913	06/09/21 18:10	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3917	06/09/21 15:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 19:30	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	3944	06/09/21 16:11	CH	XEN MID
Soluble	Analysis	300.0		1			3954	06/10/21 10:25	CH	XEN MID

Client Sample ID: SW-10

Lab Sample ID: 890-792-23

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	3911	06/09/21 15:45	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3913	06/09/21 18:30	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	3917	06/09/21 15:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 19:51	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	3944	06/09/21 16:11	CH	XEN MID
Soluble	Analysis	300.0		1			3954	06/10/21 10:29	CH	XEN MID

Client Sample ID: SW-11

Lab Sample ID: 890-792-24

Date Collected: 06/08/21 00:00

Matrix: Solid

Date Received: 06/09/21 10:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	3911	06/09/21 15:45	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3913	06/09/21 18:51	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	3917	06/09/21 15:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 20:12	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3944	06/09/21 16:11	CH	XEN MID
Soluble	Analysis	300.0		1			3954	06/10/21 10:34	CH	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Client Sample ID: SW-12

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-25

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	3911	06/09/21 15:45	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3913	06/09/21 19:11	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	3917	06/09/21 15:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 20:33	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	3944	06/09/21 16:11	CH	XEN MID
Soluble	Analysis	300.0		1			3954	06/10/21 10:39	CH	XEN MID

Client Sample ID: SW-13

Date Collected: 06/08/21 00:00

Date Received: 06/09/21 10:05

Lab Sample ID: 890-792-26

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	3911	06/09/21 15:45	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	3913	06/09/21 19:32	MR	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	3917	06/09/21 15:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1			3925	06/09/21 20:54	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	3944	06/09/21 16:11	CH	XEN MID
Soluble	Analysis	300.0		1			3954	06/10/21 10:54	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Carlsbad

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: Freedom 36 State SWD 1

Job ID: 890-792-1
SDG: Eddy County New Mexico

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-792-1	BH-1	Solid	06/08/21 00:00	06/09/21 10:05	- 7
890-792-2	BH-2	Solid	06/08/21 00:00	06/09/21 10:05	- 7
890-792-3	BH-3	Solid	06/07/21 00:00	06/09/21 10:05	- 3
890-792-4	BH-4	Solid	06/07/21 00:00	06/09/21 10:05	- 3
890-792-5	BH-5	Solid	06/08/21 00:00	06/09/21 10:05	- 3
890-792-6	BH-6	Solid	06/08/21 00:00	06/09/21 10:05	- 3
890-792-7	BH-7	Solid	06/08/21 00:00	06/09/21 10:05	- 5
890-792-8	BH-8	Solid	06/08/21 00:00	06/09/21 10:05	- 5
890-792-9	BH-9	Solid	06/08/21 00:00	06/09/21 10:05	- 1
890-792-10	BH-10	Solid	06/08/21 00:00	06/09/21 10:05	- 3
890-792-11	BH-11	Solid	06/08/21 00:00	06/09/21 10:05	- 1
890-792-12	BH-12	Solid	06/08/21 00:00	06/09/21 10:05	- 1
890-792-13	BH-13	Solid	06/08/21 00:00	06/09/21 10:05	- 1
890-792-14	SW-1	Solid	06/08/21 00:00	06/09/21 10:05	- 7
890-792-15	SW-2	Solid	06/07/21 00:00	06/09/21 10:05	- 3
890-792-16	SW-3	Solid	06/07/21 00:00	06/09/21 10:05	- 3
890-792-17	SW-4	Solid	06/08/21 00:00	06/09/21 10:05	- 1
890-792-18	SW-5	Solid	06/08/21 00:00	06/09/21 10:05	- 1
890-792-19	SW-6	Solid	06/08/21 00:00	06/09/21 10:05	- 1
890-792-20	SW-7	Solid	06/08/21 00:00	06/09/21 10:05	- 7
890-792-21	SW-8	Solid	06/08/21 00:00	06/09/21 10:05	- 7
890-792-22	SW-9	Solid	06/08/21 00:00	06/09/21 10:05	- 7
890-792-23	SW-10	Solid	06/08/21 00:00	06/09/21 10:05	- 5
890-792-24	SW-11	Solid	06/08/21 00:00	06/09/21 10:05	- 5
890-792-25	SW-12	Solid	06/08/21 00:00	06/09/21 10:05	- 5
890-792-26	SW-13	Solid	06/08/21 00:00	06/09/21 10:05	- 5

Eurofins Xenco, Carlsbad

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 931 W. Wall Street, Ste 100
 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946


890-792 Chain of Custody

Page 1 of 3

Client Name:		Cimarex Energy Co.		Site Manager:		Brittany Long	
Project Name:		Freedom 36 State SWD 1		Project #:		* Pending	
Project Location: (county, state)		Eddy County, New Mexico		Invoice to:		Cimarex - Laci Luig	
Receiving Laboratory:		Xenco/Eurofins		Sampler Signature:			
Comments:							

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)	LAB USE ONLY	REMARKS:	
		DATE	TIME		WATER	SOIL	HCL	HNO ₃	ICE					None
	BH-1 (7')	6/8/2021		X				X				X		
	BH-2 (7')	6/8/2021		X				X				X		
	BH-3 (3')	6/7/2021		X				X				X		
	BH-4 (3')	6/7/2021		X				X				X		
	BH-5 (3')	6/8/2021		X				X				X		
	BH-6 (3')	6/8/2021		X				X				X		
	BH-7 (5')	6/8/2021		X				X				X		
	BH-8 (5')	6/8/2021		X				X				X		
	BH-9 (1')	6/8/2021		X				X				X		
	BH-10 (3')	6/8/2021		X				X				X		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	6/9/21	10:05		6/9/21	10:05
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY	REMARKS:
STANDARD	
Rush Charges Authorized	
Special Report Limits or TRRP Report	

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Page 2 of 3



Tetra Tech, Inc.

 9011 W. 24th Street, Ste 100
 Midland, Texas 79705
 Tel: (432) 682-4559
 Fax: (432) 682-2956

Client Name:		Cimatex Energy Co.		Site Manager:		Brittany Long		
Project Name:		Freedom 36 SWD 1		Project #:		*Pending		
Project Location: (county, state)		Eddy County, New Mexico		Project #:		*Pending		
Invoice to:		Cimatex - Laci Luig		Sampler Signature:		<i>[Signature]</i>		
Receiving Laboratory:		Xenco/Eurofins		Comments:				
LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE
	BH-11 (1')	6/8/2021		X		X		
	BH-12 (1')	6/8/2021		X		X		
	BH-13 (1')	6/8/2021		X		X		
	SW-1 (7')	6/8/2021	E.M.	X		X		
	SW-2 (3')	6/8/2021	6/17/21	X		X		
	SW-3 (3')	6/8/2021	6/17/21	X		X		
	SW-4 (1')	6/8/2021		X		X		
	SW-5 (1')	6/8/2021		X		X		
	SW-6 (1')	6/8/2021		X		X		
	SW-7 (7')	6/8/2021		X		X		
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	ANALYSIS REQUEST		
<i>[Signature]</i>			<i>[Signature]</i>	6/9/21	10:05	(Circle or Specify Method No.)		
Relinquished by:	Date:	Time:	Received by:	Date:	Time:			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:			

LAB USE ONLY	REMARKS:	BTEX 8021B BTEX 8260B	
		TPH TX1005 (Ext to C35)	
LAB USE ONLY	REMARKS:	TPH 8015M (GRO - DRO - ORO - MRO)	
		PAH 8270C	
LAB USE ONLY	REMARKS:	Total Metals Ag As Ba Cd Cr Pb Se Hg	
		TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
LAB USE ONLY	REMARKS:	TCLP Volatiles	
		TCLP Semi Volatiles	
LAB USE ONLY	REMARKS:	RCI	
		GC/MS Vol. 8260B / 624	
LAB USE ONLY	REMARKS:	GC/MS Semi. Vol. 8270C/625	
		PCB's 8082 / 608	
LAB USE ONLY	REMARKS:	NORM	
		PLM (Asbestos)	
LAB USE ONLY	REMARKS:	Chloride	
		Chloride Sulfate TDS	
LAB USE ONLY	REMARKS:	General Water Chemistry (see attached list)	
		Anion/Cation Balance	
LAB USE ONLY	REMARKS:	Hold	

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

S.4/S.2

Special Report Limits or TRRP Report

Rush Charges Authorized

Same Day 24 hr 48 hr 72 hr

STANDARD

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

501 W. Vann Street, Ste. 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3916

Client Name:

Cimarex Energy Co.

Site Manager:

Brittany Long

Project Name:

Freedom 36 SWD 1

Project Location:
(county, state)

Eddy County, New Mexico

Project #:

*Pending

Invoice to:

Cimarex - Laci Luig

Receiving Laboratory:

Xenco/Eurofins

Sampler Signature:

[Signature]

Comments:

LAB #

SAMPLE IDENTIFICATION

LAB USE ONLY

YEAR 2020	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)
	DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None		

BTEX 8021B	BTEX 8260B
TPH TX1005 (Ext to C35)	
TPH 8015M (GRO - DRO - ORO - MRO)	
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles	
TCLP Semi Volatiles	
RCI	
GC/MS Vol. 8260B / 624	
GC/MS Semi. Vol. 8270C/625	
PCB's 8082 / 608	
NORM	
PLM (Asbestos)	
Chloride	
Chloride Sulfate TDS	
General Water Chemistry (see attached list)	
Anion/Cation Balance	

Hold

Relinquished by:

[Signature]

Date:

Time:

LAB USE ONLY

REMARKS:

☐ STANDARD

Relinquished by:

Date:

Time:

Date:

Sample Temperature

☒ Same Day (24 hr - 48 hr - 72 hr)

Relinquished by:

Date:

Time:

Date:

5.4 / 5.2

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 890-792-1

SDG Number: Eddy County New Mexico

Login Number: 792

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Xenco, Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 890-792-1

SDG Number: Eddy County New Mexico

Login Number: 792

List Number: 2

Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland

List Creation: 06/09/21 03:48 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 11, 2021

BRITTANY LONG

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: FREEDOM 36 STATE SWD 1

Enclosed are the results of analyses for samples received by the laboratory on 06/11/21 12:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
 BRITTANY LONG
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	06/11/2021	Sampling Date:	06/11/2021
Reported:	06/11/2021	Sampling Type:	Soil
Project Name:	FREEDOM 36 STATE SWD 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - EDDY CO NM		

Sample ID: BH - 6 (5') (H211503-01)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/11/2021	ND	2.01	100	2.00	3.48	
Toluene*	<0.050	0.050	06/11/2021	ND	1.97	98.3	2.00	2.80	
Ethylbenzene*	<0.050	0.050	06/11/2021	ND	1.89	94.3	2.00	3.33	
Total Xylenes*	<0.150	0.150	06/11/2021	ND	5.66	94.4	6.00	3.97	
Total BTEX	<0.300	0.300	06/11/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/11/2021	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/11/2021	ND	207	103	200	1.37	
DRO >C10-C28*	<10.0	10.0	06/11/2021	ND	217	108	200	3.54	
EXT DRO >C28-C36	<10.0	10.0	06/11/2021	ND					

Surrogate: 1-Chlorooctane 95.2 % 44.3-133

Surrogate: 1-Chlorooctadecane 95.5 % 38.9-142

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
 BRITTANY LONG
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received: 06/11/2021
 Reported: 06/11/2021
 Project Name: FREEDOM 36 STATE SWD 1
 Project Number: 212C-MD-
 Project Location: CIMAREX - EDDY CO NM

Sampling Date: 06/11/2021
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - 3 (3') (H211503-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/11/2021	ND	2.01	100	2.00	3.48	
Toluene*	<0.050	0.050	06/11/2021	ND	1.97	98.3	2.00	2.80	
Ethylbenzene*	<0.050	0.050	06/11/2021	ND	1.89	94.3	2.00	3.33	
Total Xylenes*	<0.150	0.150	06/11/2021	ND	5.66	94.4	6.00	3.97	
Total BTEx	<0.300	0.300	06/11/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	06/11/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/11/2021	ND	207	103	200	1.37	
DRO >C10-C28*	<10.0	10.0	06/11/2021	ND	217	108	200	3.54	
EXT DRO >C28-C36	<10.0	10.0	06/11/2021	ND					

Surrogate: 1-Chlorooctane 92.7 % 44.3-133

Surrogate: 1-Chlorooctadecane 93.6 % 38.9-142

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
 BRITTANY LONG
 901 WEST WALL STREET , STE 100
 MIDLAND TX, 79701
 Fax To: (432) 682-3946

Received:	06/11/2021	Sampling Date:	06/11/2021
Reported:	06/11/2021	Sampling Type:	Soil
Project Name:	FREEDOM 36 STATE SWD 1	Sampling Condition:	Cool & Intact
Project Number:	212C-MD-	Sample Received By:	Tamara Oldaker
Project Location:	CIMAREX - EDDY CO NM		

Sample ID: SW - 4 (1') (H211503-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/11/2021	ND	2.01	100	2.00	3.48	
Toluene*	<0.050	0.050	06/11/2021	ND	1.97	98.3	2.00	2.80	
Ethylbenzene*	<0.050	0.050	06/11/2021	ND	1.89	94.3	2.00	3.33	
Total Xylenes*	<0.150	0.150	06/11/2021	ND	5.66	94.4	6.00	3.97	
Total BTEX	<0.300	0.300	06/11/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	06/11/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/11/2021	ND	207	103	200	1.37	
DRO >C10-C28*	<10.0	10.0	06/11/2021	ND	217	108	200	3.54	
EXT DRO >C28-C36	<10.0	10.0	06/11/2021	ND					

Surrogate: 1-Chlorooctane 96.2 % 44.3-133

Surrogate: 1-Chlorooctadecane 96.1 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TETRA TECH
BRITTANY LONG
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received: 06/11/2021
Reported: 06/11/2021
Project Name: FREEDOM 36 STATE SWD 1
Project Number: 212C-MD-
Project Location: CIMAREX - EDDY CO NM

Sampling Date: 06/11/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH - 13 (3') (H211503-04)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/11/2021	ND	2.01	100	2.00	3.48		
Toluene*	<0.050	0.050	06/11/2021	ND	1.97	98.3	2.00	2.80		
Ethylbenzene*	<0.050	0.050	06/11/2021	ND	1.89	94.3	2.00	3.33		
Total Xylenes*	<0.150	0.150	06/11/2021	ND	5.66	94.4	6.00	3.97		
Total BTEX	<0.300	0.300	06/11/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/11/2021	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/11/2021	ND	207	103	200	1.37	
DRO >C10-C28*	<10.0	10.0	06/11/2021	ND	217	108	200	3.54	
EXT DRO >C28-C36	<10.0	10.0	06/11/2021	ND					

Surrogate: 1-Chlorooctane 83.4 % 44.3-133

Surrogate: 1-Chlorooctadecane 84.4 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 5010 W. Main Street, Suite 100
 Midland, Texas 79705
 Tel (432) 682-4559
 Fax (432) 682-3946

Page 1 of 1

Client Name: Cimarex Energy Co.		Site Manager: Brittany Long	
Project Name: Freedom 36 State SWD 1		Project #: 212C-MD-	
Project Location: Eddy County, NM		Project #: 212C-MD-	
Invoice to: Cimarex - Laci Luig		Sampler Signature: Emily M...	
Receiving Laboratory: Cardinal		Sampler Signature: Emily M...	
Comments:			

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)
		DATE	TIME					
		YEAR: 2020						
1	BH-6 (5')	6/11/21		X	X			X
2	SW-3 (3')	6/11/21		X	X			X
3	SW-4 (1')	6/11/21		X	X			X
4	BH-13 (3')	6/11/21		X	X			X

Relinquished by: Emily M...	Date: 6/11/21	Received by: Brittany Long	Date: 6-11-21 1255
Relinquished by:	Date:	Received by:	Date:
Relinquished by:	Date:	Received by:	Date:

LAB USE ONLY	REMARKS:
2.3c	☐ STANDARD
#113 TP.	☒ RUSH: Same Day 24 hr 48 hr 72 hr
	☐ Rush Charges Authorized
	☐ Special Report Limits or TRRP Report

ORIGINAL COPY

Note - Email both people above

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 34720

CONDITIONS

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 34720
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
ceads	None	7/13/2021