SITE INFORMATION

Report Type: Closure Report 1RP-4893

General Site Information:						
Site:	**Witherspoon 26-23 State Com 1H**					
Company:	**Cimarex Energy**					
Section, Township and Range	**Unit M**	**Sec. 26**	**T 21S**	**R 33E**		
Lease Number:	**API No. 30-025-43291**					
County:	**Lea County**					
GPS:	**32.443458º N**			**103.549728º W**		
Surface Owner:	State					
Mineral Owner:	State					
Directions:	From the intersection of W. Carlsbad Hwy and 176, head southeast on 176 for 6.42 miles, turn right (south) onto unnamed lease rd and go for 0.61 miles, keep right at the Y and head south west for 1.61 miles, turn left (south-southeast) and go 0.82 miles, turn southeast at the Y onto Delaware Basin Rd. and go 0.87 miles, follow curve in the road to the right (southeast) and go 3.59 miles, turn left (east) and go 4.14 miles, turn right (south) and go 0.43 miles, turn left (east) and go 300 feet, turn south and go 170 feet					

Release Data:	
Date Released:	11/21/2017
Type Release:	Oil and Produced Water
Source of Contamination:	Back Pressure Valve
Fluid Released:	4 bbls Oil/11 bbls PW
Fluids Recovered:	3 bbls Oil/8 bbls PW

Official Communication:			
Name:	Gloria Garza		Clair Gonzales
Company:	Cimarex Energy		Tetra Tech
Address:	600 N. Marienfield St.		901 W. Wall St.
	Ste 400		Ste 100
City:	Midland Texas, 79701		Midland, Texas, 79701
Phone number:	(432) 234-3204		(432) 687-8123
Fax:			
Email:	ggarza@cimarex.com		Clair.Gonzales@Tetratech.com

Site Characterization	
Depth to Groundwater:	*175' - 200' below surface*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*1,000 mg/kg*	*2,500 mg/kg*	*20,000 mg/kg*

TETRA TECH

November 9, 2018

Gloria Garza
ESH Specialist – Permian Basin
Cimarex Energy
600 N. Marienfeld St.
Midland, Texas 79701

Re: Closure Report for the Cimarex Energy, Witherspoon 26-23 State Com 1H, Unit M, Section 26, Township 21 South, Range 33 East, Lea County, New Mexico.
1RP-4893.

Ms. Garza:

Tetra Tech, Inc. (Tetra Tech) was contacted by Cimarex Energy (Cimarex) to asses and delineate a spill at the Witherspoon 26-23 State Com 1H, Unit M, Section 26, Township 21 South, Range 33 East, Lea County, New Mexico (site). The spill site coordinates are 32.443458º, -103.549728º. The site location is shown on Maps 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the release was discovered on November 21, 2017, and released approximately four (4) barrels of oil and eleven (11) barrels of produced water due to a hole that developed in a 2" back pressure valve resulting in a release around the wellhead and migrated into the adjacent pasture. Approximately three (3) barrels of oil and eight (8) barrels of produced water were recovered. The release impacted an area measuring approximately 110'x140'. The initial C-141 Form is included in Appendix A.

Groundwater

No water wells were listed within Section 26 on the New Mexico Office of the State Engineer's website, the USGS National Water Information System, or the Geology and Ground-Water Conditions in Southern Lea County, New Mexico (Report 6). The nearest well is listed on the New Mexico Office of the State Engineer's website in Section 27, approximately 0.9 miles north-northwest of the site, and has a reported depth to groundwater of 572 feet below ground surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is approximately 175'-200' below surface. The groundwater data is shown in Appendix B.

TETRA TECH

Regulatory

A risk-based evaluation was performed for the Site in accordance with 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 upon the depth to groundwater, the proposed RRAL for TPH is 2,500 mg/kg (GRO + DRO + MRO). Additionally, based on the reported depth to groundwater in the area, the proposed RRAL for chlorides is 20,000 mg/kg.

Soil Assessment and Analytical Results

On October 25, 2018, Tetra Tech personnel were onsite to evaluate and sample the release area. A total of five (5) auger holes (AH-1 through AH-5) were installed in the release area to total depths ranging from 0-1' to 8-8.5' below surface. A total of five (5) horizontal delineation samples (H-1 through H-5) were collected around the perimeter of the spill to total depth intervals ranging from 0-6" to 0-1' below surface. Soil samples were collected and submitted to the laboratory 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. The results of the sampling are summarized in Table 1. The sample locations are shown on Plat 3.

Auger Holes

Referring to Table 1, all analyzed samples showed benzene, total BTEX, and TPH concentrations below the laboratory reporting limits. Additionally, none of the samples collected showed any significant chloride concentrations, with concentrations ranging from below the laboratory reporting limits to 610 mg/kg.

Horizontals

Referring to Table 1, none of the samples collected showed benzene, total BTEX, or TPH concentrations above the laboratory reporting limits. Additionally, none of the samples showed any significant chloride concentrations, with concentrations ranging from below the laboratory reporting limits to 141 mg/kg.

TETRA TECH

Conclusion and Recommendations

All of the soil samples analyzed were below the laboratory reporting limit for TPH, benzene, and total BTEX. Additionally, the chloride concentration detected were below the RRAL. Based on the laboratory results, Cimarex requests closure of this spill issue. The C-141 Form is included in Appendix A. If you have any questions or comments concerning the assessment activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Clair Gonzales,
Project Manager

Johnathon Kell,
Geologist II

cc: Christina Hernandez – NMOCD
Ryan Mann - SLO

Maps/Plats

CIMAREX

FIGURE 1

WITHERSPOON 26-23 ST. COM 1H
(32.443458° -103.549728°)

OVERVIEW MAP

LEA COUNTY & NEW MEXICO

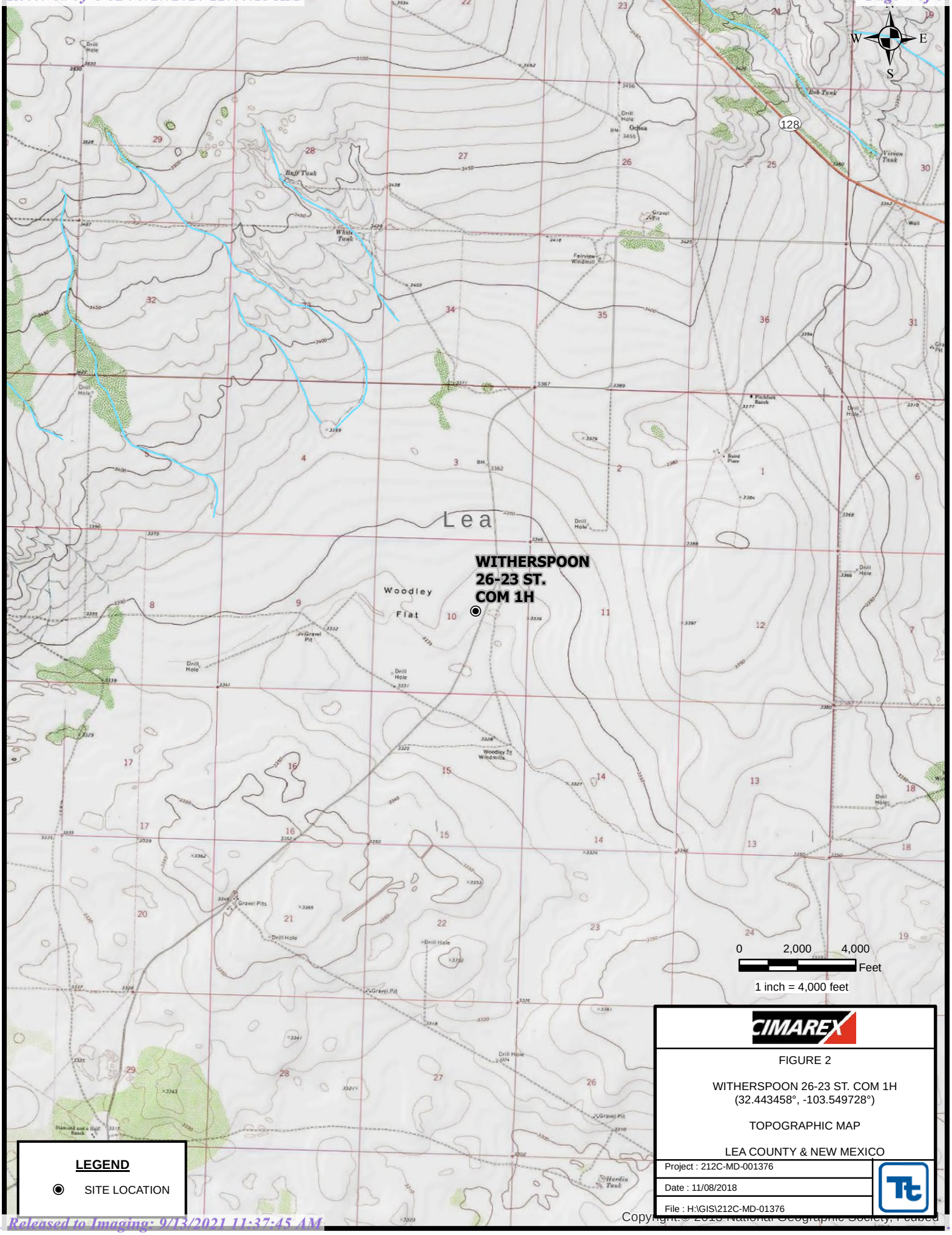
Project : 212C-MD-01376	
Date : 11/08/2018	
File : H:\GIS\212C-MD-01376	

LEGEND

SITE LOCATION

Sources: Esri, HERE, Garmin, Japan, METI, Esri China (Hong OpenStreetMap contributors, and the GIS User Community

MAPPED BY: CONNER MOEHRING



LEGEND

◉ SITE LOCATION

CIMAREX

FIGURE 2

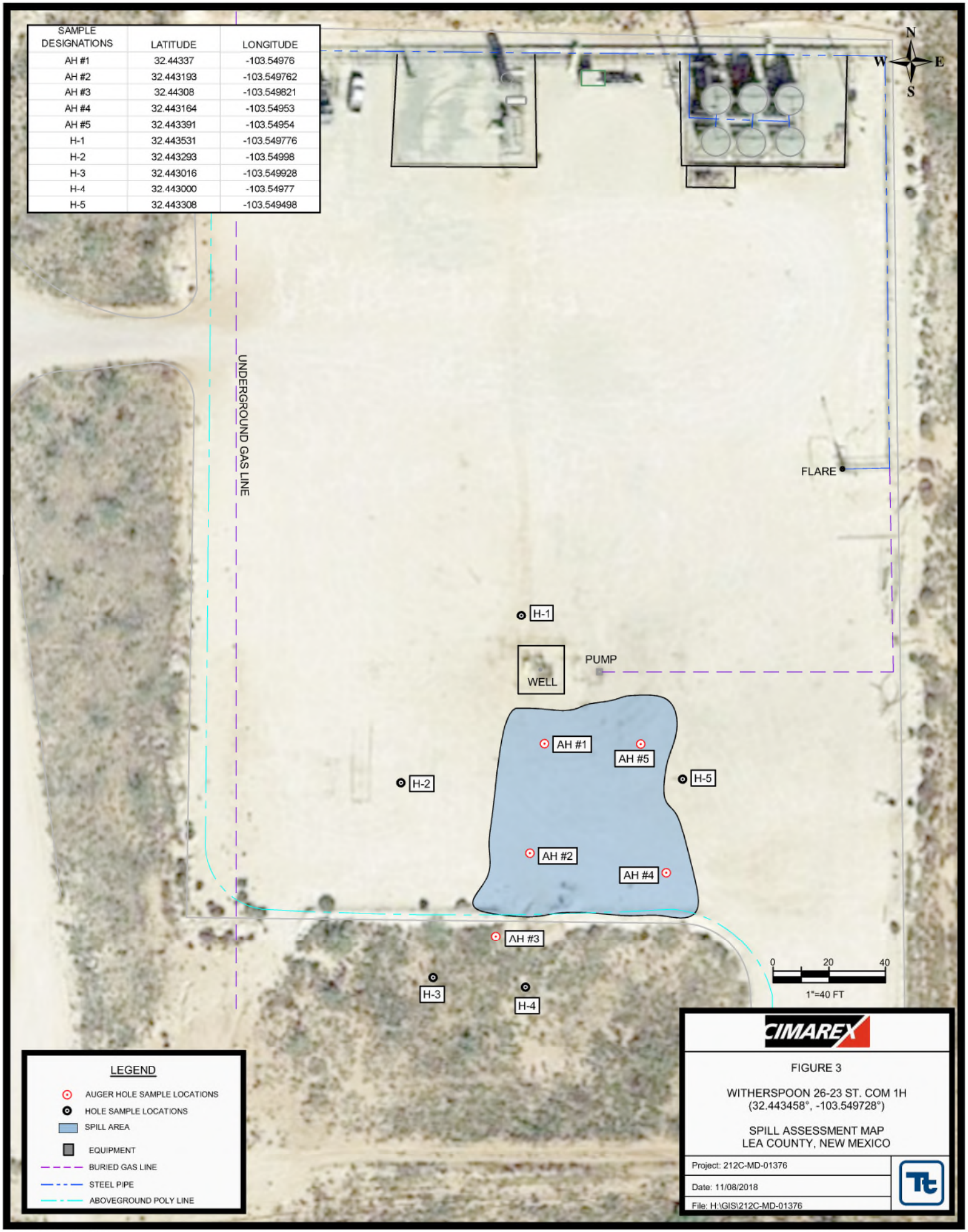
WITHERSPOON 26-23 ST. COM 1H
(32.443458°, -103.549728°)

TOPOGRAPHIC MAP

LEA COUNTY & NEW MEXICO

Project : 212C-MD-001376	
Date : 11/08/2018	
File : H:\GIS\212C-MD-01376	

MAPPED BY: CONNER MOEHRING


SAMPLE DESIGNATIONS | LATITUDE | LONGITUDE
AH #1 | 32.44337 | -103.54976
AH #2 | 32.443193 | -103.549762
AH #3 | 32.44308 | -103.549821
AH #4 | 32.443164 | -103.54953
AH #5 | 32.443391 | -103.54954
H-1 | 32.443531 | -103.549776
H-2 | 32.443293 | -103.54998
H-3 | 32.443016 | -103.549928
H-4 | 32.443000 | -103.54977
H-5 | 32.443308 | -103.549498
N
W
E
S
UNDERGROUND GAS LINE
FLARE
H-1
PUMP
WELL
AH #1
AH #5
H-2
H-5
AH #2
AH #4
AH #3
H-3
H-4
0
20
40
1"=40 FT
LEGEND
AUGER HOLE SAMPLE LOCATIONS
HOLE SAMPLE LOCATIONS
SPILL AREA
EQUIPMENT
BURIED GAS LINE
STEEL PIPE
ABOVEGROUND POLY LINE
CIMAREX
FIGURE 3
WITHERSPOON 26-23 ST. COM 1H
(32.443458°, -103.549728°)
SPILL ASSESSMENT MAP
LEA COUNTY, NEW MEXICO
Project: 212C-MD-01376
Date: 11/08/2018
File: H:\GIS\212C-MD-01376
Drawn By: MISTI MORGAN

Lab Analysis

Table 1
Cimarex
Witherspoon 26-23 State Com 1H
Lea 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	ORO	Total						
AH-1	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	17.0
	"	1-1.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	22.6
	"	2-2.5	X		-	-	-	-	-	-	-	-	-	20.3
	"	3-3.5	X		-	-	-	-	-	-	-	-	-	62.8
	"	4-4.5	X		-	-	-	-	-	-	-	-	-	84.5
	"	5-5.5	X		-	-	-	-	-	-	-	-	-	31.5
	"	6-6.5	X		-	-	-	-	-	-	-	-	-	105
	"	7-7.5	X		-	-	-	-	-	-	-	-	-	359
AH-2	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.96
	"	1-1.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<5.00
	"	2-2.5	X		-	-	-	-	-	-	-	-	-	571
	"	3-3.5	X		-	-	-	-	-	-	-	-	-	610
	"	4-4.5	X		-	-	-	-	-	-	-	-	-	164
	"	5-5.5	X		-	-	-	-	-	-	-	-	-	187
		6-6.5	X		-	-	-	-	-	-	-	-	-	29.1
		8-8.5	X		-	-	-	-	-	-	-	-	-	<4.96
AH-3	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	95.5
	"	1-1.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	83.7
	"	2-2.5	X		-	-	-	-	-	-	-	-	-	22.7
	"	3-3.5	X		-	-	-	-	-	-	-	-	-	12.6
	"	4-4.5	X		-	-	-	-	-	-	-	-	-	<4.97
	"	5-5.5	X		-	-	-	-	-	-	-	-	-	<4.96
AH-4	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.95
AH-5	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.96
	"	1-1.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.96

Table 1
Cimarex
Witherspoon 26-23 State Com 1H
Lea 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	ORO	Total						
H-1	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	141
H-2	10/25/2018	0-0.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.97
H-3	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.95
H-4	10/25/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.96
H-5	10/25/2018	0-0.5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	58.3

(-) Not Analyzed

Certificate of Analysis Summary 603634

Tetra Tech- Midland, Midland, TX

Project Name: Cimarex-Witherspoon 26-23 State Com 1H

Project Id: 212C-MD-01376 Task 200
Contact: Clair Gonzales
Project Location: Lea Co. NM

Date Received in Lab: Fri Oct-26-18 10:21 am
Report Date: 31-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	603634-001		603634-002		603634-003		603634-004		603634-005		603634-006	
	Field Id:	AH#1 (0-1')		AH#1 (1-1.5')		AH#1 (2-2.5')		AH#1 (3-3.5')		AH#1 (4-4.5')		AH#1 (5-5.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Oct-26-18 18:00		Oct-26-18 18:00									
	Analyzed:	Oct-27-18 13:46		Oct-27-18 14:06									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00200	0.00200	<0.00200	0.00200								
Toluene		<0.00200	0.00200	<0.00200	0.00200								
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200								
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400								
o-Xylene		<0.00200	0.00200	<0.00200	0.00200								
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200								
Total BTEX		<0.00200	0.00200	<0.00200	0.00200								
Chloride by EPA 300	***Extracted:***	Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30	
	Analyzed:	Oct-26-18 21:09		Oct-26-18 21:15		Oct-26-18 21:20		Oct-26-18 21:36		Oct-26-18 21:41		Oct-26-18 21:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		17.0	5.00	22.6	4.98	20.3	4.98	62.8	4.97	84.5	4.98	31.5	4.97
TPH By SW8015 Mod	***Extracted:***	Oct-29-18 16:00		Oct-29-18 16:00									
	Analyzed:	Oct-29-18 20:28		Oct-29-18 20:47									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0								
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0								
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0								
Total TPH		<15.0	15.0	<15.0	15.0								

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

1.000

Certificate of Analysis Summary 603634

Tetra Tech- Midland, Midland, TX

Project Name: Cimarex-Witherspoon 26-23 State Com 1H

Project Id: 212C-MD-01376 Task 200
Contact: Clair Gonzales
Project Location: Lea Co. NM

Date Received in Lab: Fri Oct-26-18 10:21 am
Report Date: 31-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	603634-007		603634-008		603634-009		603634-010		603634-011		603634-012	
	Field Id:	AH#1 (6-6.5')		AH#1 (7-7.5')		AH#2 (0-1')		AH#2 (1-1.5')		AH#2 (2-2.5')		AH#2 (3-3.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00	
BTEX by EPA 8021B	***Extracted:***					Oct-26-18 18:00		Oct-26-18 18:00					
	Analyzed:					Oct-27-18 14:27		Oct-27-18 14:47					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Benzene						<0.00200	0.00200	<0.00200	0.00200				
Toluene						<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene						<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes						<0.00400	0.00400	<0.00400	0.00400				
o-Xylene						<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes						<0.00200	0.00200	<0.00200	0.00200				
Total BTEX						<0.00200	0.00200	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30	
	Analyzed:	Oct-26-18 21:52		Oct-26-18 21:57		Oct-26-18 22:18		Oct-26-18 22:23		Oct-26-18 22:39		Oct-26-18 22:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		105	4.97	359	4.96	<4.96	4.96	<5.00	5.00	571	5.01	610	4.97
TPH By SW8015 Mod	***Extracted:***					Oct-29-18 16:00		Oct-29-18 16:00					
	Analyzed:					Oct-29-18 21:06		Oct-29-18 21:25					
	Units/RL:					mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)						<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)						<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)						<15.0	15.0	<15.0	15.0				
Total TPH						<15.0	15.0	<15.0	15.0				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 603634

Tetra Tech- Midland, Midland, TX

Project Name: Cimarex-Witherspoon 26-23 State Com 1H

Project Id: 212C-MD-01376 Task 200
Contact: Clair Gonzales
Project Location: Lea Co. NM

Date Received in Lab: Fri Oct-26-18 10:21 am
Report Date: 31-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	603634-013		603634-014		603634-015		603634-017		603634-018		603634-019	
	Field Id:	AH#2 (4-4.5')		AH#2 (5-5.5')		AH#2 (6-6.5')		AH#2 (8-8.5')		AH#3 (0-1')		AH#3 (1-1.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00	
BTEX by EPA 8021B	***Extracted:***									Oct-26-18 18:00		Oct-26-18 18:00	
	Analyzed:									Oct-27-18 23:02		Oct-28-18 00:04	
	Units/RL:									mg/kg	RL	mg/kg	RL
Benzene										<0.00200	0.00200	<0.00200	0.00200
Toluene										<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene										<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes										<0.00400	0.00400	<0.00400	0.00400
o-Xylene										<0.00200	0.00200	<0.00200	0.00200
Total Xylenes										<0.00200	0.00200	<0.00200	0.00200
Total BTEX										<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30		Oct-26-18 16:30	
	Analyzed:	Oct-26-18 22:50		Oct-26-18 22:55		Oct-26-18 23:01		Oct-26-18 23:06		Oct-26-18 23:11		Oct-26-18 20:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		164	4.98	187	4.97	29.1	4.98	<4.96	4.96	95.5	4.97	83.7	4.99
TPH By SW8015 Mod	***Extracted:***									Oct-29-18 16:00		Oct-29-18 16:00	
	Analyzed:									Oct-29-18 22:21		Oct-29-18 22:40	
	Units/RL:									mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)										<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)										<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)										<15.0	15.0	<15.0	15.0
Total TPH										<15.0	15.0	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 603634

Tetra Tech- Midland, Midland, TX

Project Name: Cimarex-Witherspoon 26-23 State Com 1H

Project Id: 212C-MD-01376 Task 200
Contact: Clair Gonzales
Project Location: Lea Co. NM

Date Received in Lab: Fri Oct-26-18 10:21 am
Report Date: 31-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	603634-020		603634-021		603634-022		603634-023		603634-024		603634-025	
	Field Id:	AH#3 (2-2.5')		AH#3 (3-3.5')		AH#3 (4-4.5')		AH#3 (5-5.5')		AH#4 (0-1')		AH#5 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00	
BTEX by EPA 8021B	***Extracted:***									Oct-26-18 18:00		Oct-26-18 18:00	
	Analyzed:									Oct-28-18 00:24		Oct-28-18 00:44	
	Units/RL:									mg/kg	RL	mg/kg	RL
Benzene										<0.00200	0.00200	<0.00200	0.00200
Toluene										<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene										<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes										<0.00400	0.00400	<0.00400	0.00400
o-Xylene										<0.00200	0.00200	<0.00200	0.00200
Total Xylenes										<0.00200	0.00200	<0.00200	0.00200
Total BTEX										<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Oct-26-18 16:30		Oct-26-18 16:55		Oct-26-18 16:55		Oct-26-18 16:55		Oct-26-18 16:55		Oct-26-18 16:55	
	Analyzed:	Oct-26-18 22:02		Oct-26-18 23:59		Oct-27-18 00:04		Oct-27-18 00:09		Oct-27-18 00:15		Oct-27-18 00:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		22.7	4.96	12.6	4.97	<4.97	4.97	<4.96	4.96	<4.95	4.95	<4.96	4.96
TPH By SW8015 Mod	***Extracted:***									Oct-29-18 16:00		Oct-26-18 16:00	
	Analyzed:									Oct-29-18 22:59		Oct-28-18 00:19	
	Units/RL:									mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)										<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)										<15.0	15.0	<14.9	14.9
Motor Oil Range Hydrocarbons (MRO)										<15.0	15.0	<14.9	14.9
Total TPH										<15.0	15.0	<14.9	14.9

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 603634

Tetra Tech- Midland, Midland, TX

Project Name: Cimarex-Witherspoon 26-23 State Com 1H

Project Id: 212C-MD-01376 Task 200
Contact: Clair Gonzales
Project Location: Lea Co. NM

Date Received in Lab: Fri Oct-26-18 10:21 am
Report Date: 31-OCT-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	603634-026		603634-027		603634-028		603634-029		603634-030		603634-031	
	Field Id:	AH#5 (1-1.5')		H-1 (0-1')		HA-2 (0-6")		H-3 (0-1')		H-4 (0-1')		H-5 (0-6")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00		Oct-25-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Oct-26-18 18:00		Oct-26-18 18:00		Oct-26-18 18:00		Oct-26-18 18:00		Oct-26-18 18:00		Oct-26-18 18:00	
	Analyzed:	Oct-28-18 01:05		Oct-28-18 01:25		Oct-28-18 01:45		Oct-28-18 02:06		Oct-28-18 02:26		Oct-28-18 02:46	
	Units/RL:	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	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Oct-26-18 16:55		Oct-26-18 16:55		Oct-26-18 16:55		Oct-26-18 16:55		Oct-26-18 16:55		Oct-26-18 16:55	
	Analyzed:	Oct-27-18 00:36		Oct-27-18 00:41		Oct-27-18 00:47		Oct-26-18 23:43		Oct-27-18 00:57		Oct-27-18 00:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.96	4.96	141	4.98	<4.97	4.97	<4.95	4.95	<4.96	4.96	58.3	4.99
TPH By SW8015 Mod	***Extracted:***	Oct-26-18 16:00		Oct-26-18 16:00		Oct-26-18 16:00		Oct-26-18 16:00		Oct-26-18 16:00		Oct-26-18 16:00	
	Analyzed:	Oct-28-18 00:37		Oct-28-18 00:55		Oct-28-18 01:13		Oct-28-18 01:31		Oct-28-18 01:49		Oct-28-18 02:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

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Analytical Report 603634

for

Tetra Tech- Midland

Project Manager: Clair Gonzales

Cimarex-Witherspoon 26-23 State Com 1H

212C-MD-01376 Task 200

31-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

31-OCT-18

Project Manager: **Clair Gonzales**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **603634**
Cimarex-Witherspoon 26-23 State Com 1H
Project Address: Lea Co. NM

Clair Gonzales:

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 XENCO Report Number(s) 603634. 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 XENCO Laboratories. 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. 603634 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 XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH#1 (0-1')	S	10-25-18 00:00		603634-001
AH#1 (1-1.5')	S	10-25-18 00:00		603634-002
AH#1 (2-2.5')	S	10-25-18 00:00		603634-003
AH#1 (3-3.5')	S	10-25-18 00:00		603634-004
AH#1 (4-4.5')	S	10-25-18 00:00		603634-005
AH#1 (5-5.5')	S	10-25-18 00:00		603634-006
AH#1 (6-6.5')	S	10-25-18 00:00		603634-007
AH#1 (7-7.5')	S	10-25-18 00:00		603634-008
AH#2 (0-1')	S	10-25-18 00:00		603634-009
AH#2 (1-1.5')	S	10-25-18 00:00		603634-010
AH#2 (2-2.5')	S	10-25-18 00:00		603634-011
AH#2 (3-3.5')	S	10-25-18 00:00		603634-012
AH#2 (4-4.5')	S	10-25-18 00:00		603634-013
AH#2 (5-5.5')	S	10-25-18 00:00		603634-014
AH#2 (6-6.5')	S	10-25-18 00:00		603634-015
AH#2 (8-8.5')	S	10-25-18 00:00		603634-017
AH#3 (0-1')	S	10-25-18 00:00		603634-018
AH#3 (1-1.5')	S	10-25-18 00:00		603634-019
AH#3 (2-2.5')	S	10-25-18 00:00		603634-020
AH#3 (3-3.5')	S	10-25-18 00:00		603634-021
AH#3 (4-4.5')	S	10-25-18 00:00		603634-022
AH#3 (5-5.5')	S	10-25-18 00:00		603634-023
AH#4 (0-1')	S	10-25-18 00:00		603634-024
AH#5 (0-1')	S	10-25-18 00:00		603634-025
AH#5 (1-1.5')	S	10-25-18 00:00		603634-026
H-1 (0-1')	S	10-25-18 00:00		603634-027
HA-2 (0-6")	S	10-25-18 00:00		603634-028
H-3 (0-1')	S	10-25-18 00:00		603634-029
H-4 (0-1')	S	10-25-18 00:00		603634-030
H-5 (0-6")	S	10-25-18 00:00		603634-031
AH#2 (7-7.5')	S	10-25-18 00:00		Not Analyzed

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Cimarex-Witherspoon 26-23 State Com 1H

Project ID:	*212C-MD-01376 Task 20(*	Report Date:	*31-OCT-18*
Work Order Number(s):	*603634*	Date Received:	*10/26/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3067800 Chloride by EPA 300

Lab Sample ID 603634-020 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 603634-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -017, -018, -019, -020.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3067839 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-001	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.0**	5.00	mg/kg	10.26.18 21.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.29.18 16.00	Basis:	Wet Weight
Seq Number:	3067929				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.29.18 20.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.29.18 20.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 20.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.29.18 20.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.29.18 20.28	
o-Terphenyl	84-15-1	98	%	70-135	10.29.18 20.28	

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-001	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.18 13.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.18 13.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.18 13.46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.18 13.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.18 13.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.18 13.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.18 13.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	10.27.18 13.46	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.27.18 13.46	

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (1-1.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-002	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.6**	4.98	mg/kg	10.26.18 21.15		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.29.18 16.00	Basis:	Wet Weight
Seq Number:	3067929				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.29.18 20.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.29.18 20.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 20.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.29.18 20.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	10.29.18 20.47	
o-Terphenyl	84-15-1	99	%	70-135	10.29.18 20.47	

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (1-1.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-002	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.18 14.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.18 14.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.18 14.06	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.18 14.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.18 14.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.18 14.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.18 14.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	10.27.18 14.06	
4-Bromofluorobenzene	460-00-4	86	%	70-130	10.27.18 14.06	

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (2-2.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-003	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.3**	4.98	mg/kg	10.26.18 21.20		1

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (3-3.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-004	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**62.8**	4.97	mg/kg	10.26.18 21.36		1

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (4-4.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-005	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**84.5**	4.98	mg/kg	10.26.18 21.41		1

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (5-5.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-006	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**31.5**	4.97	mg/kg	10.26.18 21.46		1

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (6-6.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-007	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**105**	4.97	mg/kg	10.26.18 21.52		1

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#1 (7-7.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-008	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**359**	4.96	mg/kg	10.26.18 21.57		1

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-009	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.26.18 22.18	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.29.18 16.00	Basis:	Wet Weight
Seq Number:	3067929				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.29.18 21.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.29.18 21.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 21.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.29.18 21.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.29.18 21.06	
o-Terphenyl	84-15-1	99	%	70-135	10.29.18 21.06	

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-009	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.18 14.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.18 14.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.18 14.27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.18 14.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.18 14.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.18 14.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.18 14.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	10.27.18 14.27	
1,4-Difluorobenzene	540-36-3	111	%	70-130	10.27.18 14.27	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id: **AH#2 (1-1.5')** Matrix: Soil Date Received:10.26.18 10.21

Lab Sample Id: 603634-010 Date Collected: 10.25.18 00.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 10.26.18 16.30 Basis: Wet Weight

Seq Number: 3067800

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	10.26.18 22.23	U	1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 10.29.18 16.00 Basis: Wet Weight

Seq Number: 3067929

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.29.18 21.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.29.18 21.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 21.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.29.18 21.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	10.29.18 21.25	
o-Terphenyl	84-15-1	96	%	70-135	10.29.18 21.25	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (1-1.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-010	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.18 14.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.18 14.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.18 14.47	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.18 14.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.18 14.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.18 14.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.18 14.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	10.27.18 14.47	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.27.18 14.47	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (2-2.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-011	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**571**	5.01	mg/kg	10.26.18 22.39		1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (3-3.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-012	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**610**	4.97	mg/kg	10.26.18 22.45		1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (4-4.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-013	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**164**	4.98	mg/kg	10.26.18 22.50		1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (5-5.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-014	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**187**	4.97	mg/kg	10.26.18 22.55		1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (6-6.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-015	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.1**	4.98	mg/kg	10.26.18 23.01		1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#2 (8-8.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-017	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.26.18 23.06	U	1

Certificate of Analytical Results 603634

Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-018	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**95.5**	4.97	mg/kg	10.26.18 23.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.29.18 16.00	Basis:	Wet Weight
Seq Number:	3067929				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.29.18 22.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.29.18 22.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 22.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.29.18 22.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.29.18 22.21	
o-Terphenyl	84-15-1	100	%	70-135	10.29.18 22.21	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-018	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.18 23.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.18 23.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.18 23.02	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.18 23.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.18 23.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.18 23.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.18 23.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.27.18 23.02	
4-Bromofluorobenzene	460-00-4	79	%	70-130	10.27.18 23.02	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (1-1.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-019	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**83.7**	4.99	mg/kg	10.26.18 20.48		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.29.18 16.00	Basis:	Wet Weight
Seq Number:	3067929				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.29.18 22.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.29.18 22.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 22.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.29.18 22.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	10.29.18 22.40	
o-Terphenyl	84-15-1	93	%	70-135	10.29.18 22.40	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (1-1.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-019	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 00.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 00.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 00.04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 00.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 00.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 00.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 00.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	10.28.18 00.04	
1,4-Difluorobenzene	540-36-3	81	%	70-130	10.28.18 00.04	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (2-2.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-020	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.30	Basis:	Wet Weight
Seq Number:	3067800				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.7**	4.96	mg/kg	10.26.18 22.02		1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (3-3.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-021	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.6**	4.97	mg/kg	10.26.18 23.59		1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (4-4.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-022	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.27.18 00.04	U	1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#3 (5-5.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-023	Date Collected:	10.25.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.27.18 00.09	U	1

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#4 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-024	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	10.27.18 00.15	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.29.18 16.00	Basis:	Wet Weight
Seq Number:	3067929				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.29.18 22.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.29.18 22.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 22.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.29.18 22.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.29.18 22.59	
o-Terphenyl	84-15-1	101	%	70-135	10.29.18 22.59	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#4 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-024	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 00.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 00.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 00.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 00.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 00.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 00.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 00.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	78	%	70-130	10.28.18 00.24	
1,4-Difluorobenzene	540-36-3	111	%	70-130	10.28.18 00.24	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#5 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-025	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.27.18 00.31	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.26.18 16.00	Basis:	Wet Weight
Seq Number:	3067862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.28.18 00.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.28.18 00.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.28.18 00.19	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.28.18 00.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.28.18 00.19	
o-Terphenyl	84-15-1	102	%	70-135	10.28.18 00.19	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#5 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-025	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 00.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 00.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 00.44	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 00.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 00.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 00.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 00.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	10.28.18 00.44	
4-Bromofluorobenzene	460-00-4	89	%	70-130	10.28.18 00.44	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#5 (1-1.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-026	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.27.18 00.36	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.26.18 16.00	Basis:	Wet Weight
Seq Number:	3067862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.28.18 00.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.28.18 00.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.28.18 00.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.28.18 00.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.28.18 00.37	
o-Terphenyl	84-15-1	103	%	70-135	10.28.18 00.37	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**AH#5 (1-1.5')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-026	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 01.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 01.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 01.05	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 01.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 01.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 01.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 01.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	10.28.18 01.05	
1,4-Difluorobenzene	540-36-3	105	%	70-130	10.28.18 01.05	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-1 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-027	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**141**	4.98	mg/kg	10.27.18 00.41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.26.18 16.00	Basis:	Wet Weight
Seq Number:	3067862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.28.18 00.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.28.18 00.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.28.18 00.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.28.18 00.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.28.18 00.55	
o-Terphenyl	84-15-1	104	%	70-135	10.28.18 00.55	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-1 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-027	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 01.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 01.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 01.25	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 01.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 01.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 01.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 01.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	10.28.18 01.25	
4-Bromofluorobenzene	460-00-4	84	%	70-130	10.28.18 01.25	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**HA-2 (0-6")**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-028	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.27.18 00.47	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.26.18 16.00	Basis:	Wet Weight
Seq Number:	3067862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.28.18 01.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.28.18 01.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.28.18 01.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.28.18 01.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.28.18 01.13	
o-Terphenyl	84-15-1	107	%	70-135	10.28.18 01.13	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**HA-2 (0-6")**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-028	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 01.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 01.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 01.45	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 01.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 01.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 01.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 01.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.28.18 01.45	
4-Bromofluorobenzene	460-00-4	84	%	70-130	10.28.18 01.45	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-3 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-029	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	10.26.18 23.43	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.26.18 16.00	Basis:	Wet Weight
Seq Number:	3067862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.28.18 01.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.28.18 01.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.28.18 01.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.28.18 01.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.28.18 01.31	
o-Terphenyl	84-15-1	105	%	70-135	10.28.18 01.31	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-3 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-029	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 02.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 02.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 02.06	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 02.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 02.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 02.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 02.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.28.18 02.06	
4-Bromofluorobenzene	460-00-4	79	%	70-130	10.28.18 02.06	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-4 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-030	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	10.27.18 00.57	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.26.18 16.00	Basis:	Wet Weight
Seq Number:	3067862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.28.18 01.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.28.18 01.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.28.18 01.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.28.18 01.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.28.18 01.49	
o-Terphenyl	84-15-1	104	%	70-135	10.28.18 01.49	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-4 (0-1')**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-030	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 02.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 02.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 02.26	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 02.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 02.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 02.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 02.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.28.18 02.26	
4-Bromofluorobenzene	460-00-4	82	%	70-130	10.28.18 02.26	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-5 (0-6")**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-031	Date Collected:	10.25.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.26.18 16.55	Basis:	Wet Weight
Seq Number:	3067804				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.3**	4.99	mg/kg	10.27.18 00.52		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.26.18 16.00	Basis:	Wet Weight
Seq Number:	3067862				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.28.18 02.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.28.18 02.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.28.18 02.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.28.18 02.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.28.18 02.08	
o-Terphenyl	84-15-1	105	%	70-135	10.28.18 02.08	

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Tetra Tech- Midland, Midland, TX

Cimarex-Witherspoon 26-23 State Com 1H

Sample Id:	**H-5 (0-6")**	Matrix:	Soil	Date Received:	10.26.18 10.21
Lab Sample Id:	603634-031	Date Collected:	10.25.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	10.26.18 18.00	Basis:	Wet Weight
Seq Number:	3067839				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.28.18 02.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.28.18 02.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.28.18 02.46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.28.18 02.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.28.18 02.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.28.18 02.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.28.18 02.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	10.28.18 02.46	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.28.18 02.46	

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.

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

QC Summary 603634

Tetra Tech- Midland

Cimarex-Witherspoon 26-23 State Com 1H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067800 Matrix: Solid Date Prep: 10.26.18
MB Sample Id: 7664985-1-BLK LCS Sample Id: 7664985-1-BKS LCSD Sample Id: 7664985-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	269	108	90-110	0	20	mg/kg	10.26.18 20:37	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067804 Matrix: Solid Date Prep: 10.26.18
MB Sample Id: 7664990-1-BLK LCS Sample Id: 7664990-1-BKS LCSD Sample Id: 7664990-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	272	109	90-110	0	20	mg/kg	10.26.18 23:32	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067800 Matrix: Soil Date Prep: 10.26.18
Parent Sample Id: 603634-019 MS Sample Id: 603634-019 S MSD Sample Id: 603634-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	83.7	250	352	107	354	108	90-110	1	20	mg/kg	10.26.18 20:53	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067800 Matrix: Soil Date Prep: 10.26.18
Parent Sample Id: 603634-020 MS Sample Id: 603634-020 S MSD Sample Id: 603634-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.7	248	302	113	305	114	90-110	1	20	mg/kg	10.26.18 22:08	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067804 Matrix: Soil Date Prep: 10.26.18
Parent Sample Id: 603634-029 MS Sample Id: 603634-029 S MSD Sample Id: 603634-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.850	248	257	104	259	104	90-110	1	20	mg/kg	10.26.18 23:48	

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

1.000

QC Summary 603634

Tetra Tech- Midland

Cimarex-Witherspoon 26-23 State Com 1H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3067804 — Matrix: Soil — Date Prep: 10.26.18
Parent Sample Id: 603634-030 — MS Sample Id: 603634-030 S — MSD Sample Id: 603634-030 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	272	110	271	109	90-110	0	20	mg/kg	10.27.18 01:02	

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3067862 — Matrix: Solid — Date Prep: 10.26.18
MB Sample Id: 7665038-1-BLK — LCS Sample Id: 7665038-1-BKS — LCSD Sample Id: 7665038-1-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)	<8.00	1000	1090	109	1130	113	70-135	4	20	mg/kg	10.27.18 18:33	
Diesel Range Organics (DRO)	<8.13	1000	1140	114	1130	113	70-135	1	20	mg/kg	10.27.18 18:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		125		129		70-135	%	10.27.18 18:33
o-Terphenyl	105		112		123		70-135	%	10.27.18 18:33

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3067929 — Matrix: Solid — Date Prep: 10.29.18
MB Sample Id: 7665087-1-BLK — LCS Sample Id: 7665087-1-BKS — LCSD Sample Id: 7665087-1-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)	<8.00	1000	962	96	957	96	70-135	1	20	mg/kg	10.29.18 17:18	
Diesel Range Organics (DRO)	<8.13	1000	1010	101	1000	100	70-135	1	20	mg/kg	10.29.18 17:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		123		121		70-135	%	10.29.18 17:18
o-Terphenyl	114		111		107		70-135	%	10.29.18 17:18

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3067862 — Matrix: Soil — Date Prep: 10.26.18
Parent Sample Id: 603636-001 — MS Sample Id: 603636-001 S — MSD Sample Id: 603636-001 SD

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)	<7.98	997	944	95	960	96	70-135	2	20	mg/kg	10.27.18 19:28	
Diesel Range Organics (DRO)	<8.10	997	980	98	1000	100	70-135	2	20	mg/kg	10.27.18 19:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		119		70-135	%	10.27.18 19:28
o-Terphenyl	111		107		70-135	%	10.27.18 19:28

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

1.000

QC Summary 603634

Tetra Tech- Midland

Cimarex-Witherspoon 26-23 State Com 1H

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3067929 — Matrix: Soil — Date Prep: 10.29.18
Parent Sample Id: 603770-001 — MS Sample Id: 603770-001 S — MSD Sample Id: 603770-001 SD

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)	<7.99	998	890	89	932	93	70-135	5	20	mg/kg	10.29.18 18:15	
Diesel Range Organics (DRO)	<8.11	998	934	94	974	98	70-135	4	20	mg/kg	10.29.18 18:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		114		70-135	%	10.29.18 18:15
o-Terphenyl	100		103		70-135	%	10.29.18 18:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3067839 — Matrix: Solid — Date Prep: 10.26.18
MB Sample Id: 7665012-1-BLK — LCS Sample Id: 7665012-1-BKS — LCSD Sample Id: 7665012-1-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	0.0874	87	0.0897	90	70-130	3	35	mg/kg	10.27.18 10:04	
Toluene	<0.00200	0.100	0.0912	91	0.0910	91	70-130	0	35	mg/kg	10.27.18 10:04	
Ethylbenzene	<0.00200	0.100	0.0970	97	0.0918	92	70-130	6	35	mg/kg	10.27.18 10:04	
m,p-Xylenes	<0.00400	0.200	0.188	94	0.173	87	70-130	8	35	mg/kg	10.27.18 10:04	
o-Xylene	<0.00200	0.100	0.101	101	0.0899	90	70-130	12	35	mg/kg	10.27.18 10:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		92		93		70-130	%	10.27.18 10:04
4-Bromofluorobenzene	105		104		96		70-130	%	10.27.18 10:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3067839 — Matrix: Soil — Date Prep: 10.26.18
Parent Sample Id: 603513-022 — MS Sample Id: 603513-022 S — MSD Sample Id: 603513-022 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	0.100	0.0754	75	0.0675	68	70-130	11	35	mg/kg	10.27.18 10:44	X
Toluene	<0.00200	0.100	0.0748	75	0.0680	68	70-130	10	35	mg/kg	10.27.18 10:44	X
Ethylbenzene	<0.00200	0.100	0.0744	74	0.0684	68	70-130	8	35	mg/kg	10.27.18 10:44	X
m,p-Xylenes	<0.00400	0.200	0.142	71	0.131	66	70-130	8	35	mg/kg	10.27.18 10:44	X
o-Xylene	<0.00200	0.100	0.0714	71	0.0659	66	70-130	8	35	mg/kg	10.27.18 10:44	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		92		70-130	%	10.27.18 10:44
4-Bromofluorobenzene	95		98		70-130	%	10.27.18 10:44

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

1.000

Analysis Request of Chain of Custody Record

1603634

Page 1 of 4

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Cimarex	**Site Manager:** Clair Gonzales
Project Name: Witherspoon 26-23 State Com 1H	
Project Location: (county, state) Lea CO. NM	**Project #:** 212C-MD-01376 Task 200
Invoice to: Cimarex - Christine Alderman	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring

Comments: Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg. Run deeper samples if GRO + DRO exceeds 1,000 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)	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
	AH #1 (0-1')	10/25/2018			X				X		1	N	X		X												X							
	AH #1 (1-1.5')	10/25/2018			X				X		1	N	X		X												X							
	AH #1 (2-2.5')	10/25/2018			X				X		1	N															X							
	AH #1 (3-3.5')	10/25/2018			X				X		1	N															X							
	AH #1 (4-4.5')	10/25/2018			X				X		1	N															X							
	AH #1 (5-5.5')	10/25/2018			X				X		1	N															X							
	AH #1 (6-6.5')	10/25/2018			X				X		1	N															X							
	AH #1 (7-7.5')	10/25/2018			X				X		1	N															X							
	AH #2 (0-1')	10/25/2018			X				X		1	N	X		X												X							
	AH #2 (1-1.5')	10/25/2018			X				X		1	N	X		X												X							

Relinquished by: Conner Moehring	Date: 10/26/18	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: [signature] Date: 10/26/18 Time: 1024

LAB USE ONLY
Sample Temperature 0.3 + 0.0 KE

REMARKS:
- [X] STANDARD 5 Day
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

160364

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Cimarex	**Site Manager:** Clair Gonzales
Project Name: Witherspoon 26-23 State Com 1H	
Project Location: (county, state) Lea CO. NM	**Project #:** 212C-MD-01376 Task 200
Invoice to: Cimarex - Christine Alderman	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring

Comments: Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg. Run deeper samples if GRO + DRO exceeds 1,000 mg/kg.

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)	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
	AH #2 (2-2.5')	10/25/2018			X			X		1	N																X							
	AH #2 (3-3.5')	10/25/2018			X			X		1	N																X							
	AH #2 (4-4.5')	10/25/2018			X			X		1	N																X							
	AH #2 (5-5.5')	10/25/2018			X			X		1	N																X							
	AH #2 (6-6.5')	10/25/2018			X			X		1	N																X							
	AH #2 (7-7.5')	10/25/2018			X			X		1	N																X							
	AH #2 (8-8.5')	10/25/2018			X			X		1	N																X							
	AH #3 (0-1')	10/25/2018			X			X		1	N	X		X													X							
	AH #3 (1-1.5')	10/25/2018			X			X		1	N	X		X													X							
	AH #3 (2-2.5')	10/25/2018			X					1	N																X							

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by: Conner Moehring	Date: 10/26/18	Time:	Received by:	Date: 10/26/18	Time: 0921
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 0.3/0.0 IR

REMARKS:

- [X] STANDARD 5 Day
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

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Analysis Request of Chain of Custody Record

Lab# 636634

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Cimarex	**Site Manager:** Clair Gonzales
Project Name: Witherspoon 26-23 State Com 1H	
Project Location: (county, state) Lea CO. NM	**Project #:** 212C-MD-01376 Task 200
Invoice to: Cimarex - Christine Alderman	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring

Comments: Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg. Run deeper samples if GRO + DRO exceeds 1,000 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	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
	AH #3 (3-3.5')	10/25/2018			X				X			1	N															X							
	AH #3 (4-4.5')	10/25/2018			X				X			1	N															X							
	AH #3 (5-5.5')	10/25/2018			X				X			1	N															X							
	AH #4 (0-1')	10/25/2018			X				X			1	N	X		X												X							
	AH #5 (0-1')	10/25/2018			X				X			1	N	X		X												X							
	AH #5 (1-1.5')	10/25/2018			X				X			1	N	X		X												X							
	H-1 (0-1')	10/25/2018			X				X			1	N	X		X												X							
	H-2 (0-6")	10/25/2018			X				X			1	N	X		X												X							
	H-3 (0-1')	10/25/2018			X				X			1	N	X		X												X							
	H-4 (0-1')	10/25/2018			X				X			1	N	X		X												X							

Relinquished by: Conner Moehring Date: 10/26/18 Time:
Received by: [signature] Date: 10/26/18 Time: 1021

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY
Sample Temperature
0-3/0-0 ps

REMARKS:
- [X] STANDARD 5 Day
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

Loo3634

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: Cimarex	**Site Manager:** Clair Gonzales
Project Name: Witherspoon 26-23 State Com 1H	
Project Location: (county, state) Lea CO. NM	**Project #:** 212C-MD-01376 Task 200
Invoice to: Cimarex - Christine Alderman	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring

Comments: Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg. Run deeper samples if GRO + DRO exceeds 1,000 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)	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
	H-5 (0-6")	10/25/2018			X				X		1	N	X		X												X						

Relinquished by: Date: Time:
Conner Moehring 10/26/18

Received by: Date: Time:
10/26/18 1021

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY
Sample Temperature
0.3/0.0
KB

REMARKS:
- [X] STANDARD 5 Day
- [ ] RUSH: Same Day 24 hr 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 10/26/2018 10:21:00 AM

Work Order #: 603634

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 10/26/2018

Brianna Teel

Checklist reviewed by: Kelsey Brooks Date: 10/26/2018

Kelsey Brooks

Photos

Cimarex Energy
Witherspoon 26-23 State Com 1H
Lea County, New Mexico

View Southwest – Area of release

View Southeast – Area of release

Cimarex Energy
Witherspoon 26-23 State Com 1H
Lea County, New Mexico

View Southwest – Release area in pasture

View Southeast – Release area in pasture

Appendix A: Agency Forms

District I
625 N. French Dr., Hobbs, NM 88240
District II
11 S. First St., Artesia, NM 88210
District III
000 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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Cimarex Energy	Contact Christine Alderman
Address 600 N Marienfeld Ste 600 Midland TX	Telephone No. 432-853-7059
Facility Name Witherspoon 26-23 State Com 1H	Facility Type production

Surface Owner	Mineral Owner	API No. 30-025-43291

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	26	21S	33E	330	S	630	W	Lea

Latitude_32.443458_Longitude -103.549728

NATURE OF RELEASE

Type of Release produced water/oil	Volume of Release 4 bbls oil/11 bbls PW	Volume Recovered 3 bbls oil/8 bbls PW
Source of Release valve	Date and Hour of Occurrence 11/21/2017	Date and Hour of Discovery 11/21/2017 7:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu/Amber Groves	
By Whom? Gloria Garza	Date and Hour 11/21/2017 5:20 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.

Describe Cause of Problem and Remedial Action Taken.
A hole developed on a back pressure valve on a 2" tee. The valve has been replaced.

Describe Area Affected and Cleanup Action Taken.*
A vacuum truck recovered 11 bbls of the 15 bbls that were released. The fluids were around the wellhead, and impacted part of the pasture area. An environmental company has been contacted to assess and delineate the areas. A scope of work will be submitted ASAP.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Christine Alderman	OIL CONSERVATION DIVISION
Printed Name: Christine Alderman	Approved by Environmental Specialist:
Title: ESH Supervisor	Approval Date: / Expiration Date:
E-mail Address: calderman@cimarex.com	Conditions of Approval: / Attached ☐
Date: ~~12/5/2017~~ 12/13/2017 Phone: 432-853-7059	

Attach Additional Sheets If Necessary

0-6' pasture area - horizontal sampling

Terry Ainsworth

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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

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

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) 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		

Form C-141 State of New Mexico
Page 2 Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

☐ The source of the release has been stopped.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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: garcia garza Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

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: gloria garza Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nOY1734133250
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: _____ Date: _____

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: Bradford Billings Date: 09/13/2021

Printed Name: Bradford Billings Title: Envi.Spec.A

Appendix B: Groundwater Data

Water Well Data
Average Depth to Groundwater (ft)
Cimarex - Witherspoon 26-23 State Com 1H
Lea County, New Mexico

20 South 33 East

6	5 325	4	3	2	1
7	8	9	10	11	12
18 125	17	16	15	14	13
19	20	21	22	23	24 +300
30	29	28	27	26	25
31	32	33	34	35	36

20 South 34 East

6	5	4 125	3	2	1
7	8	9	10	11	12
18	17 128 140	16	15	14 150	13
19	20	21	22	23	24 270
30	29	28	27	26	25
31	32	33	34 82	35	36

20 South 35 East

6 56	5 64	4	3	2	1
7	8	9	10	11	12 49
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31 65	32	33 89	34	35	36

21 South 32 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

21 South 33 East

6	5	4	3	2 79 107	1
7	8	9	10	11 150	12
18 143	17	16	15	14	13
19	20	21	22	23	24
30	29	28 179	27 572	26	25
31	32	33 555 600	34	35	36

21 South 34 East

6	5	4 95	3	2	1
7	8 120	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 140	27	26	25
31	32	33	34	35	36

22 South 32 East

6	5	4	3	2	1
7 55	8	9	10	11	12
18	17	16	15	14 382 350	13
19 (S) 280	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South 33 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 391
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South 34 East

6	5	4	3	2	1
7	8	9	10	11 30	12 50
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

121 Abandoned Waterwell (recently measured)

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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y		Depth Well	Depth Water	Water Column
CP 01349 POD1		CP	LE	2	3	1	27	21S	33E	635304	3591576		1188	572	616
CP 01355 POD1		CP	LE	2	1	3	27	21S	33E	634773	3591061		1192	582	610
CP 01357 POD1		CP	LE	4	3	1	27	21S	33E	634782	3591347		1286	578	708

Average Depth to Water: **577 feet**

Minimum Depth: **572 feet**

Maximum Depth: **582 feet**

Record Count: 3

Basin/County Search:

County: Lea

PLSS Search:

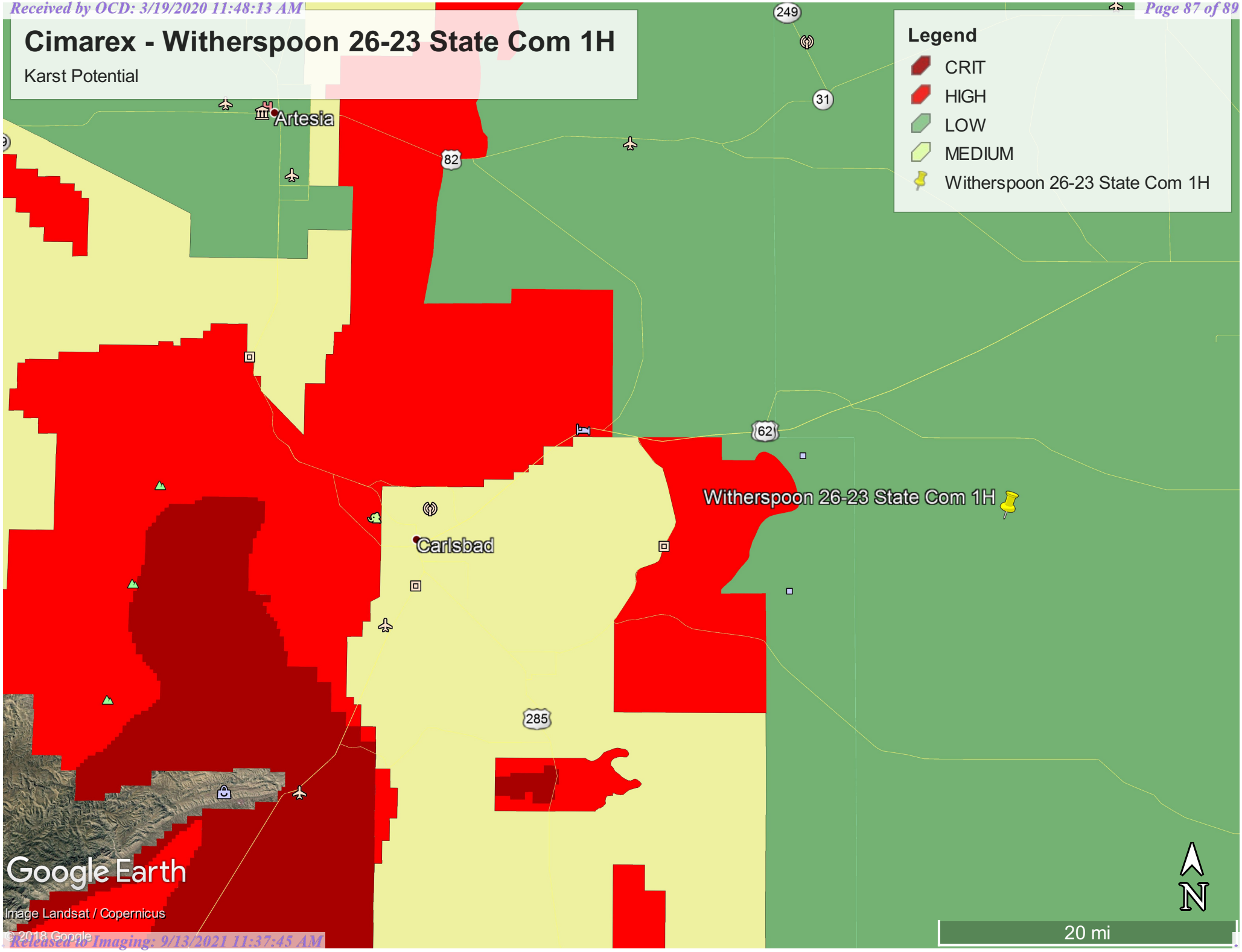
Section(s): 27 **Township:** 21S **Range:** 33E

10/31/18 12:47 PM

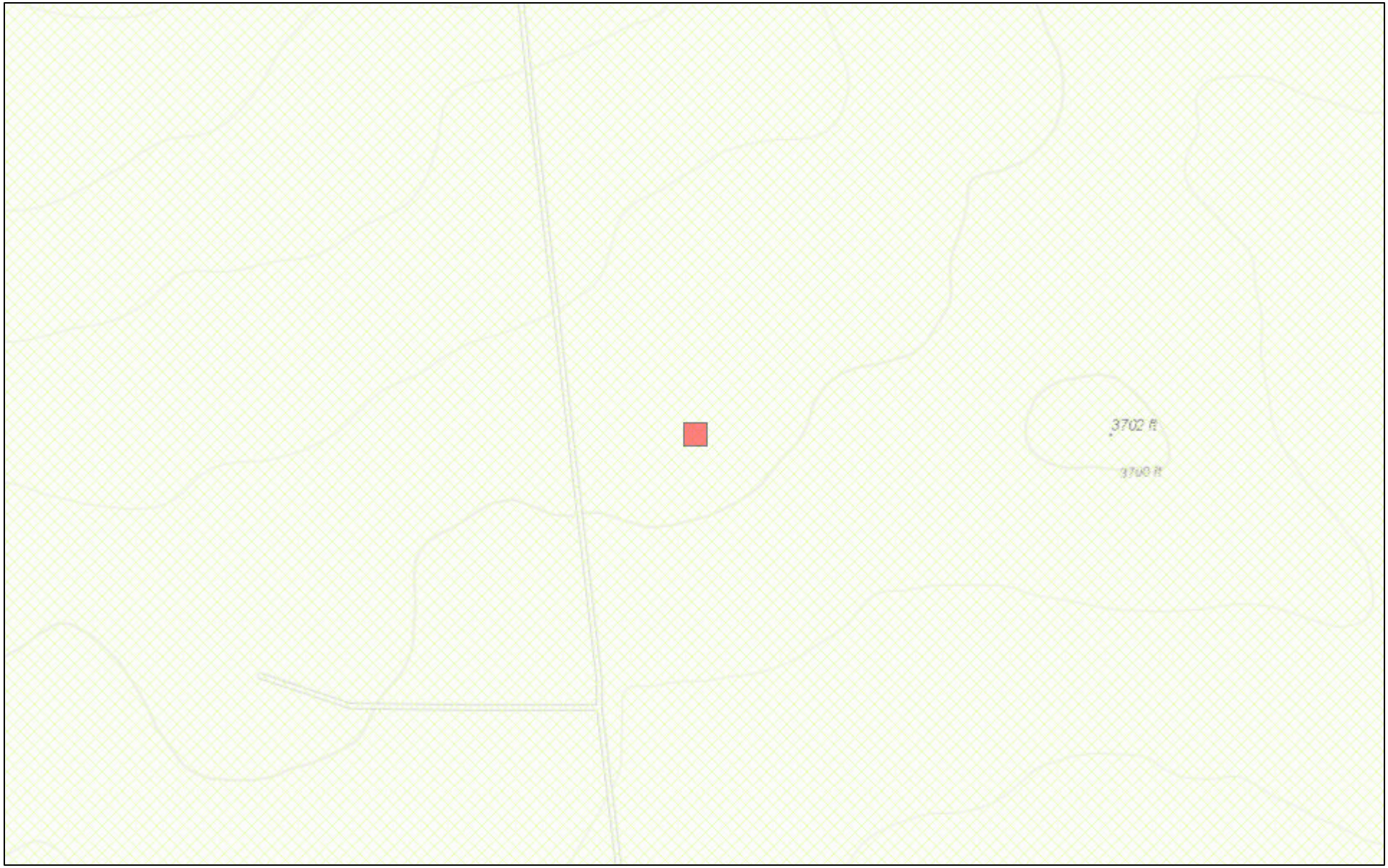
WATER COLUMN/ AVERAGE DEPTH TO WATER

Cimarex - Witherspoon 26-23 State Com 1H

Karst Potential



New Mexico NFHL Data



October 31, 2018

1:4,514

0 0.0375 0.075 0.15 mi

0 0.05 0.1 0.2 km

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

nmflood.org is made possible through a collaboration with NMDHSEM, EDAC, and FEMA
This is a non-regulatory product for informational use only. Please consult your local floodplain administrator for further information.

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

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 4595
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	9/13/2021