



February 28, 2022

Bradford Billings  
Hydrologist/E.Spec.A  
District 2 Artesia  
1220 South St. Francis Drive  
Oil Conservation Division  
Santa Fe, NM 87505

**Re: Release Characterization and Remediation Work Plan  
ConocoPhillips  
Heritage Concho  
Y Energy State Com #001H Tank Release  
Unit Letter L, Section 32, Township 18 South, Range 30 East  
Eddy County, New Mexico  
Incident ID# nMLB1122348831  
2RP-831**

Mr. Billings,

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a Heritage Concho release that occurred at a tank battery on the Y Energy State Com #001H well pad (API No. 30-015-36033). The release footprint is located in Public Land Survey System (PLSS) Unit Letter L, Section 32, Township 18 South, Range 30 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.702619°, -103.999775°, as shown on Figures 1 and 2.

## BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the release was discovered on June 7, 2011. The C-141 reports that the cause of the release was caused by a hole developing in a load line. Approximately 15 barrels (bbls) of produced water were released and approximately 13 bbls of produced water were recovered. The release was reportedly contained inside the berm walls of the facility. According to Concho representatives, all freestanding fluids and visually contaminated soil and gravel were removed and transported offsite for proper disposal. The NMOCD approved the initial C-141 on June 6, 2011, and subsequently assigned the release the Incident ID nMLB1122348831 and the remediation permit (RP) number 2RP-831. The initial C-141 form is included in Appendix A. This incident which is included in an Agreed Compliance Order-Releases (ACO-R) between COG Operating LLC (Concho) and the NMOCD signed on November 20 and 26, 2018, respectively.

## SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, stream bodies, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of low karst potential.

There are no water wells listed in the New Mexico Office of the State Engineer (NMOSE) database located within approximately ½ mile (800 meters) of the site. According to data from one (1) water well listed in the

Tetra Tech

901 West Wall St., Suite 100, Midland, TX 79701

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com

NMOSE database within approximately 5.5 miles (8,800 meters) of the site, the depth to groundwater is 180 feet below ground surface (bgs). The site characterization data are presented in Appendix B.

## REGULATORY FRAMEWORK

Based upon the release footprint and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

A depth to groundwater determination was unable to be made within the specified distance of 0.5 miles from the release location. Therefore, based on the site characterization and in lieu of drilling a boring for groundwater depth verification, and in accordance with Table I of 19.15.29.12 NMAC, the RRALs for the Site are as follows:

Constituent	Site RRALs
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

## SITE ASSESSMENT AND SAMPLING RESULTS

As mentioned, following the release, Concho dispatched vacuum trucks to recover standing fluid and removed visually impacted soils and gravels from within the berm walls of the facility. The release extent and approximate release location are presented in Figure 3. Tetra Tech conducted a visual inspection at the Site on September 21, 2021, to assess current site conditions. No evidence of surface staining or the release was observed during the visual inspection. Photographic documentation from the visual inspection is presented in Appendix C.

On January 24, 2022, Tetra Tech personnel were on site to assess the release footprint. Four (4) soil borings were complete with hand auger (AH-1 through AH-4) to depths of 2 feet bgs to complete horizontal delineation of the release extent. Tetra Tech returned to the site on February 9, to drill one (1) soil boring (BH-1) using an air rotary drilling rig immediately adjacent to the berm wall to a depth of 10 feet bgs to complete vertical delineation of the release extent. Sampling was not conducted in the area within the berm walls because this area was inaccessible for the drilling rig. No evidence of staining was observed in the gravel within the berm walls, as shown in the photographic documentation presented in Appendix C. Boring locations are presented in Figure 4.

A total of fifteen (15) soil samples were collected from the five (5) borings and sent to cardinal Laboratories in Hobbs, New Mexico to be analyzed for chlorides via EPA Method SM4500Cl-B, TPH via EPA Method 8015m and BTEX via EPA Method 8021B. A copy of the laboratory analytical report and chain of custody documentation are included in Appendix D.

Analytical results from the January and February 2022 assessment activities are summarized in Table 1. The analytical results associated with the BH-1 boring location exceeded the Site RRAL for chloride (600 mg/kg) in the 0-1 foot sample interval. All other analytical results were below applicable Site RRALs for all constituents. Vertical and horizontal delineation of the release was successfully achieved as a result of the 2022 assessment activities.

## REMEDIATION WORK PLAN

Based on the analytical results, ConocoPhillips proposes to remove the impacted material as shown in Figure 5. Impacted soils in the area around boring location BH-1 will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 1 foot below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the RRALs. Any area

containing pressurized lines will be hand-dug to a depth of 1 foot or the maximum extent practicable and heavy equipment will come no more than 4 ft from any pressurized lines.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 30 cubic yards.

#### ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 6. Two (2) confirmation floor samples and eight (8) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 720 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 500 square feet of excavated area. Confirmation samples will be sent to an accredited laboratory for analysis of TPH (Method 8015 modified), BTEX (Method 8260B), and chloride (USEPA Method 300.0). Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade.

#### CONCLUSION

ConocoPhillips proposed to begin remediation activities at the Site within 120 days of NMOCD plan approval. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD. If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 217-7254 or Christian at (512) 338-2861.

Sincerely,  
**Tetra Tech, Inc.**



Samantha K. Abbott, P.G.  
Project Manager



Christian M. Llull, P.G.  
Program Manager

cc:  
Mr. Charles Beauvais, BU – ConocoPhillips

## LIST OF ATTACHMENTS

### Figures:

- Figure 1 – Overview Map
- Figure 2 – Topographic Map
- Figure 3 – Release Extent Map
- Figure 4 – Site Assessment Map
- Figure 5 – Proposed Remediation Extent Map
- Figure 6 – Alternative Confirmation Sampling Plan Map

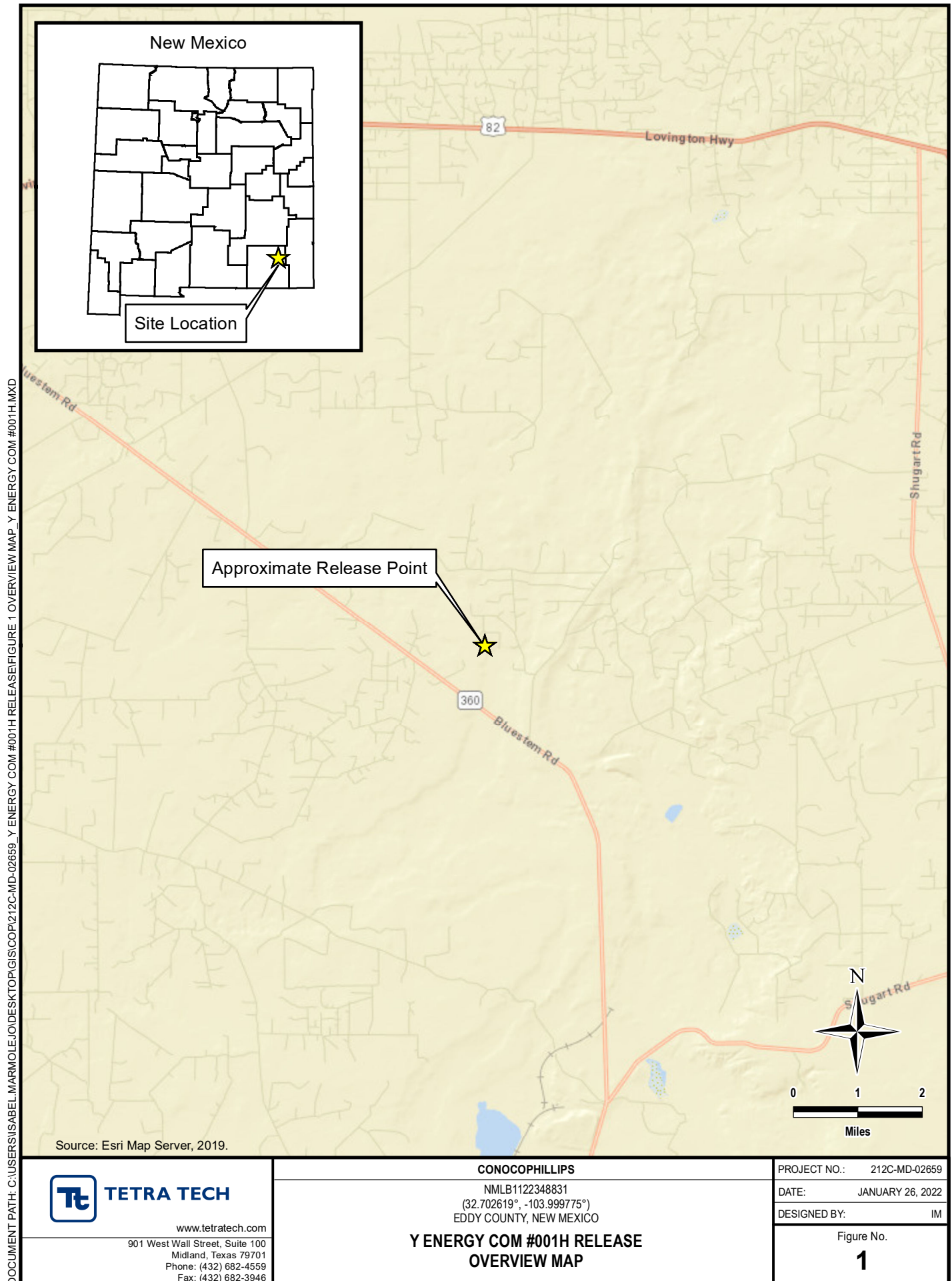
### Tables:

- Table 1 – Summary of Analytical Results – Soil Assessment

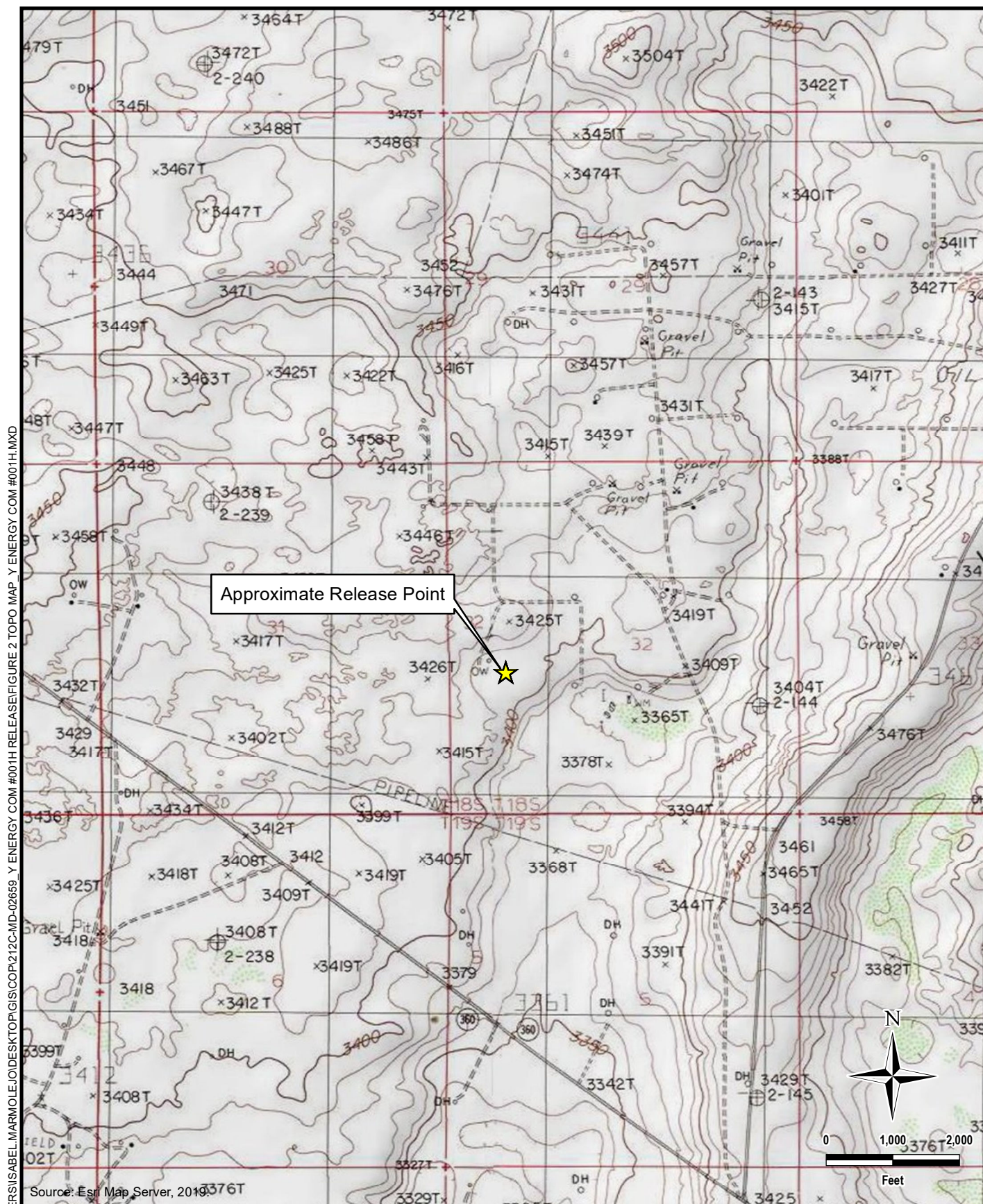
### Appendices:

- Appendix A – C-141 Forms
- Appendix B – Site Characterization Data
- Appendix C – Photographic Documentation
- Appendix D – Laboratory Analytical Data

## **FIGURES**







**TETRA TECH**

[www.tetratech.com](http://www.tetratech.com)

901 West Wall Street, Suite 100  
Midland, Texas 79701  
Phone: (432) 682-4559  
Fax: (432) 682-3946

**CONOCOPHILLIPS**

NMLB1122348831  
(32.702619°, -103.999775°)  
EDDY COUNTY, NEW MEXICO

Y ENERGY COM #001H RELEASE  
TOPOGRAPHIC MAP

PROJECT NO.: 212C-MD-02659

DATE: JANUARY 26, 2022

DESIGNED BY: IM

Figure No.

2



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILIPS\212C-MD-02659\_Y ENERGY COM #001H RELEASE\FIGURE 3 RELEASE EXTENT MAP\_Y ENERGY COM #001H.MXD

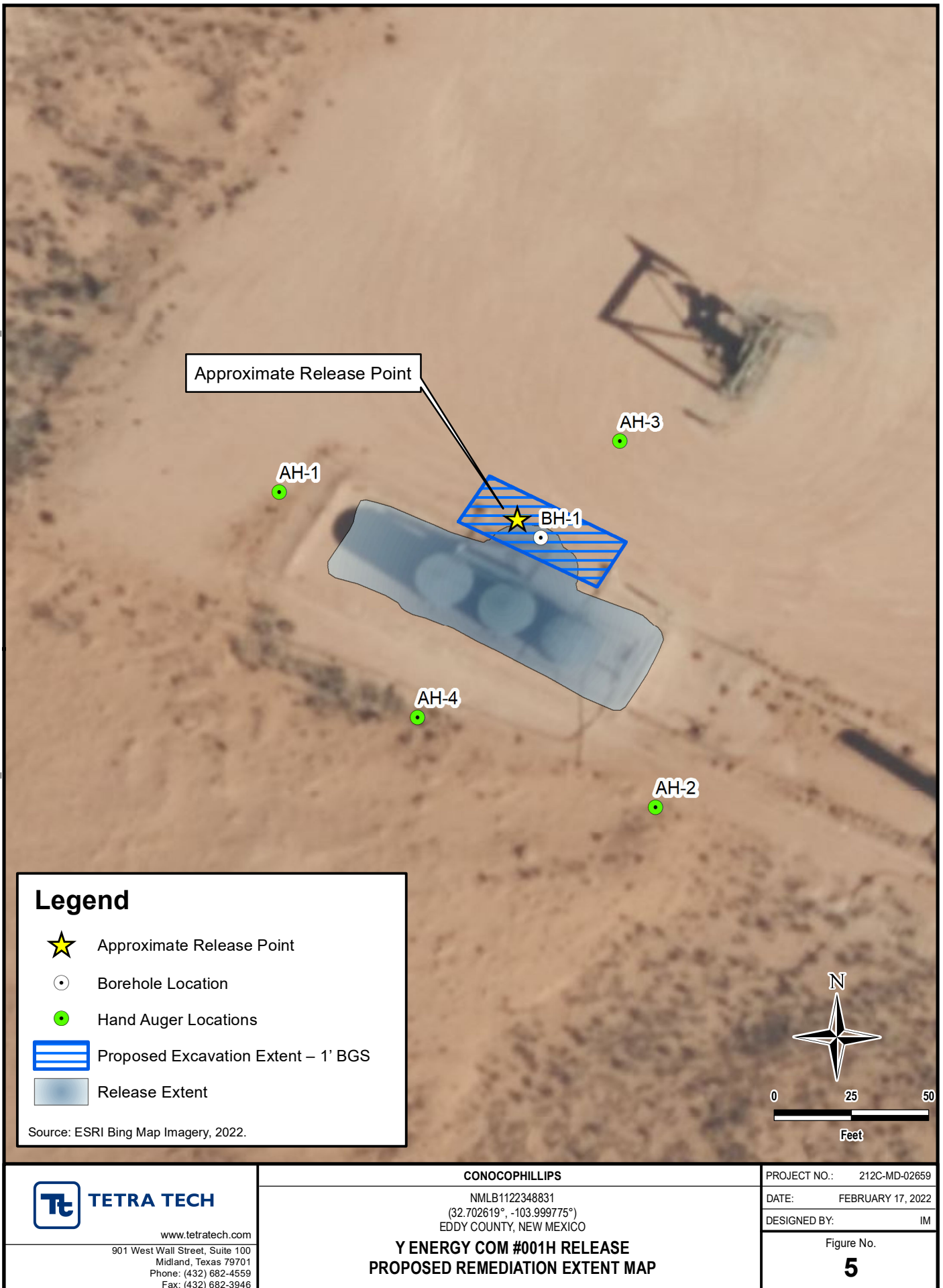




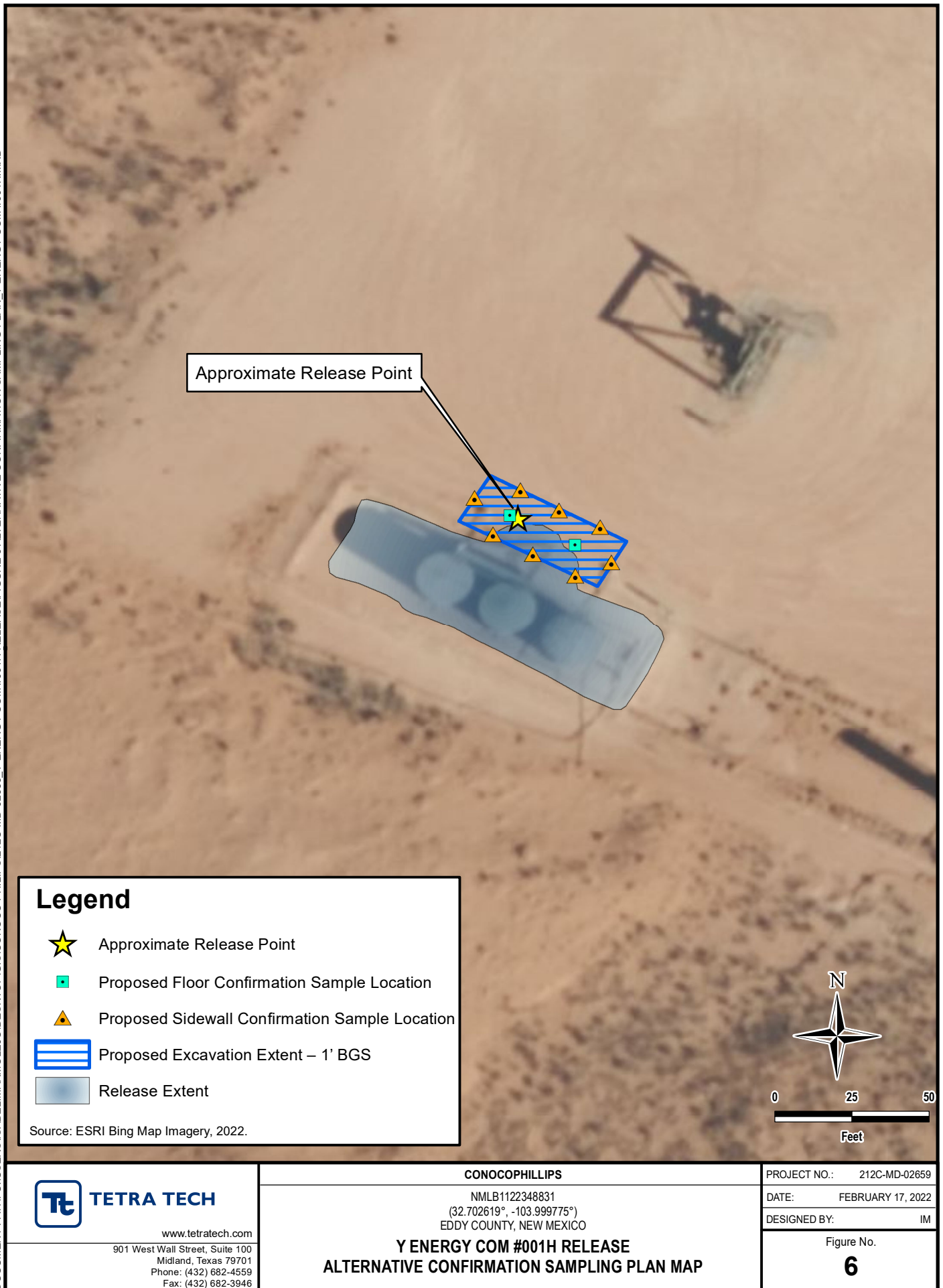
DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILIPS\212C-MD-02659\_Y ENERGY COM #001H RELEASE\FIGURE 4 SITE ASSESSMENT MAP\_Y ENERGY COM #001H.MXD



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILIPS\212C-MD-02659\_Y ENERGY COM #001H RELEASE\FIGURE 5 PROPOSED REMEDIATION EXTENT MAP\_Y ENERGY COM #001H.MXD



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILLIPS\212C-MD-02659\_Y ENERGY COM #001H RELEASE\FIGURE 6 ALTERNATIVE CONFIRMATION SAMPLING PLAN\_Y ENERGY COM #001H.MXD



## TABLE



TABLE 1  
SUMMARY OF ANALYTICAL RESULTS  
SOIL ASSESSMENT- 2RP-831 / NMLB1122348831  
HERITAGE CONCHO  
Y ENERGY STATE COM 001H  
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride <sup>1</sup>		BTEX <sup>2</sup>										TPH <sup>3</sup>							
			Chloride	PID			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH (GRO+DRO+EXT DRO)	
		C <sub>6</sub> ~ C <sub>10</sub>			> C <sub>10</sub> ~ C <sub>28</sub>												> C <sub>28</sub> ~ C <sub>36</sub>							
		ft. bgs	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
BH-1	1/29/2022	0-1			4,960		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		2-3			80.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		3-4			80.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		4-5			80.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		6-7			96.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		8-9			96.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		9-10			128		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
AH-1	2/9/2022	0-1	49.9	-	32.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		1-2	55.3	-	32.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
AH-2	2/9/2022	0-1	23.6	-	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		1-2	35.2	-	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
AH-3	2/9/2022	0-1	165	-	208		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		1-2	229	-	224		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
AH-4	2/9/2022	0-1	127	-	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		1-2	102	-	32.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	

NOTES:

- ft.     Feet
- bgs     Below ground surface
- mg/kg   Milligrams per kilogram
- TPH     Total Petroleum Hydrocarbons
- GRO     Gasoline range organics
- DRO     Diesel range organics
- 1     Method SM4500Cl-B
- 2     Method 8021B
- 3     Method 8015M

***Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.***

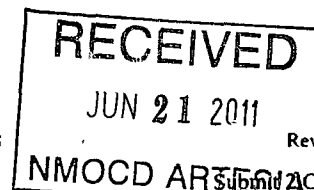
Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

## **APPENDIX A C-141 Forms**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505



Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

### Release Notification and Corrective Action

**nmlb1122348831**

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC 229137	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Y Energy State	Facility Type	Tank Battery
Surface Owner	State	Mineral Owner	Lease No. (API#) 30-015-36033

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	32	18S	30E					Eddy

Latitude 32 42.164 Longitude 103 59.980

#### NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	15bbls	Volume Recovered	13bbls
Source of Release	Water tank load line	Date and Hour of Occurrence	06/07/2011	Date and Hour of Discovery	06/07/2011 8:00 a.m.
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required				
By Whom?	If YES, To Whom?				
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 in the load line causing produced water to be released inside the dike walls of the facility. The load line has been replaced.					
Describe Area Affected and Cleanup Action Taken.*					
Initially 15bbls of produced water was released from the load line and we were able to recover 13bbls with a vacuum truck. All fluid was contained inside the berm walls of the facility. All standing fluid has been removed and contaminated soil and gravel has been removed and hauled to disposal. Tetra Tech will sample the spill site are to delineate an possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.					
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:				OIL CONSERVATION DIVISION	
Printed Name:	Josh Russo			Signed By	
Title:	HSE Coordinator			Approved by District Supervisor:	
E-mail Address:	jrusso@conchoresources.com			Approval Date: <b>AUG 11 2011</b> Expiration Date:	
Date:	06/21/2011 Phone: 432-212-2399			Conditions of Approval:	
				Remediation per OCD Rules & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NOT LATER THAN:</b>	
				9/11/2011	
				Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

**PROPOSAL NOT LATER THAN:**

9/11/2011

2RP-831

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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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



State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: Charles R. Beauvais II Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	
Facility ID	
Application ID	

## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Charles R. Beauvais II Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

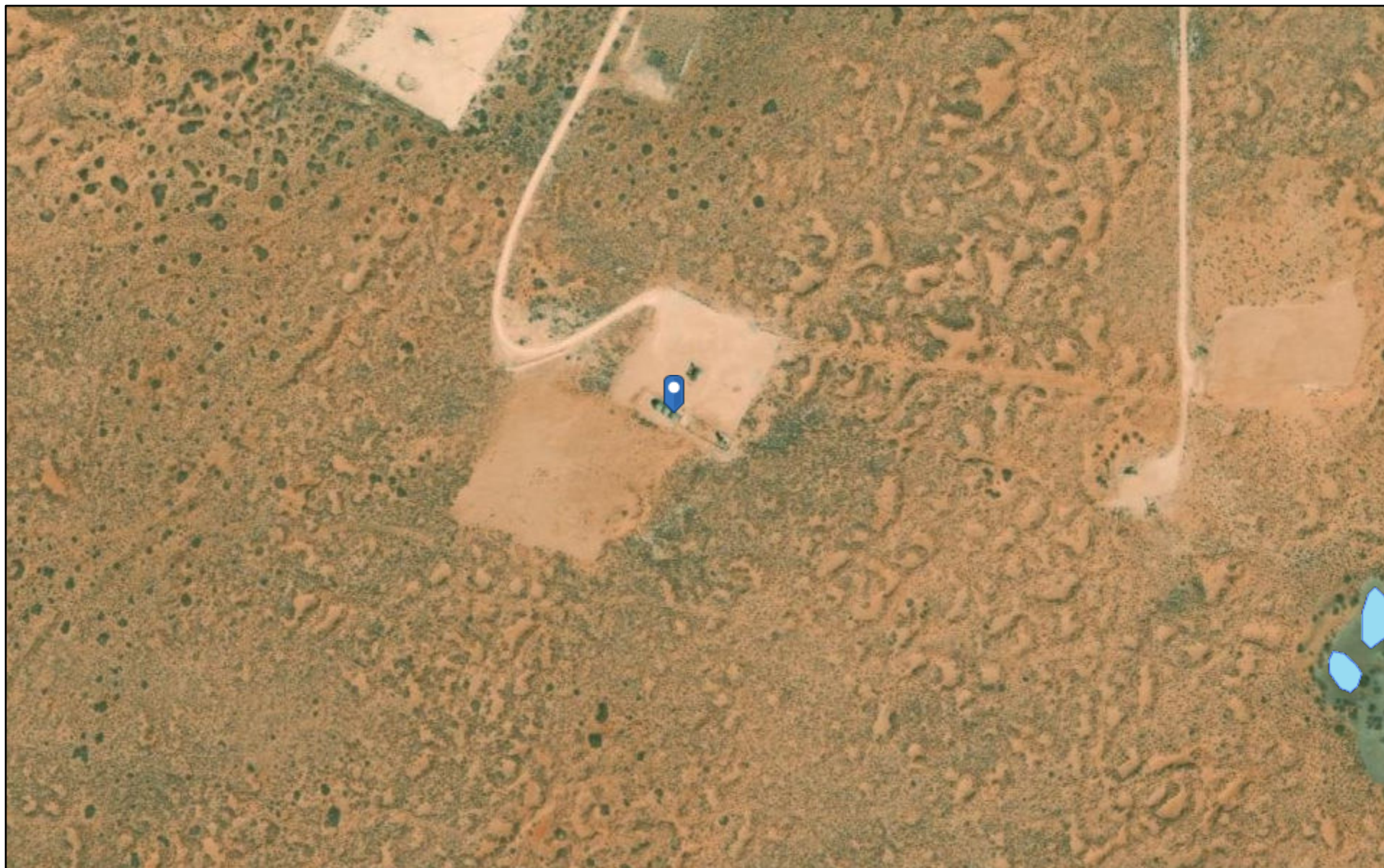
Received by: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral ApprovedSignature: Bradford Billings Date: \_\_\_\_\_

## **APPENDIX B**

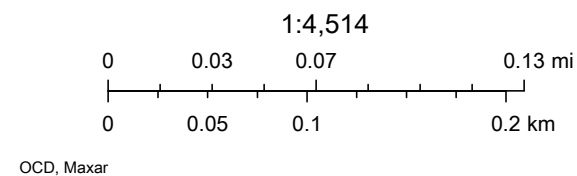
### **Site Characterization Data**

## OCD Water Bodies



1/11/2022, 12:19:30 PM

- ★ OCD District Offices
- PLJV Probable Playas
- OSE Water-bodies
- OSE Streams





# Y Energy State Com 001H

Karst Potential

## Legend

- ☆ Approximate Release Location
- High
- Low
- Medium

Loco Hills

82

360

☆ Approximate Release Location



4 mi



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

---

No records found.

## UTMNAD83 Radius Search (in meters):

**Easting (X):** 593756

**Northing (Y):** 3618752

**Radius:** 800

---

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

---

2/14/22 1:56 PM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">CP 00819 POD1</a>	CP	LE		2	4	32	18S		30E	594878	3618720*	1122	150		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

### UTM NAD83 Radius Search (in meters):

**Easting (X):** 593756

**Northing (Y):** 3618752

**Radius:** 1200

\*UTM location was derived from PLSS - see Help

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

1/11/22 11:23 AM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">CP 00819 POD1</a>	CP	LE		2	4	32	18S	30E		594878	3618720*	1122	150		
<a href="#">CP 00853 POD1</a>	O	CP	ED	2	4	28	18S	30E		596472	3620340*	3146	350		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 593756

**Northing (Y):** 3618752

**Radius:** 4000

\*UTM location was derived from PLSS - see Help

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1/11/22 11:26 AM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER





# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">CP 00819 POD1</a>	CP	LE		2	4	32	18S	30E		594878	3618720*	1122	150		
<a href="#">CP 00853 POD1</a>	O	CP	ED	2	4	28	18S	30E		596472	3620340*	3146	350		
<a href="#">CP 00582 POD1</a>	CP	ED				24	18S	29E		591048	3622096*	4302	150		
<a href="#">CP 00823 POD1</a>	CP	LE		1	3	17	19S	30E		593715	3613885*	4867	120		
<a href="#">CP 00820 POD1</a>	CP	LE		2	4	13	19S	29E		591713	3613870*	5292	120		
<a href="#">CP 00767 POD1</a>	CP	ED		3	2	35	18S	30E		599300	3619158*	5558	500		
<a href="#">CP 00818 POD1</a>	CP	LE		1	4	26	18S	30E		599289	3620364*	5763	240		
<a href="#">CP 00863</a>	CP	ED		1	4	2	27	18S	29E	588341	3620768*	5778	320		
<a href="#">CP 00824 POD1</a>	CP	LE		4	1	20	19S	30E		594129	3612680*	6083	70		
<a href="#">CP 00647 POD1</a>	O	CP	ED	4	2	2	15	19S	30E	598235	3614621*	6093	200	92	108
<a href="#">CP 00626 POD2</a>	CP	ED		3	2	1	03	19S	29E	587660	3617880	6158	240	195	45
<a href="#">CP 00626 POD1</a>	CP	ED		2	3	1	03	19S	29E	587360	3617575	6503	286	247	39
<a href="#">CP 00822 POD1</a>	CP	LE		4	4	15	19S	30E		598148	3613516*	6834	90		
<a href="#">CP 00522</a>	CP	ED			3	30	19S	30E		592347	3610451*	8419	120	90	30
<a href="#">CP 00821 POD1</a>	CP	LE		4	4	25	19S	29E		591743	3610248*	8739	120		
<a href="#">CP 00825 POD1</a>	CP	LE		3	4	28	19S	30E		596164	3610282*	8805	100		
<a href="#">CP 01618 POD1</a>	CP	ED		3	4	2	29	18S	29E	585120	3620554	8822	240	180	60
<a href="#">CP 00357 POD2</a>	CP	ED		4	3	1	24	19S	30E	600265	3612627*	8937	630		

Average Depth to Water: **160 feet**

Minimum Depth: **90 feet**

Maximum Depth: **247 feet**

Record Count: 18

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 593756

**Northing (Y):** 3618752

**Radius:** 9000

\*UTM location was derived from PLSS - see Help

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

2/14/22 2:01 PM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

## **APPENDIX C**

# **Photographic Documentation**

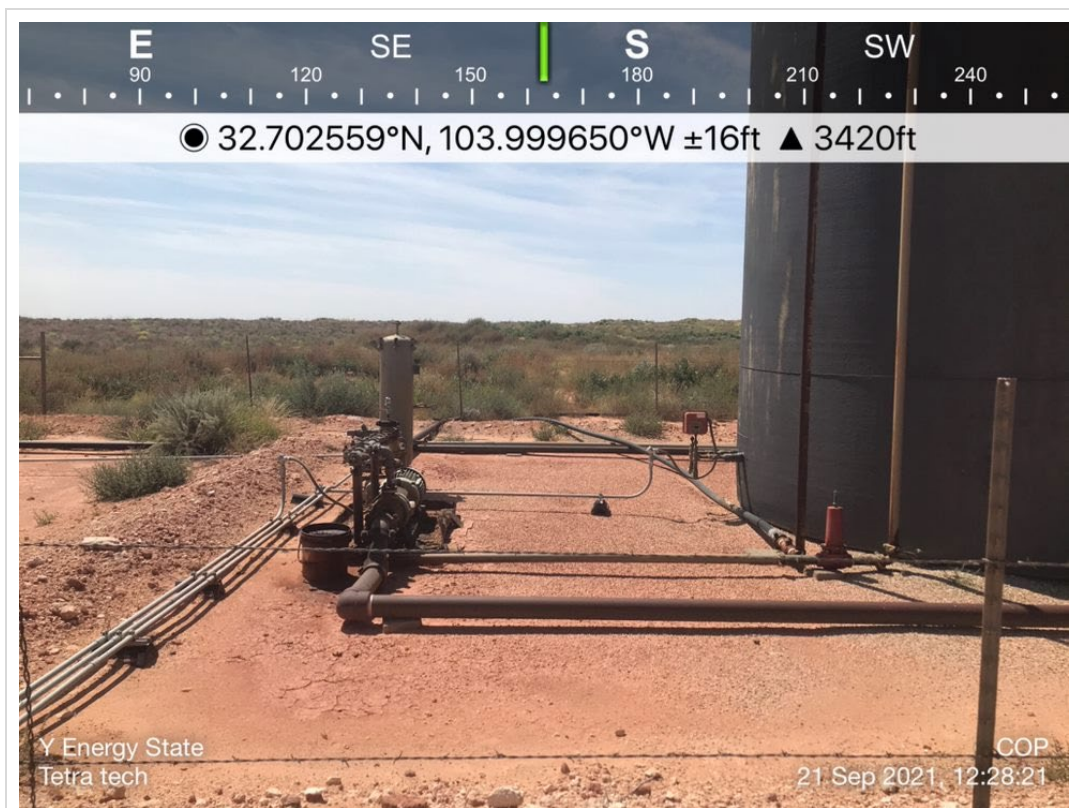


TETRA TECH, INC. PROJECT NO. 212C-MD-02578	DESCRIPTION	View south of Y ENERGY STATE COM #001H signage.	1
	SITE NAME	HConcho - Y ENERGY STATE COM #001H	9/21/2021



TETRA TECH, INC. PROJECT NO. 212C-MD-02578	DESCRIPTION	View west of the release area and tank batteries.	2
	SITE NAME	HConcho - Y ENERGY STATE COM #001H	9/21/2021





TETRA TECH, INC. PROJECT NO. 212C-MD-02578	DESCRIPTION	View south inside tank battery secondary containment.	3
	SITE NAME	HConcho - Y ENERGY STATE COM #001H	9/21/2021

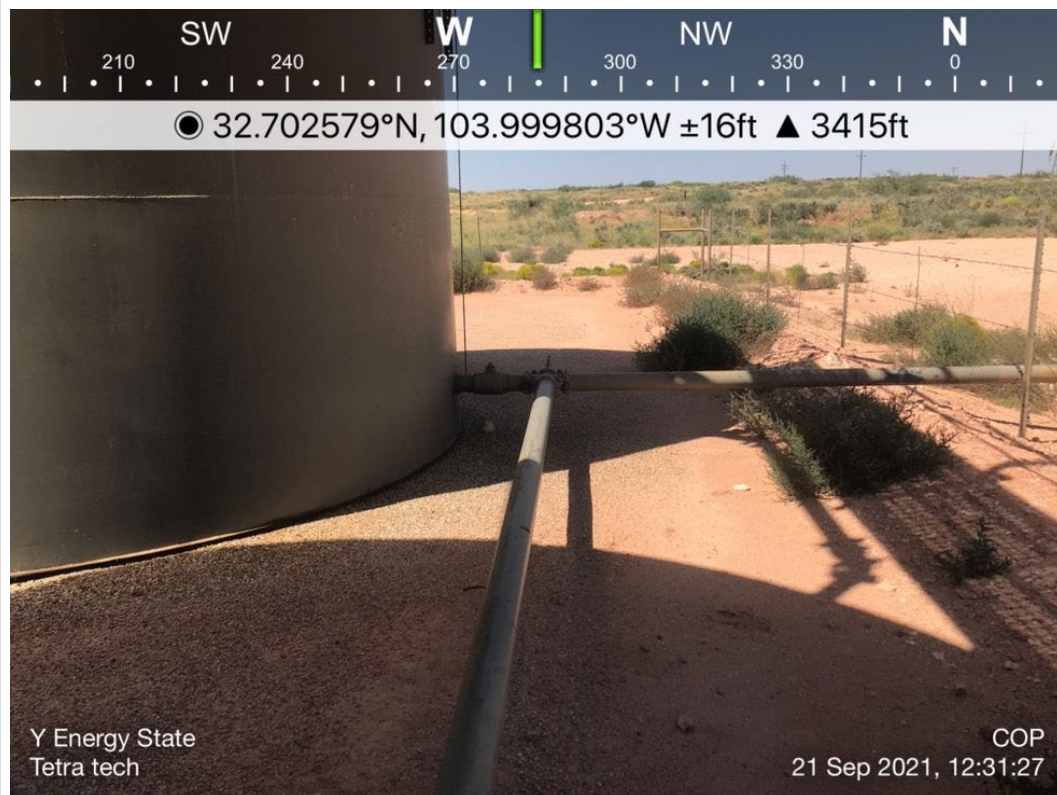


TETRA TECH, INC. PROJECT NO. 212C-MD-02578	DESCRIPTION	View northwest inside tank battery secondary containment.	4
	SITE NAME	HConcho - Y ENERGY STATE COM #001H	9/21/2021





TETRA TECH, INC. PROJECT NO. 212C-MD-02578	DESCRIPTION	View east southeast east release area and tank battery secondary containment.	5
	SITE NAME	HConcho - Y ENERGY STATE COM #001H	9/21/2021



TETRA TECH, INC. PROJECT NO. 212C-MD-02578	DESCRIPTION	View west of the release area and tank battery secondary containment.	6
	SITE NAME	HConcho - Y ENERGY STATE COM #001H	9/21/2021

## **APPENDIX D**

### **Laboratory Analytical Data**



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

January 28, 2022

SAM ABBOTT

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: Y ENERGY STATE COM 001H

Enclosed are the results of analyses for samples received by the laboratory on 01/24/22 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Coley D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	01/24/2022	Sampling Date:	01/24/2022
Reported:	01/28/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659.104	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: BH - 1 ( 0-1' ) (H220267-01)**

BTEX 8021B			mg/kg		Analyzed By: JH				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/27/2022	ND	2.13	107	2.00	4.69	
Toluene*	<0.050	0.050	01/27/2022	ND	2.19	110	2.00	0.630	
Ethylbenzene*	<0.050	0.050	01/27/2022	ND	2.06	103	2.00	1.56	
Total Xylenes*	<0.150	0.150	01/27/2022	ND	6.44	107	6.00	2.61	
Total BTEX	<0.300	0.300	01/27/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	01/27/2022	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2022	ND	196	98.0	200	8.76	
DRO >C10-C28*	<10.0	10.0	01/27/2022	ND	202	101	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	01/27/2022	ND					

Surrogate: 1-Chlorooctane 84.6 % 66.9-136

Surrogate: 1-Chlorooctadecane 83.4 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	01/24/2022	Sampling Date:	01/24/2022
Reported:	01/28/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659.104	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: BH - 1 ( 2-3' ) (H220267-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/27/2022	ND	2.13	107	2.00	4.69		
Toluene*	<0.050	0.050	01/27/2022	ND	2.19	110	2.00	0.630		
Ethylbenzene*	<0.050	0.050	01/27/2022	ND	2.06	103	2.00	1.56		
Total Xylenes*	<0.150	0.150	01/27/2022	ND	6.44	107	6.00	2.61		
Total BTEX	<0.300	0.300	01/27/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/27/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2022	ND	196	98.0	200	8.76	
DRO >C10-C28*	<10.0	10.0	01/27/2022	ND	202	101	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	01/27/2022	ND					

Surrogate: 1-Chlorooctane 99.0 % 66.9-136

Surrogate: 1-Chlorooctadecane 99.0 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	01/24/2022	Sampling Date:	01/24/2022
Reported:	01/28/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659.104	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: BH - 1 ( 3-4' ) (H220267-03)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/27/2022	ND	2.13	107	2.00	4.69		
Toluene*	<0.050	0.050	01/27/2022	ND	2.19	110	2.00	0.630		
Ethylbenzene*	<0.050	0.050	01/27/2022	ND	2.06	103	2.00	1.56		
Total Xylenes*	<0.150	0.150	01/27/2022	ND	6.44	107	6.00	2.61		
Total BTEx	<0.300	0.300	01/27/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/27/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2022	ND	196	98.0	200	8.76	
DRO >C10-C28*	<10.0	10.0	01/27/2022	ND	202	101	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	01/27/2022	ND					

Surrogate: 1-Chlorooctane 97.7 % 66.9-136

Surrogate: 1-Chlorooctadecane 97.5 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	01/24/2022	Sampling Date:	01/24/2022
Reported:	01/28/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659.104	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: BH - 1 ( 4-5' ) (H220267-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/27/2022	ND	2.13	107	2.00	4.69		
Toluene*	<0.050	0.050	01/27/2022	ND	2.19	110	2.00	0.630		
Ethylbenzene*	<0.050	0.050	01/27/2022	ND	2.06	103	2.00	1.56		
Total Xylenes*	<0.150	0.150	01/27/2022	ND	6.44	107	6.00	2.61		
Total BTEX	<0.300	0.300	01/27/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/27/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2022	ND	196	98.0	200	8.76	
DRO >C10-C28*	<10.0	10.0	01/27/2022	ND	202	101	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	01/27/2022	ND					

Surrogate: 1-Chlorooctane 90.6 % 66.9-136

Surrogate: 1-Chlorooctadecane 90.7 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	01/24/2022	Sampling Date:	01/24/2022
Reported:	01/28/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659.104	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: BH - 1 ( 6-7' ) (H220267-05)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/27/2022	ND	2.13	107	2.00	4.69		
Toluene*	<0.050	0.050	01/27/2022	ND	2.19	110	2.00	0.630		
Ethylbenzene*	<0.050	0.050	01/27/2022	ND	2.06	103	2.00	1.56		
Total Xylenes*	<0.150	0.150	01/27/2022	ND	6.44	107	6.00	2.61		
Total BTEX	<0.300	0.300	01/27/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	01/27/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2022	ND	196	98.0	200	8.76	
DRO >C10-C28*	<10.0	10.0	01/27/2022	ND	202	101	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	01/27/2022	ND					

Surrogate: 1-Chlorooctane 97.8 % 66.9-136

Surrogate: 1-Chlorooctadecane 96.9 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	01/24/2022	Sampling Date:	01/24/2022
Reported:	01/28/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659.104	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: BH - 1 ( 8-9' ) (H220267-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/27/2022	ND	2.13	107	2.00	4.69		
Toluene*	<0.050	0.050	01/27/2022	ND	2.19	110	2.00	0.630		
Ethylbenzene*	<0.050	0.050	01/27/2022	ND	2.06	103	2.00	1.56		
Total Xylenes*	<0.150	0.150	01/27/2022	ND	6.44	107	6.00	2.61		
Total BTEx	<0.300	0.300	01/27/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	01/27/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2022	ND	196	98.0	200	8.76	
DRO >C10-C28*	<10.0	10.0	01/27/2022	ND	202	101	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	01/27/2022	ND					

Surrogate: 1-Chlorooctane 96.5 % 66.9-136

Surrogate: 1-Chlorooctadecane 95.7 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	01/24/2022	Sampling Date:	01/24/2022
Reported:	01/28/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659.104	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: BH - 1 ( 9-10' ) (H220267-07)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/27/2022	ND	2.13	107	2.00	4.69		
Toluene*	<0.050	0.050	01/27/2022	ND	2.19	110	2.00	0.630		
Ethylbenzene*	<0.050	0.050	01/27/2022	ND	2.06	103	2.00	1.56		
Total Xylenes*	<0.150	0.150	01/27/2022	ND	6.44	107	6.00	2.61		
Total BTEx	<0.300	0.300	01/27/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	01/27/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/27/2022	ND	196	98.0	200	8.76	
DRO >C10-C28*	<10.0	10.0	01/27/2022	ND	202	101	200	3.34	
EXT DRO >C28-C36	<10.0	10.0	01/27/2022	ND					

Surrogate: 1-Chlorooctane 92.0 % 66.9-136

Surrogate: 1-Chlorooctadecane 90.6 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**101 East Marland, Hobbs, NM 88240**  
**(575) 393-2326 FAX (575) 393-2476**

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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February 15, 2022

SAM ABBOTT

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: Y ENERGY STATE COM 001H

Enclosed are the results of analyses for samples received by the laboratory on 02/11/22 13:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 1 ( 0-1' ) (H220551-01)**

BTEX 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71		
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15		
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26		
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35		
Total BTEX	<0.300	0.300	02/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/14/2022	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 113 % 66.9-136

Surrogate: 1-Chlorooctadecane 119 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 1 ( 1'-2' ) (H220551-02)**

BTX 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71		
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15		
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26		
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35		
Total BTX	<0.300	0.300	02/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/14/2022	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 113 % 66.9-136

Surrogate: 1-Chlorooctadecane 119 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 2 ( 0-1' ) (H220551-03)**

BTEx 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71		
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15		
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26		
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35		
Total BTEX	<0.300	0.300	02/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/14/2022	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: CK				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 136 % 66.9-136

Surrogate: 1-Chlorooctadecane 145 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 2 ( 1'-2' ) (H220551-04)**

BTEx 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71		
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15		
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26		
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35		
Total BTEx	<0.300	0.300	02/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/14/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 129 % 66.9-136

Surrogate: 1-Chlorooctadecane 138 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 3 ( 0-1' ) (H220551-05)**

BTEx 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71		
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15		
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26		
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35		
Total BTEX	<0.300	0.300	02/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	02/14/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 120 % 66.9-136

Surrogate: 1-Chlorooctadecane 128 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 3 ( 1'-2' ) (H220551-06)**

BTX 8021B		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71	
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15	
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26	
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35	
Total BTX	<0.300	0.300	02/14/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	02/14/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 108 % 66.9-136

Surrogate: 1-Chlorooctadecane 113 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 4 ( 0-1' ) (H220551-07)**

BTEx 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71		
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15		
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26		
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35		
Total BTEx	<0.300	0.300	02/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	02/14/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 100 % 66.9-136

Surrogate: 1-Chlorooctadecane 106 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH  
 SAM ABBOTT  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

Received:	02/11/2022	Sampling Date:	02/09/2022
Reported:	02/15/2022	Sampling Type:	Soil
Project Name:	Y ENERGY STATE COM 001H	Sampling Condition:	Cool & Intact
Project Number:	212C-MD - 02659	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: AH - 4 ( 1'-2' ) (H220551-08)**

BTEx 8021B		mg/kg		Analyzed By: MS/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/14/2022	ND	1.83	91.7	2.00	6.71		
Toluene*	<0.050	0.050	02/14/2022	ND	1.85	92.6	2.00	6.15		
Ethylbenzene*	<0.050	0.050	02/14/2022	ND	1.80	90.2	2.00	5.26		
Total Xylenes*	<0.150	0.150	02/14/2022	ND	5.65	94.1	6.00	4.35		
Total BTEx	<0.300	0.300	02/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/14/2022	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2022	ND	211	106	200	2.00	
DRO >C10-C28*	<10.0	10.0	02/14/2022	ND	233	117	200	9.93	
EXT DRO >C28-C36	<10.0	10.0	02/14/2022	ND					

Surrogate: 1-Chlorooctane 113 % 66.9-136

Surrogate: 1-Chlorooctadecane 119 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 84889

**CONDITIONS**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 84889
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
bbillings	Approved with following: 500 sqft sampling is maximum the 750 sqft request is denied.	3/4/2022