CONCHO

[Dakota Neel]
[HSE Coordinator]

February 21, 2019

Bradford Billings
Oil Conservation Division
Santa Fe

Re: Closure Letter
White Oak State #1
API #: 30-015-29749
RP#: 2RP-4154
Eddy County, NM

Mr. Billings,

COG Operating, LLC (COG) is pleased to submit for your consideration the following closure report for the White Oak State #1. This release occurred on March 23, 2017. Following the releases a site assessment of the impacted soils was conducted. A remediation work plan was submitted to and subsequently approved by the New Mexico Oil Conservation Division (NMOCD). A copy of the approved work plan is attached.

BACKGROUND

This leak was discovered on March 23, 2017, and released approximately 72.5 barrels (bbls) of produced water, due to a hammer union failure. Vacuum trucks were immediately dispatched to recover all the free-standing liquids. Approximately 70 bbls of produced water was recovered. The release occurred on the pad area impacting an area measuring approximately 65’ x 250’. Additionally, a portion of the release migrated onto a closed reserve pit located west of the pad.

REMEDIAL ACTIONS

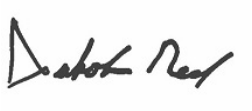
- The impacted area in the vicinity of BH-3 was excavated to the depth of one (1) foot BGS.
- The impacted area in the vicinity of BH-2 was excavated to the depth of three (3) feet BGS.
- The impacted area in the vicinity of BH-1 was excavated to the depth of four (4) feet BGS and a 20 mil plastic liner was installed.
- All of the excavated material was transported to an NMOCD approved solid waste disposal facility.
- The excavation was backfilled with caliche and contoured to match the surrounding location.

February 21, 2019

CLOSURE REQUEST

COG Operating, LLC respectfully requests closure approval for 2RP-4154. Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,



Dakota Neel
HSE Coordinator

Enclosed:

Appendix I: Work Plan (Copy)
Appendix II: Initial C-141 (Copy)
Appendix III: Final C-141

APPENDIX I

SITE INFORMATION

Report Type: Work Plan 2RP-4154

General Site Information:						
Site:	**White Oak State #1**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit P**	**Sec. 23**	**T 27S**	**R 28E**		
Lease Number:	**API No. 30-015-29749**					
County:	**Eddy County**					
GPS:	**32.8147278º N**			**104.1394958º W**		
Surface Owner:	Private					
Mineral Owner:						
Directions:	From the intersection of Lovington Hwy and Turkey Tract Rd, travel north on Turkey Tract Rd for approximately 1.10 mi, turn east onto lease road and continue for 0.50 mi, turn south for 0.10 mi to location.					

Release Data:	
Date Released:	3/23/2017
Type Release:	Produced Water
Source of Contamination:	Hammer Union
Fluid Released:	72.5 bbls
Fluids Recovered:	70 bbls

Official Communication:			
Name:	Rebecca Haskell		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		4000 N. Big Spring
	600 W. Illinois Ave.		Ste 401
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 687-8110
Fax:	(432) 684-7137		
Email:	rhaskell@conchoresources.com		Ike.Tavarez@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	***10***	*80'*
>100 ft.	0	
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	*0*
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	***0***	*0*
Total Ranking Score:	***10***	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	1,000

TETRA TECH

June 8, 2018

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

Re: Work Plan for the COG Operating LLC., White Oak State #1, Unit P, Section 23, Township 17 South, Ranch 28 East, Eddy County, New Mexico.
2RP-4154.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to evaluate and assess a release that occurred at the White Oak State #1, Unit P, Section 23, Township 17 South, Ranch 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.8147278º, W 104.1394958º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the release was discovered on March 23, 2017, and released approximately 72.5 barrels of produced water due to a hammer union failure. Approximately 70 barrels of produced water was recovered. The release occurred on the pad area impacting an area measuring approximately 65' x 250'. Additionally, a portion of the release migrated onto a closed reserve pit located west off the pad. The initial C-141 form is included in Appendix A.

Groundwater

No wells are listed within Section 23 in the New Mexico Office of the State Engineers database, the USGS National Water Information System, or the Geology and Ground-Water Resources of Eddy County, New Mexico (Report 3). The nearest water well is listed on the USGS National Water Information System and is located in Section 22; approximately 1.10 miles west of the site, and shows a reported depth to groundwater of 79' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is approximately 100 feet below surface. The groundwater data is shown in Appendix B.

Tetra Tech
4000 North Big Spring, Suite 401, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

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, dated August 13, 1993. 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 1,000 mg/kg.

Soil Assessment and Analytical Results

On April 23, 2018, Tetra Tech personnel were onsite to evaluate and sample the release area. Three (3) boreholes (BH-1, BH-2, and BH-3) were installed in the release footprint in order to evaluate the soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The borehole locations are shown on Figure 3.

Referring to Table 1, none of the samples analyzed for benzene, total BTEX or TPH showed concentrations above the RRALs.

However, a shallow chloride impact was detected in all areas. The area of borehole (BH-1) showed a chloride high of 30,900 mg/kg at 2-3', which declined with depth to 644 mg/kg at 9-10' and 244 mg/kg at 14'-15' below surface. The area of borehole (BH-2) showed a chloride concentration of 11,200 mg/kg at 0-1', which declined with depth to 306 mg/kg at 4-5' and 182 mg/kg at 6-7' below surface. The area of borehole (BH-3) showed a chloride high of 3,170 mg/kg at 0-1' which then declined to below the 600 mg/kg threshold at 2-3' below surface.

Work Plan

COG proposes to remove the chloride concentrations that were identified in the shallow soils in the areas of boreholes (BH-1, BH-2 and BH-3). The areas of borehole (BH-2) will be excavated to approximately 2.0' to 3.0' and the area of borehole (BH-3) will be excavated to approximately 1.0' below surface. The area of borehole (BH-1) will be excavated to approximately 3.0' to 4.0' below surface and capped with a 20-mil liner to prevent vertical migration of the deeper impact. Once the areas are excavated to the appropriate depth, the excavation will be backfilled with clean material to surface grade. All of the excavated material will be transported offsite for proper disposal.

The reserve pit will not be assessed due to potential chlorides present in the closed pit and the assessment would not representative to the impact encountered on the pad. COG request the impact on the reserve pit be closed.

TETRA TECH

The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns for onsite personnel. As such, COG will excavate the impacted soils to the maximum extent practicable.

Conclusion

Upon completion, a final report detailing the remediation activities will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call at (432) 682-4559.

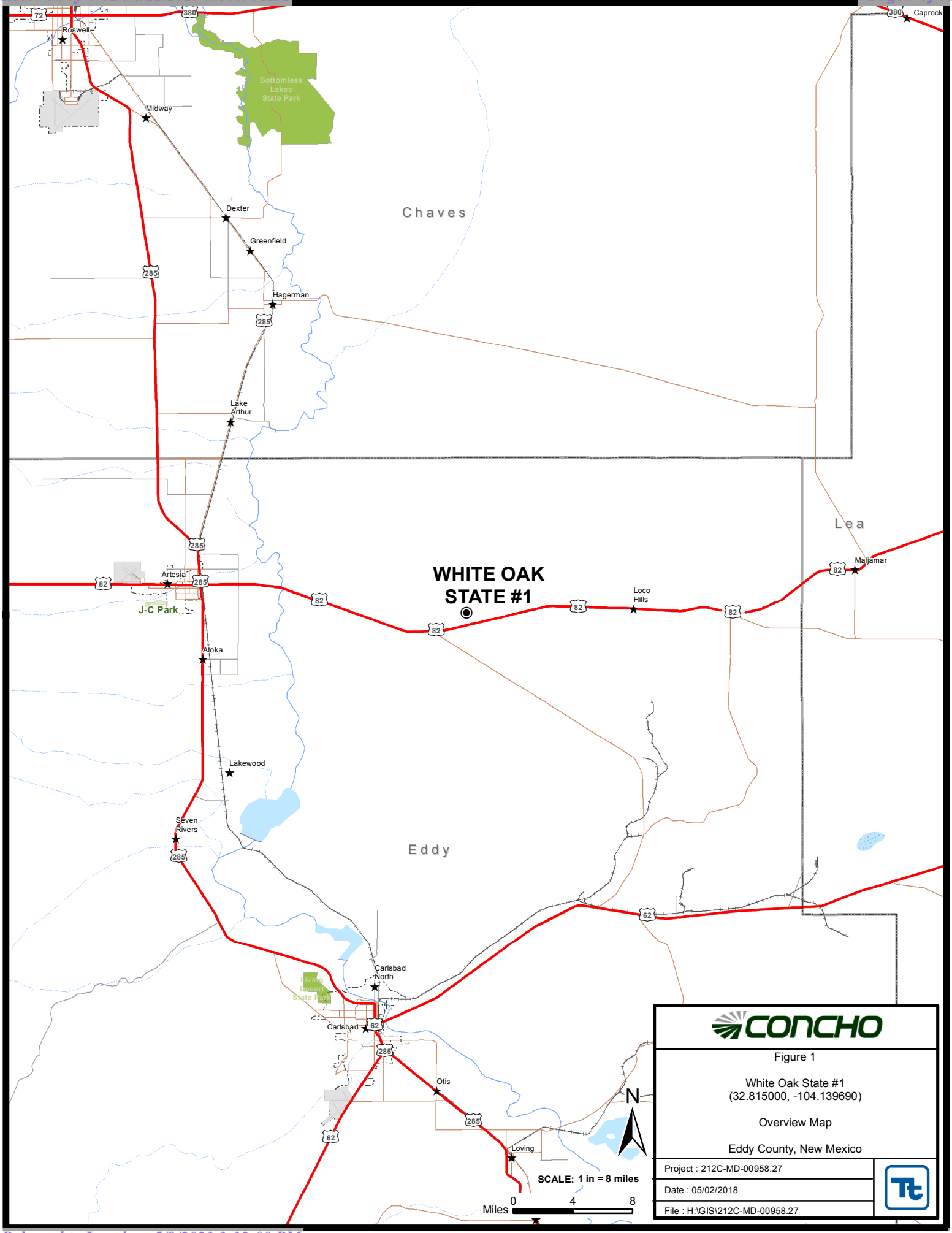
Respectfully submitted,
TETRA TECH

Clair Gonzales,
Project Manager

Ike Tavarez,
Senior Project Manager, P.G.

cc: Crystal Weaver - NMOCD
Robert McNeill – COG
Dakota Neel – COG
Rebecca Haskell – COG

Figures



CONCHO

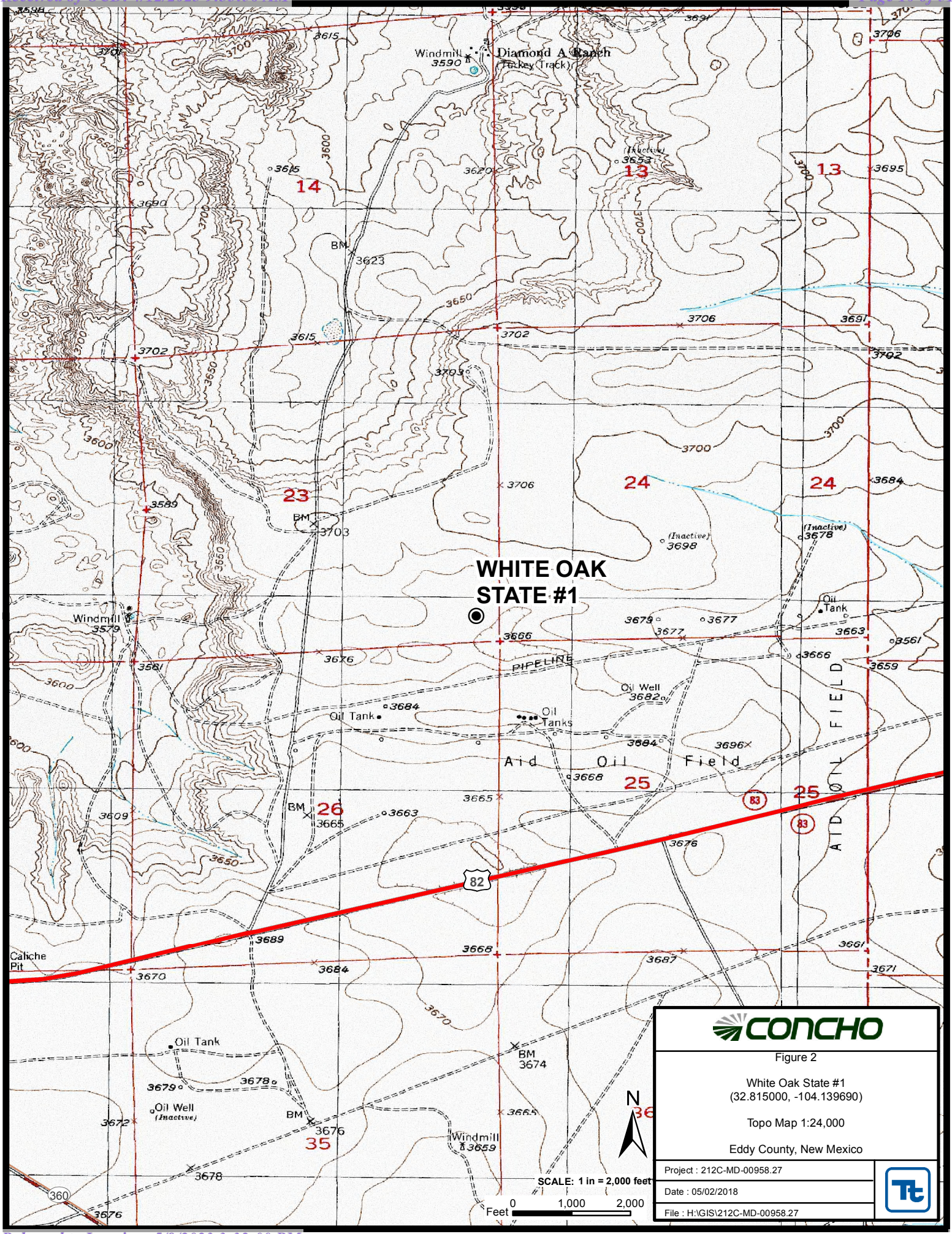
Figure 1

White Oak State #1
(32.815000, -104.139690)

Overview Map

Eddy County, New Mexico

Project : 212C-MD-00958.27	
Date : 05/02/2018	
File : H:\GIS\212C-MD-00958.27	



CONCHO

Figure 2

White Oak State #1
(32.815000, -104.139690)

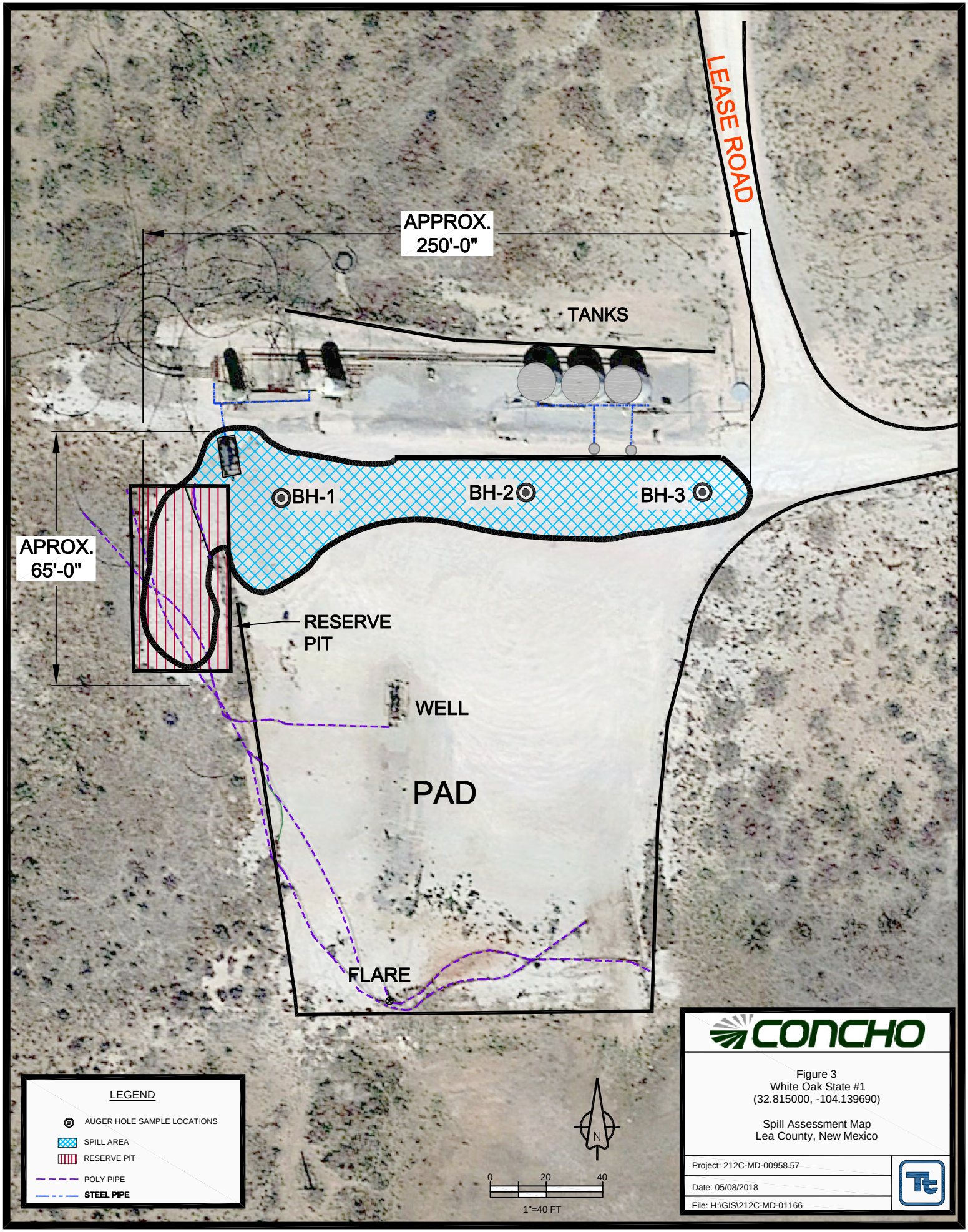
Topo Map 1:24,000

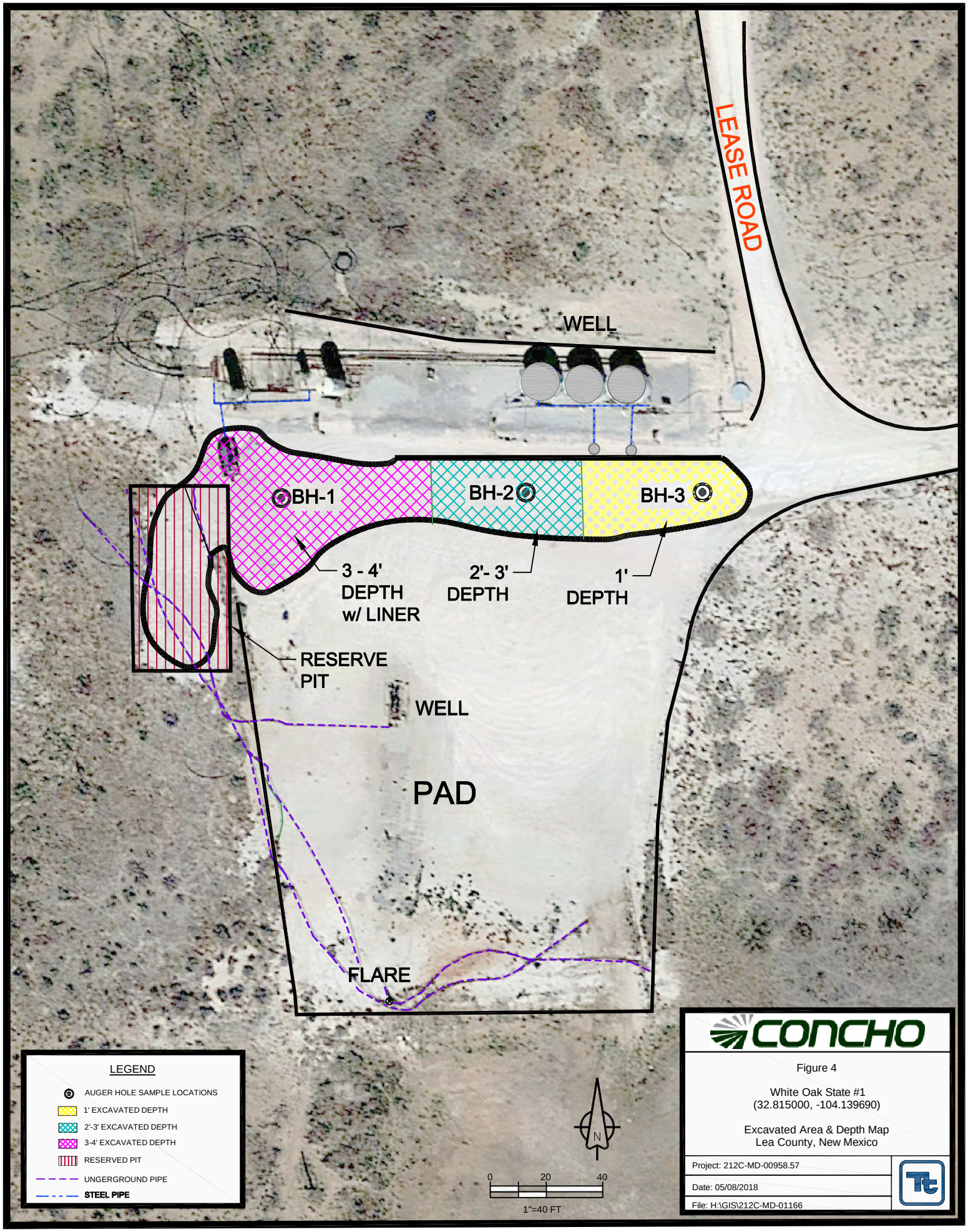
Eddy County, New Mexico

Project : 212C-MD-00958.27

Date : 05/02/2018

File : H:\GIS\212C-MD-00958.27


LEASE ROAD
APPROX.
250'-0"
TANKS
BH-1
BH-2
BH-3
APROX.
65'-0"
RESERVE
PIT
WELL
PAD
FLARE
LEGEND
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
RESERVE PIT
POLY PIPE
STEEL PIPE
N
0
20
40
1"=40 FT
CONCHO
Figure 3
White Oak State #1
(32.815000, -104.139690)
Spill Assessment Map
Lea County, New Mexico
Project: 212C-MD-00958.57
Date: 05/08/2018
File: H:\GIS\212C-MD-01166


LEASE ROAD
WELL
BH-1
BH-2
BH-3
3 - 4'
DEPTH
w/ LINER
2'- 3'
DEPTH
1'
DEPTH
RESERVE
PIT
WELL
PAD
FLARE
LEGEND
AUGER HOLE SAMPLE LOCATIONS
1' EXCAVATED DEPTH
2'-3' EXCAVATED DEPTH
3-4' EXCAVATED DEPTH
RESERVED PIT
UNGERGROUND PIPE
STEEL PIPE
N
0
20
40
1"=40 FT
CONCHO
Figure 4
White Oak State #1
(32.815000, -104.139690)
Excavated Area & Depth Map
Lea County, New Mexico
Project: 212C-MD-00958.57
Date: 05/08/2018
File: H:\GIS\212C-MD-01166

Tables

Table 1
COG Operating LLC.
White Oak State #1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
BH-1	4/23/2018	0-1	X		<25.0	60.4	<5.0	60.4	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**15,600**
	"	2-3	X		<24.9	<24.9	<24.9	<24.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**30,900**
	"	4-5	X		-	-	-	-	-	-	-	-	-	**1,620**
	"	6-7	X		-	-	-	-	-	-	-	-	-	**1,240**
	"	9-10	X		-	-	-	-	-	-	-	-	-	644
	"	14-15	X		-	-	-	-	-	-	-	-	-	244
BH-2	4/23/2018	0-1	X		<25.0	<25.0	<25.0	<25.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**11,200**
	"	2-3	X		<24.9	<24.9	<24.9	<24.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**3,520**
	"	4-5	X		-	-	-	-	-	-	-	-	-	306
	"	6-7	X		-	-	-	-	-	-	-	-	-	182
BH-3	4/23/2018	0-1	X		<25.0	<25.0	<25.0	<25.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**3,170**
	"	2-3	X		<24.9	<24.9	<24.9	<24.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	198
	"	4-5	X		-	-	-	-	-	-	-	-	-	131
	"	6-7	X		-	-	-	-	-	-	-	-	-	75.6

(-) Not Analyzed

Proposed Excavation Depths

Proposed Liner Depth

Photos

COG Operating LLC
White Oak State #1
Eddy County, New Mexico

TETRA TECH

View West – Area of BH-1

View Northeast – Area of BH-2

COG Operating LLC
White Oak State #1
Eddy County, New Mexico

TETRA TECH

View North – Area of BH-3

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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: COG Operating LLC OGRID# [229137]		Contact:	Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701		Telephone No.	432-683-7443
Facility Name: WHITE OAK STATE #001		Facility Type:	Tank Battery
Surface Owner:	Private	Mineral Owner:	API No. 30-015-29749

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	23	17S	28E	330;	South	330'	East	Eddy

Latitude 32.8147278 **Longitude** 104.1394958

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 72.5bbls	Volume Recovered: 70bbls
Source of Release: Hammer Union	Date and Hour of Occurrence: 3/23/2017 10:00 AM	Date and Hour of Discovery: 3/23/2017 10:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver - NMOCD / Ms. Groves - SLO	
By Whom? Robert Grubbs Jr.	Date and Hour: Thu 3/23/2017 2:53 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 hammer union that failed on a 4'' steel line. Replaced the hammer union with a new one.

Describe Area Affected and Cleanup Action Taken.*

This release occurred on the pad and along the edge of location. Concho will have the spill site sampled to delineate any 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: Robert Grubbs Jr.	Approved by Environmental Specialist:	
Title: Senior HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com	Conditions of Approval:	Attached ☐
Date: March 24, 2017 Phone: 432-683-7443		

Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - White Oak State #1
Eddy County, New Mexico

16 South 27 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27 70	26	25
31	32	33	34	35	36

16 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 61	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220 dry	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

17 South 27 East

6	5 30	4	3	2	1
7 14	8	9	10	11 54 50	12
18 111	17 90	16 175	15	14	13
19	20	21	22	23 40	24
30	29	28	27	26	25
31	32 140	33	34	35	36

17 South 28 East

6	5	4	3	2 28	1
7	8	9	10	11	12
18	17	16	15	14 58 80	13
19 224	20	21	22 45 79	23	24
30	29	28	27	26	25
31	32	33	34	35 258	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 76 80	23	24
30	29 210 208	28	27	26	25
31	32	33	34	35 153	36

18 South 27 East

6	5	4	3	2	1
7	8	9	10 50	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30 18	29 17	28 100	27	26	25
31 65	32	33 145	34	35	36

18 South 28 East

6	5	4 108	3	2 55	1
7 49	8 81 69	9	10	11	12
18	17	16	15 80	14	13
19	20	21 226	22	23	24
30 137	29	28	27	26	25
31	32	33	34	35 65	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 95	11	12
18	17	16	15	14	13
19	20	21	22	23	24 158
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

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
RA 12307 POD1			ED	4	2	2	14	17S	28E	580495	3633981	140	58	82

Average Depth to Water: **58 feet**
Minimum Depth: **58 feet**
Maximum Depth: **58 feet**

Record Count: 1

PLSS Search:

Township: 17S **Range:** 28E

National Water Information System: Web Interface

Click to hideNews Bulletins

- **Scheduled maintenance May 8, 2018, starting at 9:00am Eastern.** System maintenance will be performed to migrate time-series applications to another platform. The duration of the outage is not expected to exceed 3 hours. During the maintenance period, some real-time data may fall behind on NWISWeb. Updates will be posted when the planned maintenance has been completed.
  - Please see news on new formats
  - Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

site_no list =

- 324855104093101

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

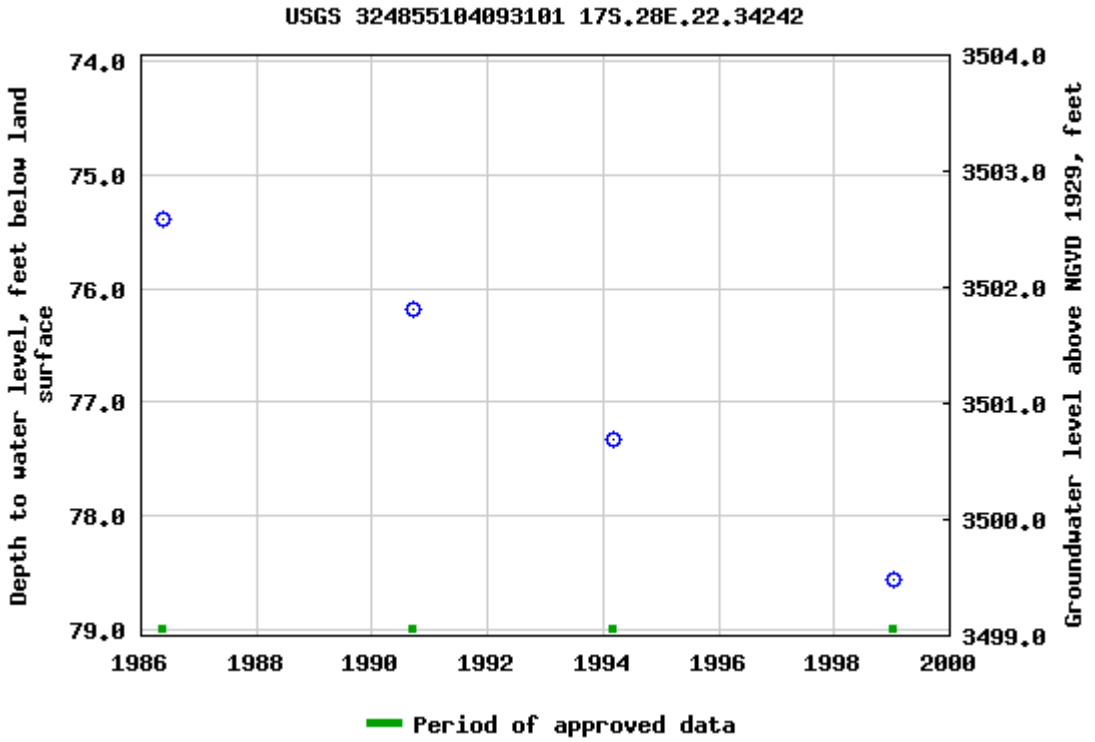
USGS 324855104093101 17S.28E.22.34242

Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°48'55", Longitude 104°09'31" NAD27
Land-surface elevation 3,578 feet above NGVD29
The depth of the well is 95.00 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2018-05-01 10:30:48 EDT
1.06 0.93 nadww01

Appendix D

Analytical Report 583452

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

White Oak State #1-COG

212C-MD-00958 Task #27

30-APR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
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)

30-APR-18

Project Manager: **Ike Tavarez**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **583452**
White Oak State #1-COG
Project Address: Eddy County, New Mexico

Ike Tavarez:

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) 583452. 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. 583452 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,

Mike Kimmel
Client Services Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 583452

Tetra Tech- Midland, Midland, TX

White Oak State #1-COG

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-#1 (0.1')	S	04-23-18 00:00		583452-001
BH-#1 (2.3')	S	04-23-18 00:00		583452-002
BH-#1 (4.5')	S	04-23-18 00:00		583452-003
BH-#1 (6.7')	S	04-23-18 00:00		583452-004
BH-#1 (9.10')	S	04-23-18 00:00		583452-005
BH-#1 (14.15')	S	04-23-18 00:00		583452-006
BH-#2 (0.1')	S	04-23-18 00:00		583452-009
BH-#2 (2.3')	S	04-23-18 00:00		583452-010
BH-#2 (4.5')	S	04-23-18 00:00		583452-011
BH-#2 (6.7')	S	04-23-18 00:00		583452-012
BH-#3 (0.1')	S	04-23-18 00:00		583452-016
BH-#3 (2.3')	S	04-23-18 00:00		583452-017
BH-#3 (4.5')	S	04-23-18 00:00		583452-018
BH-#3 (6.7')	S	04-23-18 00:00		583452-019
BH-#1 (19.20')	S	04-23-18 00:00		Not Analyzed
BH-#1 (24.25')	S	04-23-18 00:00		Not Analyzed
BH-#2 (9.10')	S	04-23-18 00:00		Not Analyzed
BH-#2 (14.15')	S	04-23-18 00:00		Not Analyzed
BH-#2 (19.20')	S	04-23-18 00:00		Not Analyzed
BH-#3 (9.10')	S	04-23-18 00:00		Not Analyzed
BH-#3 (14.15')	S	04-23-18 00:00		Not Analyzed
BH-#3 (19.20')	S	04-23-18 00:00		Not Analyzed

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: White Oak State #1-COG

Project ID: *212C-MD-00958 Task #2*
Work Order Number(s): *583452*

Report Date: *30-APR-18*
Date Received: *04/24/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3047819 BTEX by EPA 8021B

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

Certificate of Analysis Summary 583452

Tetra Tech- Midland, Midland, TX

Project Name: White Oak State #1-COG

Project Id: 212C-MD-00958 Task #27
Contact: Ike Tavarez
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue Apr-24-18 11:38 am
Report Date: 30-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	583452-001		583452-002		583452-003		583452-004		583452-005		583452-006	
	Field Id:	BH-#1 (0.1')		BH-#1 (2.3')		BH-#1 (4.5')		BH-#1 (6.7')		BH-#1 (9.10')		BH-#1 (14.15')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Apr-25-18 13:00		Apr-25-18 13:00									
	Analyzed:	Apr-25-18 18:55		Apr-25-18 19:14									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00200	0.00200	<0.00201	0.00201								
Toluene		<0.00200	0.00200	<0.00201	0.00201								
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201								
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402								
o-Xylene		<0.00200	0.00200	<0.00201	0.00201								
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201								
Total BTEX		<0.00200	0.00200	<0.00201	0.00201								
Inorganic Anions by EPA 300/300.1	***Extracted:***	Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00	
	Analyzed:	Apr-26-18 15:24		Apr-26-18 15:34		Apr-26-18 16:15		Apr-26-18 16:26		Apr-26-18 16:57		Apr-26-18 17:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		15600	245	30900	250	1620	24.6	1240	25.0	644	4.94	270	4.97
TPH by Texas1005	***Extracted:***	Apr-24-18 17:00		Apr-24-18 17:00									
	Analyzed:	Apr-24-18 22:13		Apr-24-18 23:16									
	Units/RL:	mg/kg	RL	mg/kg	RL								
C6-C12 Range Hydrocarbons		<25.0	25.0	<24.9	24.9								
C12-C28 Range Hydrocarbons		60.4	25.0	<24.9	24.9								
C28-C35 Range Hydrocarbons		<25.0	25.0	<24.9	24.9								
Total TPH		60.4	25.0	<24.9	24.9								

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Version: 1.%

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 583452

Tetra Tech- Midland, Midland, TX

Project Name: White Oak State #1-COG

Project Id: 212C-MD-00958 Task #27
Contact: Ike Tavarez
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue Apr-24-18 11:38 am
Report Date: 30-APR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	583452-009		583452-010		583452-011		583452-012		583452-016		583452-017	
	Field Id:	BH-#2 (0.1')		BH-#2 (2.3')		BH-#2 (4.5')		BH-#2 (6.7')		BH-#3 (0.1')		BH-#3 (2.3')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00		Apr-23-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Apr-25-18 13:00		Apr-25-18 13:00						Apr-25-18 13:00		Apr-25-18 13:00	
	Analyzed:	Apr-25-18 19:33		Apr-25-18 19:53						Apr-25-18 20:10		Apr-25-18 20:29	
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199					<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00202	0.00202	<0.00199	0.00199					<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199					<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00404	0.00404	<0.00398	0.00398					<0.00402	0.00402	<0.00399	0.00399
o-Xylene		<0.00202	0.00202	<0.00199	0.00199					<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199					<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00202	0.00202	<0.00199	0.00199					<0.00201	0.00201	<0.00200	0.00200
Inorganic Anions by EPA 300/300.1	***Extracted:***	Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00		Apr-26-18 12:00	
	Analyzed:	Apr-26-18 17:17		Apr-26-18 17:28		Apr-26-18 17:38		Apr-26-18 17:48		Apr-26-18 17:59		Apr-26-18 15:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11200	99.8	3520	25.0	306	4.95	182	4.98	3170	24.7	198	4.97
TPH by Texas1005	***Extracted:***	Apr-24-18 17:00		Apr-24-18 17:00						Apr-24-18 17:00		Apr-24-18 17:00	
	Analyzed:	Apr-24-18 23:38		Apr-24-18 23:59						Apr-25-18 00:20		Apr-25-18 00:42	
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
C6-C12 Range Hydrocarbons		<25.0	25.0	<24.9	24.9					<25.0	25.0	<24.9	24.9
C12-C28 Range Hydrocarbons		<25.0	25.0	<24.9	24.9					<25.0	25.0	<24.9	24.9
C28-C35 Range Hydrocarbons		<25.0	25.0	<24.9	24.9					<25.0	25.0	<24.9	24.9
Total TPH		<25.0	25.0	<24.9	24.9					<25.0	25.0	<24.9	24.9

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Version: 1.%

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 583452

Tetra Tech- Midland, Midland, TX

Project Name: White Oak State #1-COG

Project Id: 212C-MD-00958 Task #27
Contact: Ike Tavarez
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue Apr-24-18 11:38 am
Report Date: 30-APR-18
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	583452-018		583452-019					
	Field Id:	BH-#3 (4.5')		BH-#3 (6.7')					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Apr-23-18 00:00		Apr-23-18 00:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Apr-26-18 16:00		Apr-26-18 16:00					
	Analyzed:	Apr-26-18 19:01		Apr-26-18 19:32					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		131	4.98	75.6	4.97				

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Version: 1.%

Mike Kimmel
Client Services Manager

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

Form 2 - Surrogate Recoveries

Project Name: White Oak State #1-COG

Work Orders : 583452,

Project ID: 212C-MD-00958 Task #27

Lab Batch #: 3047854 **Sample:** 583452-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/24/18 22:13

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	49.5	50.0	99	70-130	
1-Chlorooctane	96.9	99.9	97	70-130	

Lab Batch #: 3047854 **Sample:** 583452-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/24/18 23:16

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	49.6	49.9	99	70-130	
1-Chlorooctane	93.9	99.7	94	70-130	

Lab Batch #: 3047854 **Sample:** 583452-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/24/18 23:38

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	49.7	50.0	99	70-130	
1-Chlorooctane	103	99.9	103	70-130	

Lab Batch #: 3047854 **Sample:** 583452-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/24/18 23:59

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	51.2	49.8	103	70-130	
1-Chlorooctane	100	99.6	100	70-130	

Lab Batch #: 3047854 **Sample:** 583452-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 00:20

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	54.7	49.9	110	70-130	
1-Chlorooctane	106	99.8	106	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: White Oak State #1-COG

Work Orders : 583452,

Project ID: 212C-MD-00958 Task #27

Lab Batch #: 3047854 **Sample:** 583452-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 00:42

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	49.5	49.8	99	70-130	
1-Chlorooctane	95.7	99.6	96	70-130	

Lab Batch #: 3047819 **Sample:** 583452-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 18:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0316	0.0300	105	70-130	

Lab Batch #: 3047819 **Sample:** 583452-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 19:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3047819 **Sample:** 583452-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 19:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0311	0.0300	104	70-130	

Lab Batch #: 3047819 **Sample:** 583452-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 19:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	70-130	
4-Bromofluorobenzene	0.0303	0.0300	101	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: White Oak State #1-COG

Work Orders : 583452,

Project ID: 212C-MD-00958 Task #27

Lab Batch #: 3047819 **Sample:** 583452-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 20:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	70-130	
4-Bromofluorobenzene	0.0285	0.0300	95	70-130	

Lab Batch #: 3047819 **Sample:** 583452-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 20:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	70-130	
4-Bromofluorobenzene	0.0260	0.0300	87	70-130	

Lab Batch #: 3047854 **Sample:** 7643387-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/24/18 21:10

SURROGATE RECOVERY STUDY

TPH by Texas1005

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	50.1	50.0	100	70-130	
1-Chlorooctane	94.0	100	94	70-130	

Lab Batch #: 3047819 **Sample:** 7643373-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/25/18 11:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	70-130	
4-Bromofluorobenzene	0.0231	0.0300	77	70-130	

Lab Batch #: 3047854 **Sample:** 7643387-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/24/18 21:30

SURROGATE RECOVERY STUDY

TPH by Texas1005

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	49.2	50.0	98	70-130	
1-Chlorooctane	103	100	103	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: White Oak State #1-COG

Work Orders : 583452,

Project ID: 212C-MD-00958 Task #27

Lab Batch #: 3047819 **Sample:** 7643373-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/25/18 08:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3047854 **Sample:** 7643387-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/24/18 21:50

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	52.8	50.0	106	70-130	
1-Chlorooctane	112	100	112	70-130	

Lab Batch #: 3047819 **Sample:** 7643373-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/25/18 08:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3047854 **Sample:** 583452-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/24/18 22:34

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	54.5	49.9	109	70-130	
1-Chlorooctane	107	99.8	107	70-130	

Lab Batch #: 3047819 **Sample:** 583516-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 09:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0301	0.0300	100	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: White Oak State #1-COG

Work Orders : 583452,

Project ID: 212C-MD-00958 Task #27

Lab Batch #: 3047854 **Sample:** 583452-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/24/18 22:55

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	55.6	49.9	111	70-130	
1-Chlorooctane	128	99.8	128	70-130	

Lab Batch #: 3047819 **Sample:** 583516-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/25/18 10:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Version: 1.%

BS / BSD Recoveries

Project Name: White Oak State #1-COG

Work Order #: 583452 **Project ID:** 212C-MD-00958 Task #27

Analyst: ALJ **Date Prepared:** 04/25/2018 **Date Analyzed:** 04/25/2018

Lab Batch ID: 3047819 **Sample:** 7643373-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.118	118	0.101	0.115	114	3	70-130	35	
Toluene	<0.00200	0.0998	0.113	113	0.101	0.111	110	2	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.120	120	0.101	0.118	117	2	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.248	124	0.201	0.243	121	2	70-130	35	
o-Xylene	<0.00200	0.0998	0.124	124	0.101	0.120	119	3	70-130	35	

Analyst: SCM **Date Prepared:** 04/26/2018 **Date Analyzed:** 04/26/2018

Lab Batch ID: 3048097 **Sample:** 7643501-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	239	96	250	237	95	1	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

BS / BSD Recoveries

Project Name: White Oak State #1-COG

Work Order #: 583452 **Project ID:** 212C-MD-00958 Task #27

Analyst: SCM **Date Prepared:** 04/26/2018 **Date Analyzed:** 04/26/2018

Lab Batch ID: 3048105 **Sample:** 7643509-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	235	94	250	235	94	0	90-110	20	

Analyst: ARM **Date Prepared:** 04/24/2018 **Date Analyzed:** 04/24/2018

Lab Batch ID: 3047854 **Sample:** 7643387-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by Texas1005 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Range Hydrocarbons	<25.0	1000	935	94	1000	1020	102	9	75-125	20	
C12-C28 Range Hydrocarbons	<25.0	1000	1020	102	1000	1100	110	8	75-125	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: White Oak State #1-COG

Work Order # : 583452 **Project ID:** 212C-MD-00958 Task #27

Lab Batch ID: 3047819 **QC- Sample ID:** 583516-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/25/2018 **Date Prepared:** 04/25/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0933	93	0.101	0.0971	96	4	70-130	35	
Toluene	0.00259	0.100	0.0851	83	0.101	0.0908	87	6	70-130	35	
Ethylbenzene	0.00366	0.100	0.0824	79	0.101	0.0911	87	10	70-130	35	
m,p-Xylenes	0.00920	0.200	0.167	79	0.202	0.187	88	11	70-130	35	
o-Xylene	0.00723	0.100	0.0856	78	0.101	0.0933	85	9	70-130	35	

Lab Batch ID: 3048097 **QC- Sample ID:** 583233-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/26/2018 **Date Prepared:** 04/26/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	31.8	250	257	90	250	255	89	1	90-110	20	X

Lab Batch ID: 3048097 **QC- Sample ID:** 583452-017 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/26/2018 **Date Prepared:** 04/26/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	198	249	440	97	249	440	97	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Oak State #1-COG

Work Order # : 583452 **Project ID:** 212C-MD-00958 Task #27

Lab Batch ID: 3048105 **QC- Sample ID:** 583288-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/26/2018 **Date Prepared:** 04/26/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	25.2	250	247	89	250	247	89	0	90-110	20	X

Lab Batch ID: 3048105 **QC- Sample ID:** 583452-018 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/26/2018 **Date Prepared:** 04/26/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	131	249	375	98	249	373	97	1	90-110	20	

Lab Batch ID: 3047854 **QC- Sample ID:** 583452-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/24/2018 **Date Prepared:** 04/24/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by Texas1005 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Range Hydrocarbons	<25.0	998	967	97	998	961	96	1	75-125	20	
C12-C28 Range Hydrocarbons	60.4	998	1010	95	998	994	94	2	75-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

583452

Page 1 of 3

Tetra Tech, Inc.

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

Client Name: COG	Site Manager: Ike Tavarez
Project Name: White Oak State #1	
Project Location: (county, state) Eddy County, New Mexico	Project #: 212C-MD-00958 Task#27
Invoice to: COG-Becky Haskell	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature: Mike Carmona

Comments: Run deeper samples if TPH exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 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
	BH #1 (0-1')	4/23/2018			X				X			1	N	X		X												X						
	BH #1 (2-3')	4/23/2018			X				X			1	N	X		X												X						
	BH #1 (4-5')	4/23/2018			X				X			1	N															X						
	BH #1 (6-7')	4/23/2018			X				X			1	N															X						
	BH #1 (9-10')	4/23/2018			X				X			1	N															X						
	BH #1 (14-15')	4/23/2018			X				X			1	N															X						
	BH #1 (19-20')	4/23/2018			X				X			1	N																					X
	BH#1 (24-25')	4/23/2018			X				X			1	N																					X
	BH #2 (0-1')	4/23/2018			X				X			1	N	X		X												X						
	BH #2 (2-3')	4/23/2018			X				X			1	N	X		X												X						

Relinquished by: Mike Carmona Date: 4-24-18 Time: 11:38
Received by: [signature] Date: 4/24/18 Time: 1138

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

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

LAB USE ONLY

Sample Temperature

REMARKS:

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

HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Temp: 2.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.4

Analysis Request of Chain of Custody Record

583452

Page 2 of 3

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: White Oak State #1	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-00958 Task#27
Invoice to: COG-Becky Haskell	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona

Comments: Run deeper samples if TPH exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 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	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
	BH #2 (4-5')	4/23/2018			X			X		1	N															X						
	BH #2 (6-7')	4/23/2018			X			X		1	N															X						
	BH #2 (9-10')	4/23/2018			X			X		1	N																					X
	BH #2 (14-15')	4/23/2018			X			X		1	N																					X
	BH #2 (19-20')	4/23/2018			X			X		1	N																					X
	BH #3 (0-1')	4/23/2018			X			X		1	N	X		X												X						
	BH #3 (2-3')	4/23/2018			X			X		1	N	X		X												X						
	BH #3 (4-5')	4/23/2018			X			X		1	N															X						
	BH #3 (6-7')	4/23/2018			X			X		1	N															X						
	BH #3 (9-10')	4/23/2018			X			X		1	N															X						

Relinquished by: Mike Carmona	Date: 4-24-18	Time: 1138	Received by: [signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 4/24/18 Time: 11:38

LAB USE ONLY

Sample Temperature

REMARKS:

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

) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL CO Temp: 2.6 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 2.4

Final 1.000

Analysis Request of Chain of Custody Record

583452

Page 3 of 3

Tetra Tech, Inc.

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

Client Name: COG

Site Manager: Ike Tavarez

Project Name: White Oak State #1

Project Location: (county, state) Eddy County, New Mexico

Project #: 212C-MD-00958 Task#27

Invoice to: COG-Becky Haskell

Receiving Laboratory: Xenco Midland Tx

Sampler Signature: Mike Carmona

Comments: Run deeper samples if TPH exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 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	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
	BH #3 (14-15')	4/23/2018			X			X		1	N																		X
	BH #3 (19-20')	4/23/2018			X			X		1	N																		X

Final 1.000

Hold

Relinquished by: Mike Carmona Date: 4-24-18 Time: 11:38

Received by: [signature] Date: 4/24/18 Time: 11:38

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

[X] STANDARD

[ ] RUSH: Same Day 24 hr 48 hr 72 hr

[ ] Rush Charges Authorized

[ ] Special Report Limits or TRRP Report

DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 2.6 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 2.4

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 04/24/2018 11:38:00 AM

Work Order #: 583452

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)?	2.4
#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: 04/24/2018

Brianna Teel

Checklist reviewed by: Kelsey Brooks Date: 04/30/2018

Kelsey Brooks

APPENDIX II

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

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: COG Operating LLC OGRID# [229137]		Contact:	Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701		Telephone No.	432-683-7443
Facility Name: WHITE OAK STATE #001		Facility Type:	Tank Battery
Surface Owner: State	Mineral Owner:		API No. 30-015-29749

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	23	17S	28E	330;	South	330'	East	Eddy

Latitude 32.8147278 **Longitude** 104.1394958

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 72.5bbls	Volume Recovered: 70bbls
Source of Release: Hammer Union	Date and Hour of Occurrence: 3/23/2017 10:00 AM	Date and Hour of Discovery: 3/23/2017 10:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver - NMOCD / Ms. Groves - SLO	
By Whom? Robert Grubbs Jr.	Date and Hour: Thu 3/23/2017 2:53 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 hammer union that failed on a 4'' steel line. Replaced the hammer union with a new one.

Describe Area Affected and Cleanup Action Taken.*

This release occurred on the pad and along the edge of location. Concho will have the spill site sampled to delineate any 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: Robert Grubbs Jr.	Approved by Environmental Specialist:	
Title: Senior HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com	Conditions of Approval:	Attached ☐
Date: March 24, 2017 Phone: 432-683-7443		

Attach Additional Sheets If Necessary

APPENDIX III

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

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: COG Operating LLC OGRID# [229137]		Contact:	Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701		Telephone No.	432-683-7443
Facility Name: WHITE OAK STATE #001		Facility Type:	Tank Battery
Surface Owner: State	Mineral Owner:		API No. 30-015-29749

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	23	17S	28E	330;	South	330’	East	Eddy

Latitude 32.8147278 **Longitude** 104.1394958

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 72.5bbls	Volume Recovered: 70bbls
Source of Release: Hammer Union	Date and Hour of Occurrence: 3/23/2017 10:00 AM	Date and Hour of Discovery: 3/23/2017 10:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver - NMOCD / Ms. Groves - SLO	
By Whom? Robert Grubbs Jr.	Date and Hour: Thu 3/23/2017 2:53 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 hammer union that failed on a 4’’ steel line. Replaced the hammer union with a new one.

Describe Area Affected and Cleanup Action Taken.*

This release occurred on the pad and along the edge of location. All remedial activities have been completed in accordance with the NMOCD approved workplan.

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: Dakota Neel	OIL CONSERVATION DIVISION
Printed Name: Dakota Neel	Approved by Environmental Specialist: Ashley Maxwell
Title: HSE Coordinator	Approval Date: 05/08/2023 Expiration Date:
E-mail Address: dneel2@concho.com	Conditions of Approval: Attached ☐
Date: February 21, 2019 Phone: 575-746-2010	

* Attach Additional Sheets If Necessary

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 206706

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 206706
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	5/9/2023