TETRA TECH

February 23, 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
Osudo State Com #001
Unit Letter J, Section 18, Township 20 South, Range 36 East
Lea County, New Mexico
Incident ID# nCH1819250370
1RP-5119

Mr. Billings:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips (COP) to assess a Heritage Concho release and subsequent remedial actions taken at the Osudo State Com #001 (API No. 30-025-25143). The release footprint is located in Public Land Survey System (PLSS) Unit Letter J, Section 18, Township 20 South, Range 36 East, in Lea County, New Mexico (Site). The approximate release point occurred at coordinates 32.570761°, -103.390427°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation District (NMOCD) C-141 Initial Report, the release was discovered on July 8, 2018. The C-141 reports that the release was caused by a hole in a tank associated with oil and gas operations at the release site. Approximately 25 barrels (bbls) of crude oil were reported released, of which approximately 3 bbls of oil were recovered. The release stayed within the bermed containment, with no release to pasture. The New Mexico Oil Conservation District (NMOCD) approved the initial C-141 on July 9, 2018 and subsequently assigned the release the Incident ID NCH1819250370 and Remediation Permit 1RP-5119. The initial C-141 form is included in Appendix A.

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.

According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there is one (1) water well within approximately 0.50 miles (800 meters) of the Site with a depth to groundwater of 34 feet below ground surface (bgs). The site characterization data are presented in Appendix B.

Tetra Tech
901 West Wall St., Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

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.

Based on the site characterization, established depth to groundwater, and in accordance with Table I of 19.15.29.12 NMAC, the RRALs for the Site are as follows:

Constituent	RRAL/Reclamation Requirements
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg

SITE ASSESSMENT ACTIVITIES

Following the release, Concho removed the leaking tank from the area and moved the containment immediately east of its former location in order to access the release area for assessment activities. The approximate release extent and former tank location are presented in Figure 3. Figure 4 presents the current conditions at the site. The tank and firewall were relocated just east of the approximate release extent.

Tetra Tech was onsite on January 18, 2022 to conduct additional assessment activities at the Site on behalf of ConocoPhillips. A total of eight (8) borings (BH-1 through BH-8) were installed using an air rotary drill rig to depths ranging from 10 to 50 feet bgs to delineate the release extent and assess soils both vertically and horizontally for environmental impacts from this release.

BH-1 was drilled to a depth of 50 feet bgs within the release extent. The boring log for BH-1 is presented in Appendix C. Vertical delineation was achieved at BH-1. During drilling, a trace of moisture was noted in the samples collected from the 44-45 foot interval, however, the soil sample collected at the 49-50 foot interval was dry. The field screening data collected from the 49-50 foot interval indicated that neither chloride nor TPH would exceed the proposed RRALs for the site. Tetra Tech terminated the boring to avoid encountering groundwater. The borehole was plugged with 3/8-inch chip bentonite. Boring locations are presented in Figure 4.

A total of fifty-two (52) samples were collected from the eight (8) borings and submitted to Cardinal Laboratories in Hobbs, New Mexico to be analyzed for chloride via method SM4500Cl-B, TPH via EPA Method 8015M and BTEX via EPA Method 8261B. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix D.

SUMMARY OF SAMPLING RESULTS

Results from the January 2022 soil sampling events are summarized in Table 1. Analytical results associated with borings BH-1 (39-40 feet bgs and 44-45 feet bgs), BH-2 (6-7 feet bgs, 9-10 feet bgs, and 14-15 feet bgs), BH-6 (34-35 feet bgs), and BH-8 (14-15 feet bgs) exceeded the Site RRAL for chloride (600 mg/kg). Additionally, analytical results associated with boring locations BH-1, BH-2, BH-3, BH-4, and BH-6 exceeded the Site RRAL for TPH (100 mg/kg) at various depth intervals ranging from surface soils at BH-1 and BH-2 to 45 feet bgs at BH-1. There were no analytical results that exceeded the Site RRAL for BTEX (50 mg/kg) or benzene (10 mg/kg).

Vertical delineation for chloride and TPH impacts was achieved in the 49-50 feet bgs sample collected from BH-1. Horizontal delineation was achieved in surface soils at boring locations BH-4 through BH-8, although

analytical samples associated with deeper soils had chloride and TPH concentrations that exceeded the Site RRALs at boring locations BH-4, BH-6, and BH-8.

REMEDIATION WORK PLAN

Based on the analytical results from the assessment, ConocoPhillips proposes to remove the impacted source material within the release extent as shown in Figure 5. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 4 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the reclamation requirements or the Site RRALs. Heavy equipment will come no more than 3 feet from any pressurized lines. Impacted soils within the vicinity of the surface and subsurface lines which intersect the release footprint will be dug by hand to the maximum extent practicable.

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 analytical 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 140 cubic yards.

Given the NMOSE groundwater data, the release assessment results, and the presence of moist soils encountered in boring BH-1, ConocoPhillips and Tetra Tech reasonably anticipate groundwater impacts at the release Site. Following the excavation of the contaminated source material, ConocoPhillips proposes to submit a permit request to NMOSE to install a temporary groundwater well at the Site to investigate potential groundwater impacts. If groundwater contamination is confirmed with laboratory analytical data, a separate abatement plan will be prepared and submitted to NMOCD in accordance with 19.15.30 NMAC. As there is a reasonable assumption that the depth to protectable water is 50 feet or less, ConocoPhillips anticipates the need for at least one groundwater monitoring well to be installed in the former tank footprint (area of likely maximum contamination). Groundwater samples, if any, will be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, and major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese.

VARIANCE REQUEST

In accordance with 19.15.29.14(A) NMAC, ConocoPhillips requests a variance for the remediation of the historical release area should excavation floor concentrations below 4 feet bgs exceed 600 mg/kg for chlorides or 100 mg/kg for TPH. The historical release extent was delineated horizontally and vertically, as detailed above. A 20-mil reinforced polyethylene liner will be installed and properly seated at a depth of 4 feet within the excavated areas associated with the historical impacts. The liner will provide an engineered barrier that will inhibit the downward migration of residual constituents to groundwater. If impacted groundwater is discovered as a result of the proposed groundwater assessment activities, any need for further soil remediation will be evaluated at that time.

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. Three (3) confirmation floor samples and ten (10) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 1,000 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 (Method 300.0 or Method SM4500Cl-B). Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade.

SITE RECLAMATION AND RESTORATION PLAN

Post-remediation, the backfilled areas in pasture will be seeded (in the next first favorable growing season) to aid in revegetation. Based on the soils at the site, the New Mexico State Land Office (NMSLO) Deep Sand (DS) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (PLS) per acre. The seed mixture will be spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

Site inspections will be performed to assess the revegetation progress and evaluate the site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be contacted to determine an effective method for eradication. If the site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix E. Final reclamation will create a landform that approximates and blends in with the surrounding landform, while controlling erosion.

CONCLUSION

ConocoPhillips proposes 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) 739-7874 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. Ike Tavarez, RMR – ConocoPhillips
Mr. Ryan Mann – NMSLO

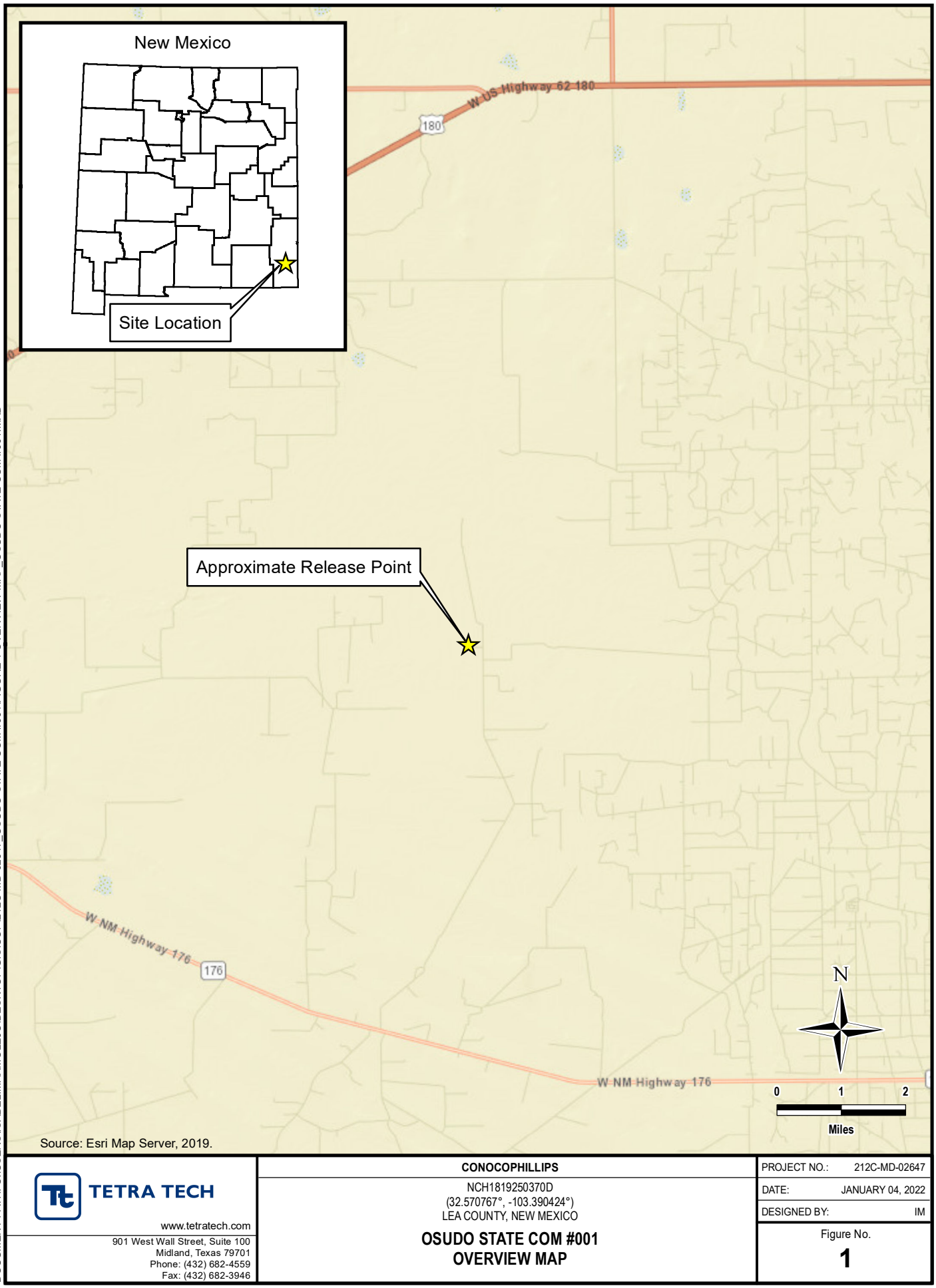
LIST OF ATTACHMENTS

Figures:

Tables:

Appendices:

FIGURES



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\COP\212C-MD-02647_OSUDO STATE COM #001\FIGURE 1 OVERVIEW MAP_OSUDO STATE COM #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

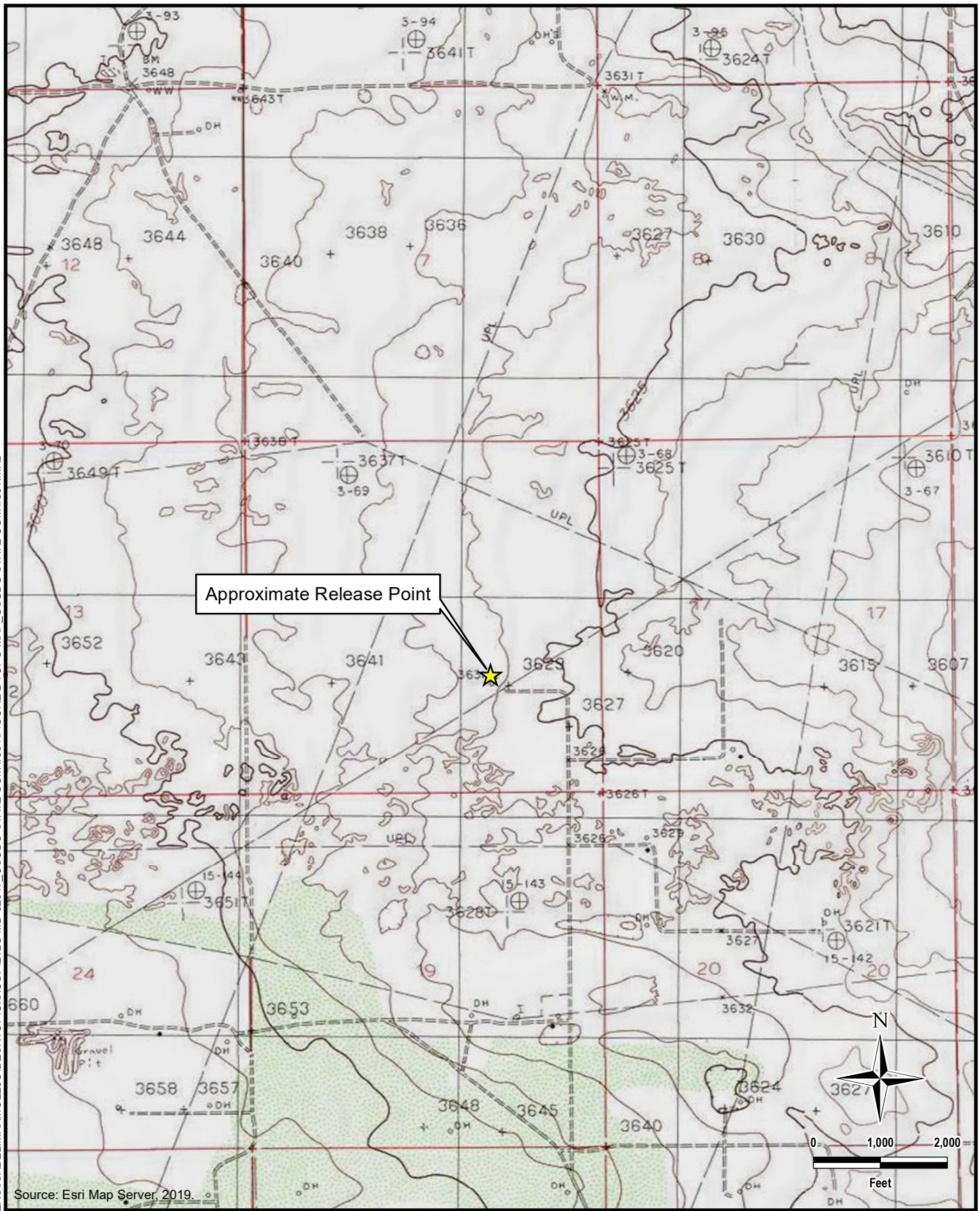
CONOCOPHILLIPS

NCH1819250370D
(32.570767°, -103.390424°)
LEA COUNTY, NEW MEXICO

OSUDO STATE COM #001
OVERVIEW MAP

PROJECT NO.:	212C-MD-02647
DATE:	JANUARY 04, 2022
DESIGNED BY:	IM

Figure No.
1



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\COP\212C-MD-02647_OSUDO STATE COM #001\FIGURE 2 TOPO MAP_OSUDO STATE COM #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS

NCH1819250370D
(32.570767°, -103.390424°)
LEA COUNTY, NEW MEXICO

OSUDO STATE COM #001
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02634
DATE:	JANUARY 04, 2022
DESIGNED BY:	IM

Figure No.
2

DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILIPS\212C-MD-02647_OSUDO STATE COM #001\FIGURE 3 APPROX RELEASE EXTENT_OSUDO STATE COM #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

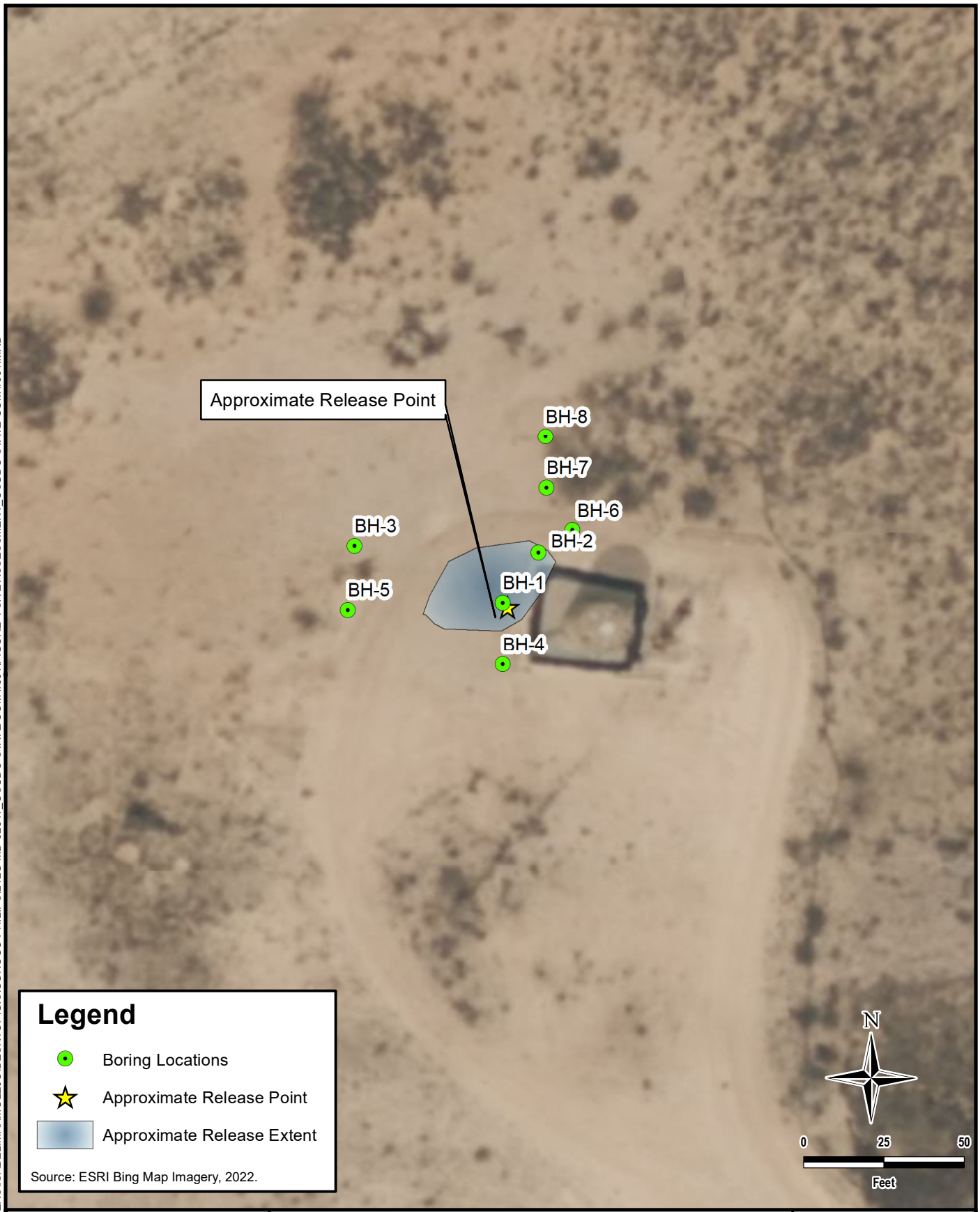
CONOCOPHILLIPS

NCH1819250370D
(32.570767°, -103.390424°)
LEA COUNTY, NEW MEXICO

OSUDO STATE COM #001
APPROXIMATE RELEASE EXTENT MAP

PROJECT NO.:	212C-MD-02634
DATE:	FEBRUARY 11, 2022
DESIGNED BY:	IM

Figure No.
3



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILIPS\212C-MD-02647_OSUDO STATE COM #001\FIGURE 4 SITE ASSESSMENT_OSUDO STATE COM #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

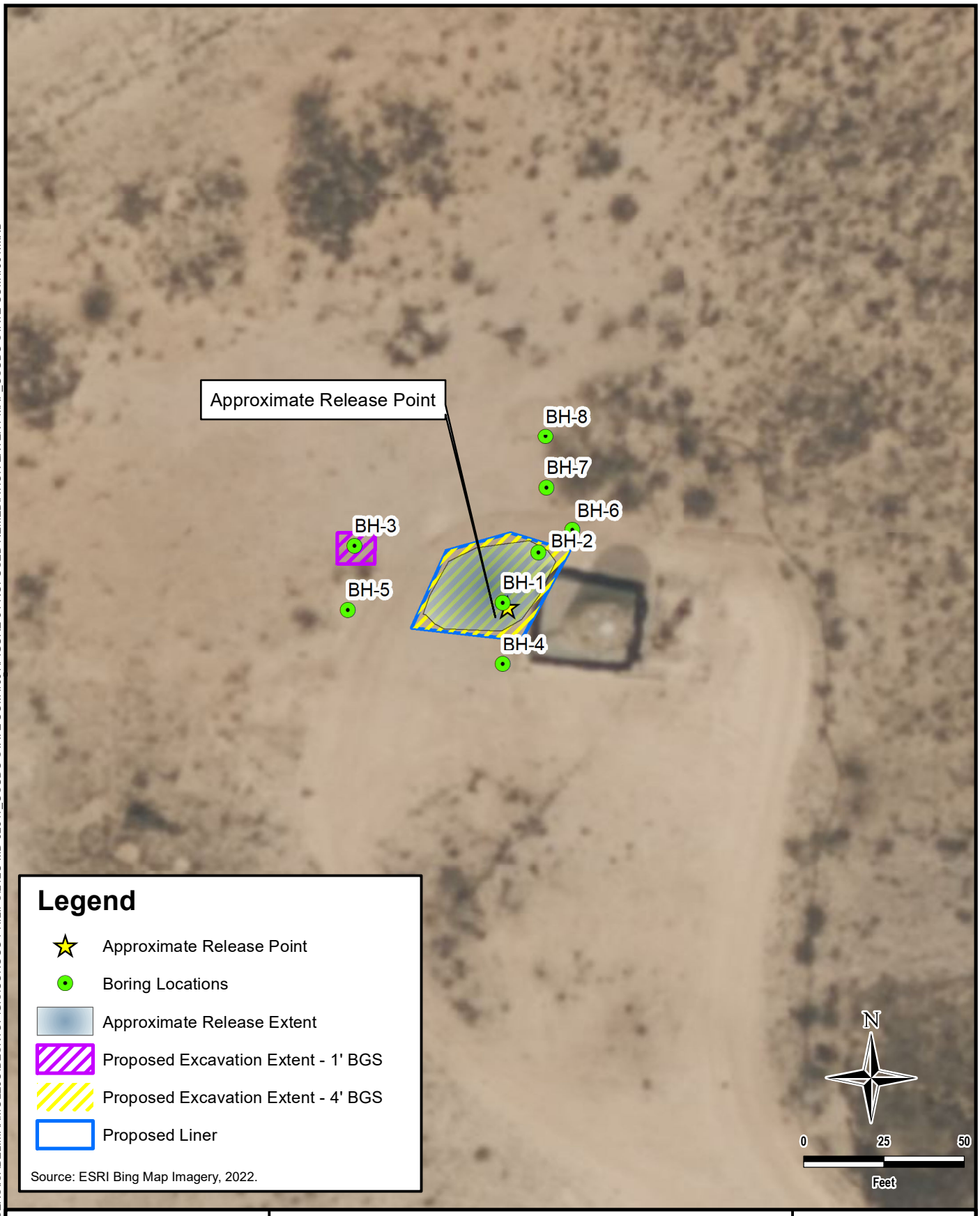
CONOCOPHILLIPS

NCH1819250370D
(32.570767°, -103.390424°)
LEA COUNTY, NEW MEXICO

OSUDO STATE COM #001
SITE ASSESSMENT MAP

PROJECT NO.:	212C-MD-02634
DATE:	FEBRUARY 21, 2022
DESIGNED BY:	IM

Figure No.
4



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILIPS\212C-MD-02647_OSUDO STATE COM #001\FIGURE 5 PROPOSED REMEDIATION EXTENT MAP_OSUDO STATE COM #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

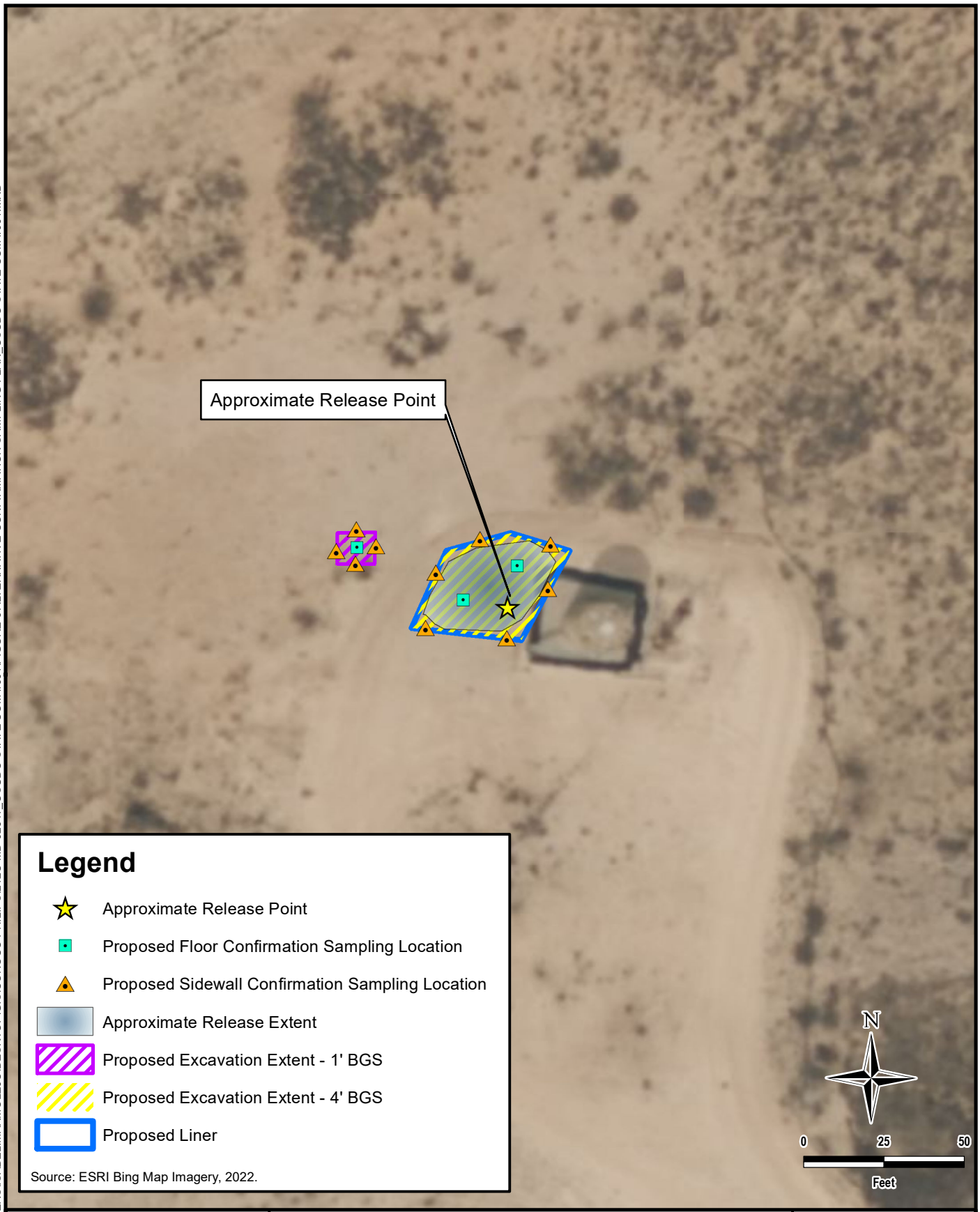
CONOCOPHILLIPS

NCH1819250370D
(32.570767°, -103.390424°)
LEA COUNTY, NEW MEXICO

OSUDO STATE COM #001
PROPOSED REMEDIATION EXTENT MAP

PROJECT NO.:	212C-MD-02634
DATE:	FEBRUARY 21, 2022
DESIGNED BY:	IM

Figure No.
5



DOCUMENT PATH: C:\USERS\ISABEL.MARMOLEJO\DESKTOP\GIS\CONOCO PHILIPS\212C-MD-02647_OSUDO STATE COM #001\FIGURE 6 ALTERNATIVE CONFIRMATION SAMPLING PLAN_OSUDO STATE COM #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS

NCH1819250370D
(32.570767°, -103.390424°)
LEA COUNTY, NEW MEXICO

OSUDO STATE COM #001
ALTERNATIVE CONFIRMATION SAMPLING PLAN MAP

PROJECT NO.:	212C-MD-02634
DATE:	FEBRUARY 21, 2022
DESIGNED BY:	IM

Figure No.
6

TABLE

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT- 1RP-5119 / NCH1819250370
HERITAGE CONCHO
OSUDO STATE COM #001 TB RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]										TPH[3]						
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
															C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{36}		(GRO+DRO+EXT DRO)
		ft. bgs	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	1/18/2022	0-1	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		300		< 10.0		***300***
		2-3	80.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		116		< 10.0		***116***
		4-5	128		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		14.6		< 10.0		14.6
		6-7	112		< 0.050		< 0.050	GC-NC	0.336	GC-NC1	2.93	GC-NC1	3.27	GC-NC1	54.2		590		< 10.0		***644***
		9-10	112		< 0.050		< 0.050	GC-NC	0.290	GC-NC1	3.27	GC-NC1	3.56	GC-NC1	31.3		422		< 10.0		***453***
		14-15	48.0		< 0.050		0.627	GC-NC1	2.91	GC-NC1	21.7	GC-NC1	25.2	GC-NC1	160		816		< 10.0		***976***
		19-20	208		< 0.200		1.01	GC-NC1	3.52	GC-NC1	32.0	GC-NC1	36.5	GC-NC1	221		1,090		< 10.0		***1,311***
		24-25	192		< 0.050		0.160	GC-NC1	0.564	GC-NC1	6.43	GC-NC1	7.15	GC-NC1	74.7		500		< 10.0		***575***
		29-30	128		< 0.050		0.419	GC-NC1	1.29	GC-NC1	12.1	GC-NC1	13.8	GC-NC1	176		857		< 10.0		***1,033***
		34-35	352		< 0.050		0.067	GC-N1, QM-07	0.649	GC-NC1	5.27	GC-NC1	5.98	GC-NC1	219		932		< 10.0		***1,151***
		39-40	***608***		< 0.200		0.598	GC-NC1	1.77	GC-NC1	19.5	GC-NC1	21.8	GC-NC1	264		1,530		< 10.0		***1,794***
		44-45	***1,220***		< 0.200		1.19	GC-NC1	2.71	GC-NC1	31.2	GC-NC1	35.1	GC-NC1	355		1,870		< 10.0		***2,225***
		49-50	288		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		76.3		< 10.0		76.3
BH-2	1/18/2022	0-1	80.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		231	QM-07	< 10.0		***231***
		2-3	304		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		149		< 10.0		***149***
		4-5	416		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		112		< 10.0		***122***
		6-7	***816***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		136		< 10.0		***136***
		9-10	***1,100***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		51.1		< 10.0		51.1
		14-15	***704***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		61.2		< 10.0		61.2
BH-3	1/18/2022	0-1	80.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		107		< 10.0		***107***
		2-3	32.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		14.3		< 10.0		14.3
		4-5	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		6-7	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		9-10	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		14-15	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		19-20	512		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
BH-4	1/18/2022	0-1	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		2-3	96.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		4-5	144		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		6-7	240		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		144		< 10.0		***144***
		9-10	272		< 0.050		< 0.050		< 0.050		1.08	GC-NC1	1.08	GC-NC1	55.4		1,070		12.9		***1,138***
		14-15	272		< 0.200		1.10	GC-NC1	2.65	GC-NC1	28.8	GC-NC1	32.6	GC-NC1	654		2,980		36.4		***3,670***
		19-20	304		< 0.050		0.312	GC-NC1	1.53	GC-N1, QM-07	14.1	GC-N1, QM-07	15.9	GC-NC1	481		2,840		32.8		***3,354***
BH-5	1/18/2022	0-1	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		2-3	96.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		4-5	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		6-7	32.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		9-10	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		31.2		< 10.0		31.2
		14-15	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		19-20	112		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT- 1RP-5119 / NCH1819250370
HERITAGE CONCHO
OSUDO STATE COM #001 TB RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]										TPH[3]						
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
															C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{36}		(GRO+DRO+EXT DRO)
		ft. bgs	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-6	1/18/2022	0-1	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		55.8		< 10.0		55.8
		2-3	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		23.0		< 10.0		23.0
		4-5	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		19.4		< 10.0		19.4
		14-15	144		< 0.050		< 0.050		0.364	GC-NC1	0.268	GC-NC1	0.633	GC-NC1	52.0		524		< 10.0		***576***
		34-35	***8,320***		< 0.050		< 0.050		0.072	GC-NC1	< 0.150		< 0.300		36.4		640		< 10.0		***676***
BH-7	1/18/2022	0-1	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		4-5	144		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		96.2		< 10.0		96.2
		9-10	240		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
BH-8	1/18/2022	0-1	144		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		16.7		< 10.0		16.7
		4-5	208		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		9-10	224		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		14-15	***1,150***		< 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 (600 mg/kg Chlorides; 100 mg/kg TPH)

Shaded rows indicate intervals proposed for excavation

QUALIFIERS:

GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.

GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.

QM-07 The spike recovery was outside acceptance limits for the MS and MS/MSD. The batch was accepted based on acceptable LCS recovery.

APPENDIX A
C-141 Forms

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 April 3, 2017

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: **Osudo State Com #001**	Facility Type: Tank Battery

Surface Owner: Private	Mineral Owner: State	API No. 30-025-25143

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	18	20S	36E	1,650	South	1,650	East	Lea

Latitude 32.5704575 **Longitude** -103.3904495 NAD83

NATURE OF RELEASE

Type of Release Oil	Volume of Release 25 bbl.	Volume Recovered 3 bbl.
Source of Release Hole in tank	Date and Hour of Occurrence July 8, 2018 10:00am	Date and Hour of Discovery July 8, 2018 10:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu – NMOCD Christina Hernandez – NMOCD Ryan Mann – SLO	
By Whom? DeAnn Grant	Date and Hour July 9, 2018 8:33am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By CHernandez at 1:04 pm, Jul 11, 2018

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a hole in the tank. The hole is being repaired.

Describe Area Affected and Cleanup Action Taken.*

The release was on location. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to 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: DeAnn Grant	OIL CONSERVATION DIVISION
Printed Name: DeAnn Grant	Approved by Environmental Specialist: CH
Title: HSE Administrative Assistant	Approval Date: 7/11/2018 Expiration Date:
E-mail Address: agrant@concho.com	Conditions of Approval: See attached directive Attached ☑
Date: July 9, 2018 Phone: (432) 253-4513	

* Attach Additional Sheets If Necessary

1RP-5119 pCH1819250851
nCH1819250370D

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:__ _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Bradford Billings Date: _____

APPENDIX B
Site Characterization Data

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	Distance	Depth Well	Depth Water	Water Column
L 02420		L	LE	4	1		18	20S	36E	650577	3605304*	710	80	34	46

Average Depth to Water: **34 feet**

Minimum Depth: **34 feet**

Maximum Depth: **34 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 651090 **Northing (Y):** 3604812 **Radius:** 800

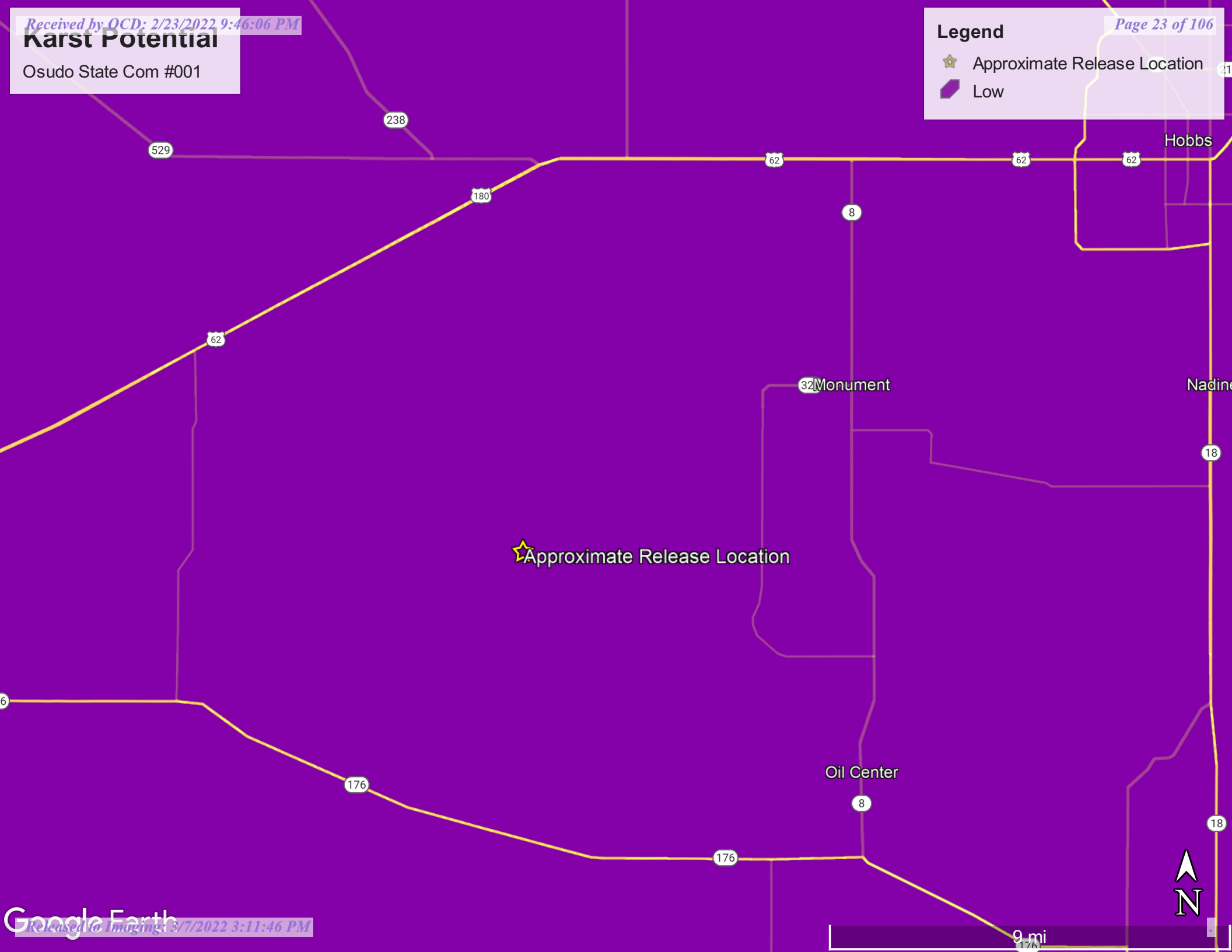
***UTM location was derived from PLSS - see Help**

12/27/21 10:33 AM

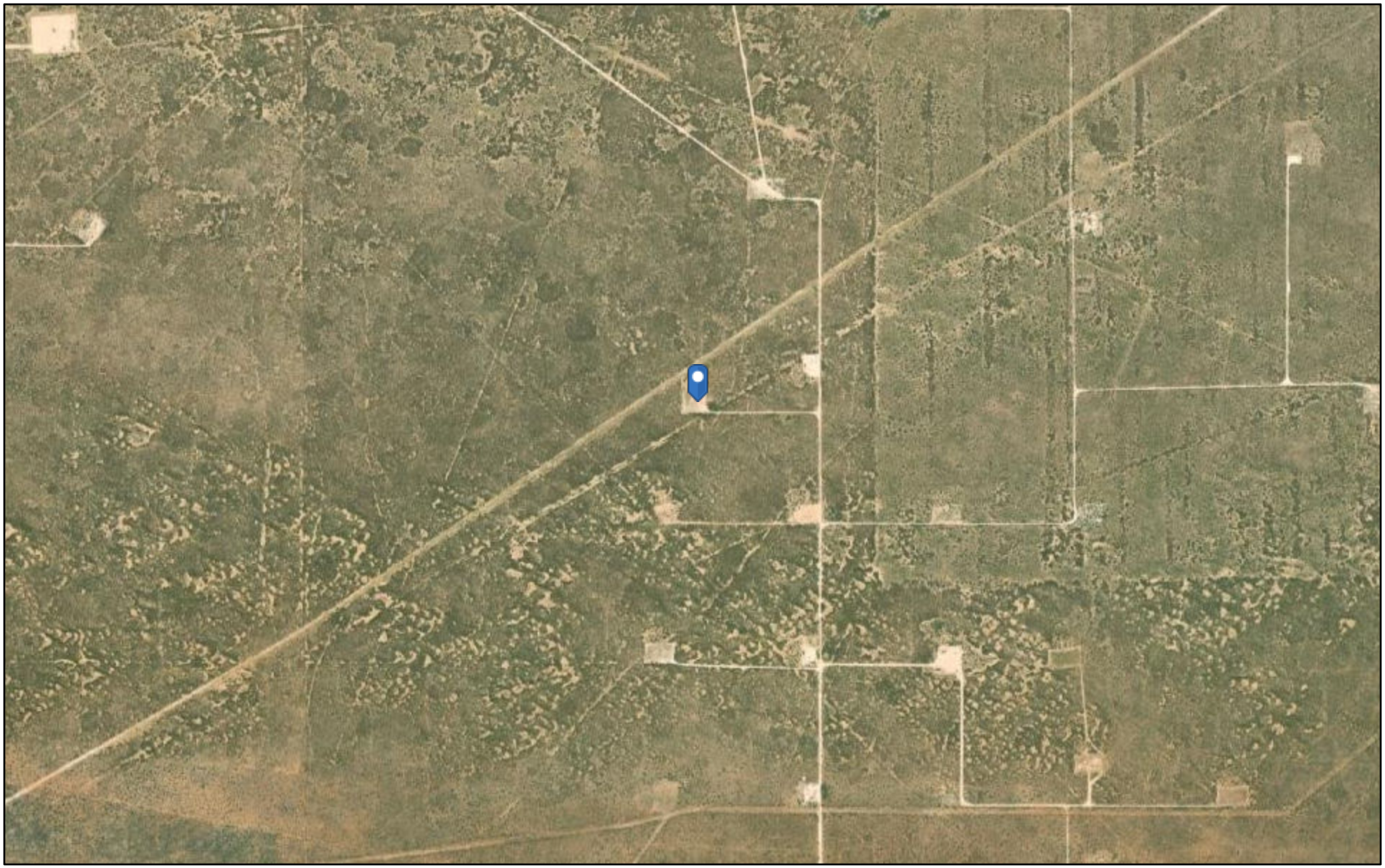
WATER COLUMN/ AVERAGE DEPTH TO WATER

Karst Potential

Osudo State Com #001



OCD Water Bodies



12/27/2021, 11:26:31 AM

OCD District Offices

OSE Water-bodies

PLJV Probable Playas

OSE Streams

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

OCD, Maxar

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

APPENDIX C
Soil Boring Logs

212C-MD-02647 | TETRA TECH

LOG OF BORING BH-1

Page 1 of 1

Project Name: Osudo State Com #001

Borehole Location: GPS: 32.570786°, -103.390472° | Surface Elevation: 3635 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 8 in. | Date Started: 1/18/2022 | Date Finished: 1/18/2022

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
0												**-SM-** SILTY SAND, red, loose, dry, fine grained, faint staining, faint hydrocarbons odor	2	
5												**-SM-** SILTY SAND, grey, loose, dry, fine grained, heavy staining, heavy hydrocarbons odor		
				245										
10														
15				179										
20														
25				218										
30														
35				375										
40				228									39	
												-SC- CLAYEY SAND, red, dense, dry, with Clay pockets, faint hydrocarbons odor	44	
45				400								**-SC-** CLAYEY SAND, red, dense, moist, with Clay pockets, faint hydrocarbons odor	49	
50				50								**-CL-** LEAN CLAY, red, hard, dry	50	

Bottom of borehole at 50.0 feet.

Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:

Logger: Adrian Garcia | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

APPENDIX D
Laboratory Analytical Data

CARDINAL Laboratories

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

January 26, 2022

SAM ABBOTT

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: OSUDO STATE COM #001 TB RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 01/21/22 13:10.

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.

Cardinal Laboratories is accreditated 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,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (0' - 1') (H220246-01)

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	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	<0.050	0.050	01/24/2022	ND	2.06	103	2.00	0.219	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.09	104	2.00	0.160	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.34	106	6.00	0.319	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**48.0**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**300**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *89.7 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *91.7 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (2' - 3') (H220246-02)

BTEX 8021B mg/kg Analyzed By: MS/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	<0.050	0.050	01/24/2022	ND	2.06	103	2.00	0.219	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.09	104	2.00	0.160	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.34	106	6.00	0.319	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.7 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**116**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *86.5 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *82.4 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (4' - 5') (H220246-03)

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	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	<0.050	0.050	01/24/2022	ND	2.06	103	2.00	0.219	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.09	104	2.00	0.160	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.34	106	6.00	0.319	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.5 %* *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	**128**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**14.6**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *92.1 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *81.8 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (6' - 7') (H220246-04)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	<0.050	0.050	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC
Ethylbenzene*	**0.336**	0.050	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**2.93**	0.150	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**3.27**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *271 %* *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	**112**	16.0	01/23/2022	ND	432	108	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*	**54.2**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**590**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *110 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *87.4 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (9' - 10') (H220246-05)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	<0.050	0.050	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC
Ethylbenzene*	**0.290**	0.050	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**3.27**	0.150	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**3.56**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *217 %* *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	**112**	16.0	01/23/2022	ND	432	108	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*	**31.3**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**422**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *115 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *92.6 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (14' - 15') (H220246-06)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	**0.627**	0.050	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC1
Ethylbenzene*	**2.91**	0.050	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**21.7**	0.150	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**25.2**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *337 %* *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	**48.0**	16.0	01/23/2022	ND	432	108	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*	**160**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**816**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *134 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *86.9 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (19' - 20') (H220246-07)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	**1.01**	0.200	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC1
Ethylbenzene*	**3.52**	0.200	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**32.0**	0.600	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**36.5**	1.20	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *187 %* *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	**208**	16.0	01/23/2022	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**221**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**1090**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *163 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *89.1 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (24' - 25') (H220246-08)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	**0.160**	0.050	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC1
Ethylbenzene*	**0.564**	0.050	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**6.43**	0.150	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**7.15**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *196 %* *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	**192**	16.0	01/23/2022	ND	432	108	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*	**74.7**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**500**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *121 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *84.8 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (29' - 30') (H220246-09)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	**0.419**	0.050	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC1
Ethylbenzene*	**1.29**	0.050	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**12.1**	0.150	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**13.8**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *245 %* *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	**128**	16.0	01/23/2022	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**176**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**857**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *146 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *87.6 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (39' - 40') (H220246-10)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	**0.598**	0.200	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC1
Ethylbenzene*	**1.77**	0.200	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**19.5**	0.600	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**21.8**	1.20	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *158 %* *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	**608**	16.0	01/23/2022	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**264**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**1530**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *158 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *89.3 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (44' - 45') (H220246-11)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	01/24/2022	ND	2.16	108	2.00	0.717	
Toluene*	**1.19**	0.200	01/24/2022	ND	2.06	103	2.00	0.219	GC-NC1
Ethylbenzene*	**2.71**	0.200	01/24/2022	ND	2.09	104	2.00	0.160	GC-NC1
Total Xylenes*	**31.2**	0.600	01/24/2022	ND	6.34	106	6.00	0.319	GC-NC1
Total BTEX	**35.1**	1.20	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *181 %* *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	**1220**	16.0	01/23/2022	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**355**	10.0	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**1870**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *264 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *89.9 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (49' - 50') (H220246-12)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *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	**288**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	201	101	200	3.20	
DRO >C10-C28*	**76.3**	10.0	01/24/2022	ND	192	95.8	200	3.19	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *94.0 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *81.9 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 2 (0' - 1') (H220246-13)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	01/23/2022	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**231**	10.0	01/24/2022	ND	190	94.8	200	4.97	QM-07
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *90.4 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *147 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 2 (2' - 3') (H220246-14)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**304**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**149**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *85.2 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *139 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 2 (4' - 5') (H220246-15)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *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	**416**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**112**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *87.1 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *104 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 2 (6' - 7') (H220246-16)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**816**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**136**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *85.8 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *114 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 2 (9' - 10') (H220246-17)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**1100**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**51.1**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *84.7 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *99.4 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 2 (14' - 15') (H220246-18)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**704**	16.0	01/23/2022	ND	432	108	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	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**61.2**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *86.3 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *94.0 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 3 (0' - 1') (H220246-19)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**107**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *86.4 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *91.3 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 3 (2' - 3') (H220246-20)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**32.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**14.3**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *79.0 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *83.1 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 3 (4' - 5') (H220246-21)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	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	**48.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *89.7 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *92.2 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 3 (6' - 7') (H220246-22)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**48.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *89.4 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *92.3 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 3 (9' - 10') (H220246-23)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.8 %* *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	**48.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *79.1 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *79.5 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 3 (14' - 15') (H220246-24)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**48.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *86.7 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *86.2 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 3 (19' - 20') (H220246-25)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**512**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *77.2 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *77.6 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 4 (0' - 1') (H220246-26)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *88.4 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *88.1 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 4 (2' - 3') (H220246-27)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**96.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *88.5 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *88.1 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 4 (4' - 5') (H220246-28)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	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	**144**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *86.7 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *86.2 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 4 (6' - 7') (H220246-29)

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	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.27	104	6.00	3.70	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *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	**240**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**144**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *91.8 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *94.0 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 4 (9' - 10') (H220246-30)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	<0.050	0.050	01/24/2022	ND	2.08	104	2.00	3.77	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.07	104	2.00	4.05	
Total Xylenes*	**1.08**	0.150	01/24/2022	ND	6.27	104	6.00	3.70	GC-NC1
Total BTEX	**1.08**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *172 %* *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	**272**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**55.4**	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**1070**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	**12.9**	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *132 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *123 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 4 (14' - 15') (H220246-31)

BTEX 8021B mg/kg Analyzed By: MS/ S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	01/24/2022	ND	2.15	108	2.00	4.07	
Toluene*	**1.10**	0.200	01/24/2022	ND	2.08	104	2.00	3.77	GC-NC1
Ethylbenzene*	**2.65**	0.200	01/24/2022	ND	2.07	104	2.00	4.05	GC-NC1
Total Xylenes*	**28.8**	0.600	01/24/2022	ND	6.27	104	6.00	3.70	GC-NC1
Total BTEX	**32.6**	1.20	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *184 %* *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	**272**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**654**	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**2980**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	**36.4**	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *374 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *176 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 4 (19' - 20') (H220246-32)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	**0.312**	0.050	01/24/2022	ND	2.15	107	2.00	0.733	GC-NC1
Ethylbenzene*	**1.53**	0.050	01/24/2022	ND	2.05	102	2.00	2.20	GC-NC1, QM-07
Total Xylenes*	**14.1**	0.150	01/24/2022	ND	6.45	108	6.00	2.07	GC-NC1, QM-07
Total BTEX	**15.9**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *179 %* *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	**304**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**481**	10.0	01/24/2022	ND	198	99.1	200	5.93	
DRO >C10-C28*	**2840**	10.0	01/24/2022	ND	190	94.8	200	4.97	
EXT DRO >C28-C36	**32.8**	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *335 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *228 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 5 (0' - 1') (H220246-33)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *94.6 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *98.7 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 5 (2' - 3') (H220246-34)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *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	**96.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *105 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *109 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 5 (4' - 5') (H220246-35)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *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	**16.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *102 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *107 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 5 (6' - 7') (H220246-36)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**32.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *107 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *112 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 5 (9' - 10') (H220246-37)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/23/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**31.2**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *101 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *106 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 5 (14' - 15') (H220246-38)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	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	**48.0**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *95.8 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *100 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 5 (19' - 20') (H220246-39)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	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	**112**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *103 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *109 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 6 (0' - 1') (H220246-40)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *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	**48.0**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**55.8**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *106 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *111 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 6 (2' - 3') (H220246-41)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	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	**64.0**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**23.0**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *112 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *115 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 6 (4' - 5') (H220246-42)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**64.0**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**19.4**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *115 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *116 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 6 (14' - 15') (H220246-43)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	**0.364**	0.050	01/24/2022	ND	2.05	102	2.00	2.20	GC-NC1
Total Xylenes*	**0.268**	0.150	01/24/2022	ND	6.45	108	6.00	2.07	GC-NC1
Total BTEX	**0.633**	0.300	01/24/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *166 %* *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	**144**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**52.0**	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**524**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *140 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *115 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 6 (34' - 35') (H220246-44)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	**0.072**	0.050	01/24/2022	ND	2.05	102	2.00	2.20	GC-NC1
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *119 %* *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	**8320**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**36.4**	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**640**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *137 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *116 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 7 (0' - 1') (H220246-45)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**64.0**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *109 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *111 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 7 (4' - 5') (H220246-46)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**144**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**96.2**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *104 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *110 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 7 (9' - 10') (H220246-47)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	**240**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *103 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *104 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 8 (0' - 1') (H220246-48)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	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	**144**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/24/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**16.7**	10.0	01/24/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/24/2022	ND					

Surrogate: 1-Chlorooctane *108 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *109 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 8 (4' - 5') (H220246-49)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	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	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/25/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/25/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/25/2022	ND					

Surrogate: 1-Chlorooctane *113 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *115 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 8 (9' - 10') (H220246-50)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	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	**224**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/25/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/25/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/25/2022	ND					

Surrogate: 1-Chlorooctane *101 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *99.8 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 8 (14' - 15') (H220246-51)

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	01/24/2022	ND	2.01	100	2.00	1.17	
Toluene*	<0.050	0.050	01/24/2022	ND	2.15	107	2.00	0.733	
Ethylbenzene*	<0.050	0.050	01/24/2022	ND	2.05	102	2.00	2.20	
Total Xylenes*	<0.150	0.150	01/24/2022	ND	6.45	108	6.00	2.07	
Total BTEX	<0.300	0.300	01/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**1150**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/25/2022	ND	216	108	200	4.62	
DRO >C10-C28*	<10.0	10.0	01/25/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/25/2022	ND					

Surrogate: 1-Chlorooctane *102 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *101 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/21/2022	Sampling Date:	01/18/2022
Reported:	01/26/2022	Sampling Type:	Soil
Project Name:	OSUDO STATE COM #001 TB RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02647	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: BH 1 (34' - 35') (H220246-52)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/25/2022	ND	2.01	101	2.00	0.475	
Toluene*	**0.067**	0.050	01/25/2022	ND	2.16	108	2.00	0.437	GC-NC1, QM-07
Ethylbenzene*	**0.649**	0.050	01/25/2022	ND	2.01	101	2.00	1.37	GC-NC1
Total Xylenes*	**5.27**	0.150	01/25/2022	ND	6.25	104	6.00	1.37	GC-NC1
Total BTEX	**5.98**	0.300	01/25/2022	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *253 %* *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	**352**	16.0	01/24/2022	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**219**	10.0	01/25/2022	ND	216	108	200	4.62	
DRO >C10-C28*	**932**	10.0	01/25/2022	ND	203	102	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	01/25/2022	ND					

Surrogate: 1-Chlorooctane *209 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *115 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Sam Abbott
Project Name:	Osudo State Com #001 TB Release	**Contact Info:**	Email: sam.abbott@tetratech.com Phone: (512) 739-7874
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02647
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Cardinal Labs	**Sampler Signature:**	Adrian Garcia

Comments: COPTETRA Acctnum

H220240

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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 300.0 / Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
1	BH 1 (0'-1')	01/18/22	800		X			X		1	N	X		X												X				
2	BH 1 (2'-3')	01/18/22	830		X			X		1	N	X		X												X				
3	BH 1 (4'-5')	01/18/22	900		X			X		1	N	X		X												X				
4	BH 1 (6'-7')	01/18/22	930		X			X		1	N	X		X												X				
5	BH 1 (9'-10')	01/18/22	1000		X			X		1	N	X		X												X				
6	BH 1 (14'-15')	01/18/22	1030		X			X		1	N	X		X												X				
7	BH 1 (19'-20')	01/18/22	1100		X			X		1	N	X		X												X				
8	BH 1 (24'-25')	01/18/22	1130		X			X		1	N	X		X												X				
9	BH 1 (29-30')	01/18/22	1200		X			X		1	N	X		X												X				
10	BH 1 (39'-40')	01/18/22	1230		X			X		1	N	X		X												X				

ANALYSIS REQUEST (Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Adrian Garcia	1/21/22	1305	Tamara Oldaker	1-21-22	1310
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

ORIGINAL COPY

LAB USE ONLY

Sample Temperature
3.7°
C-0.5°
3.2° #113

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Sam Abbott
Project Name:	Osudo State Com #001 TB Release	**Contact Info:**	Email: sam.abbott@tetratech.com Phone: (512) 739-7874
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02647
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Cardinal Labs	**Sampler Signature:**	Adrian Garcia
Comments:	COPTETRA Acctnum		

H220240

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: NONE	# CONTAINERS	FILTERED (Y/N)
		YEAR: 2022									
11	BH 1 (44'-45')	01/18/22	800		X			X		1	N
12	BH 1 (49'-50')	01/18/22	830		X			X		1	N
13	BH 2 (0'-1')	01/18/22	900		X			X		1	N
14	BH 2 (2'-3')	01/18/22	930		X			X		1	N
15	BH 2 (4'-5')	01/18/22	1000		X			X		1	N
16	BH 2 (6'-7')	01/18/22	1030		X			X		1	N
17	BH 2 (9'-10')	01/18/22	1100		X			X		1	N
18	BH 2 (14'-15')	01/18/22	1130		X			X		1	N
19	BH 3 (0-1')	01/18/22	1200		X			X		1	N
20	BH 3 (2-3')	01/18/22	1230		X			X		1	N

ANALYSIS REQUEST (Circle or Specify Method No.)

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 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Adrian Garcia	1/21/22	1305	Tamara Baker	1-21-22	1310
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

ORIGINAL COPY

LAB USE ONLY

Sample Temperature
3.7°
C-0.5°
3.2° #113

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Sam Abbott
Project Name:	Osudo State Com #001 TB Release	**Contact Info:**	Email: sam.abbott@tetratech.com Phone: (512) 739-7874
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02647
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Cardinal Labs	**Sampler Signature:**	Adrian Garcia
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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 300.0 Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
H220446																														
21	BH 3 (4'-5')	01/18/22	800		X			X		1	N	X		X												X				
22	BH 3 (6'-7')	01/18/22	830		X			X		1	N	X		X												X				
23	BH 3 (9'-10')	01/18/22	900		X			X		1	N	X		X												X				
24	BH 3 (14'-15')	01/18/22	930		X			X		1	N	X		X												X				
25	BH 3 (19'-20')	01/18/22	1000		X			X		1	N	X		X												X				
26	BH 4 (0'-1')	01/18/22	1030		X			X		1	N	X		X												X				
27	BH 4 (2'-3')	01/18/22	1100		X			X		1	N	X		X												X				
28	BH 4 (4'-5')	01/18/22	1130		X			X		1	N	X		X												X				
29	BH 4 (6-7')	01/18/22	1200		X			X		1	N	X		X												X				
30	BH 4 (9'-10')	01/18/22	1230		X			X		1	N	X		X												X				

Relinquished by: Adrian Garcia	Date: 1/21/22	Time: 1305	Received by: Samara Oldaker
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 1-21-22 Time: 1310
Date: Time:
Date: Time:

LAB USE ONLY

Sample Temperature
3.7°c
C-0.5°c
3.2°c #113

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Sam Abbott
Project Name:	Osudo State Com #001 TB Release	**Contact Info:**	Email: sam.abbott@tetratech.com Phone: (512) 739-7874
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02647
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Cardinal Labs	**Sampler Signature:**	Adrian Garcia
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
H220240		YEAR: 2022																													
31	BH 4 (14'-15')	01/18/22	800		X			X		1	N	X		X												X					
32	BH 4 (19'-20')	01/18/22	830		X			X		1	N	X		X												X					
33	BH 5 (0'-1')	01/18/22	900		X			X		1	N	X		X												X					
34	BH 5 (2'-3')	01/18/22	930		X			X		1	N	X		X												X					
35	BH 5 (4'-5')	01/18/22	1000		X			X		1	N	X		X												X					
36	BH 5 (6-7')	01/18/22	1030		X			X		1	N	X		X												X					
37	BH 5 (9'-10')	01/18/22	1100		X			X		1	N	X		X												X					
38	BH 5 (14'-15')	01/18/22	1130		X			X		1	N	X		X												X					
39	BH 5 (19'-20')	01/18/22	1200		X			X		1	N	X		X												X					
40	BH 6 (0'-1')	01/18/22	1230		X			X		1	N	X		X												X					

Relinquished by:	Date:	Time:	Received by:	Date: Time:
Adrian Garcia	1/21/22	1305	Tamara Oldaker	1-21-22 1310
Relinquished by:	Date:	Time:	Received by:	Date: Time:
Relinquished by:	Date:	Time:	Received by:	Date: Time:

LAB USE ONLY

Sample Temperature
3.7°
C-0.5°
3.2° #113

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Sam Abbott
Project Name:	Osudo State Com #001 TB Release	**Contact Info:**	Email: sam.abbott@tetratech.com Phone: (512) 739-7874
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02647
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Cardinal Labs	**Sampler Signature:**	Adrian Garcia
Comments:	COPTETRA Acctnum		

H220244

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING 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 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R		HOLD
41	BH 6 (2'-3')	01/18/22	800		X			X		1	N	X		X												X						
42	BH 6 (4-5')	01/18/22	830		X			X		1	N	X		X												X						
43	BH 6 (14'-15')	01/18/22	900		X			X		1	N	X		X												X						
44	BH 6 (34'-35')	01/18/22	930		X			X		1	N	X		X												X						
45	BH 7 (0'-1')	01/18/22	1000		X			X		1	N	X		X												X						
46	BH 7 (4-5')	01/18/22	1030		X			X		1	N	X		X												X						
47	BH 7 (9'-10')	01/18/22	1100		X			X		1	N	X		X												X						
48	BH 8 (0'-1')	01/18/22	1130		X			X		1	N	X		X												X						
49	BH 8 (4-5')	01/18/22	1200		X			X		1	N	X		X												X						
50	BH 8 (9'-10')	01/18/22	1230		X			X		1	N	X		X												X						

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Adrian Garcia	1/21/22	1305	Tamara Oldham	1-21-22	1310
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature
3.7°C
-0.5°C
3.2°C #113

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Conoco Phillips	**Site Manager:**	Sam Abbott
Project Name:	Osudo State Com #001 TB Release	**Contact Info:**	Email: sam.abbott@tetratech.com Phone: (512) 739-7874
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-02647
Invoice to:	Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701		
Receiving Laboratory:	Cardinal Labs	**Sampler Signature:**	Adrian Garcia
Comments:	COPTETRA Acctnum		

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION		SAMPLING 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 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
H222246				YEAR: 2022																												
51	BH 8	(14'-15')	01/18/22	800		X			X		1	N	X		X											X					
52	BH 1	(34'-35')	1/18/22			X			X		1	N	X		X											X					

Relinquished by: Adrian Garcia	Date: 1/21/22	Time: 1305	Received by: Tamara Oldaker	Date: 1-21-22	Time: 1305
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

ORIGINAL COPY

LAB USE ONLY

Sample Temperature
3.7°C
C-0.5°C
3.2°C #13

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

APPENDIX E
NMSLO Seed Mix Details

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lea County, New Mexico

January 16, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 18, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PU	Pyote and Maljamar fine sands	0.5	100.0%
Totals for Area of Interest		**0.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lea County, New Mexico

PU—Pyote and Maljamar fine sands

Map Unit Setting

National map unit symbol: dmqq
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Pyote and similar soils: 46 percent
Maljamar and similar soils: 44 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pyote

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 30 inches: fine sand
Bt - 30 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Description of Maljamar

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 24 inches: fine sand
Bt - 24 to 50 inches: sandy clay loam
Bkm - 50 to 60 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 40 to 60 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 10 percent
Ecological site: R042XC022NM - Sandhills
Hydric soil rating: No

1 REVEGETATION PLANS

The following Revegetation Plans were developed for revegetation of sites in southeastern New Mexico. To determine which revegetation plan is appropriate follow procedures in the section titled Determining the Revegetation Plan.

Revegetation Plans contain seed mixtures, as well as seed bed preparation and planting requirements. The detailed instructions for seedbed preparation and planting can be found in the section Revegetation Techniques.

Table 3 - Revegetation Plans, Codes, and Soil Types for Southeastern New Mexico

REVEGTATION PLANS	CODE	SOIL TEXTURES
Clay	C	Clay, Silty Clay, Stony Silty Clay, Clay Loam, Silty Clay Loam (including saline and sodic Clay soils)
Loam	L	Silty Loam, Cobbly Silt Loam, Stony Silt Loam, Silt, Loam, Sandy, Clay Loam
Sandy Loam	SL	Very Fine Sandy Loam, Fine Sandy Loam, Cobbly Fine Sandy Loam, Sandy Loam, Cobbly Sandy Loam, Gravelly Fine Sandy Loam, Very Gravelly Fine Sand Loam, Stony Fine Sandy Loam, Stony Sandy Loam
Shallow	SH	Rocky Loam, Cobbly Loam
Course	CS	Gravelly Loam, very Gravelly Loam, Gravelly Sandy Loam, Very Gravelly Sandy Loam, Stony Loam, Stony Sandy Loam
Sandy	S	Loamy Fine Sand, Loam Sand, Very Gravelly Loamy Fine Sand
Blow Sand	BS	Fine Sand, Sand, Coarse Sand
Mountain Meadow	MM	Clay, Loam
Mountain Upland	MU	Clay Loam, Loam

NMSLO Seed Mix Deep Sand (DS)

1.1 BLOW SAND SITES REVEGETATION PLAN (BS)

Use this Revegetation Plan with the following ESD's:
CP2 – Sandy Plains, Sandhills, Deep Sand, Shallow Plains
HP3 – Loamy Sand, Sandy Plains, Sandhills, Deep Sand
SD3 – Loamy Sand, Deep Sand, Sandhills, Salt Meadow

Soil Texture: Fine Sand, Sand, Course Sand

Revegetation Procedures:

I. **For flat or gently sloping areas with slopes less than or equal to 3H:1V:**
1. **Soil Amendments:** Apply composted manure or similar at the rate of 30.0 air dry tons/acre.
2. **Fertilize:** Type 2
3. **Mulch** – Grass Hay mulch applied at 2.0 tons/acre
4. **Prepare the seedbed and incorporate mulch, fertilizer, and soil amendments**:
    a. Scarify
    b. Disc (thoroughly mix mulch, fertilizer, and soil amendments in top 6-8 inches of soil before proceeding).
5. **Drill Seed** – use rangeland drill and apply Drill box seed to 0.5-0.75 inch depth, apply small seed to surface and lightly cover with drag chains or packer wheels or equal.
6. **Mulch** – Grass Hay mulch applied at 2.0 tons/acre
7. **Crimp**
8. **Tackify** – tackify to minimize risk of mulch blowing and to hold soil and mulch in place until vegetation begins to establish.
9. **Wind Fence** – Install wind fence.

NMSLO Seed Mix Deep Sand (DS)

DEEP SAND (DS) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sand bluestem	**Elida, VNS, So.**	**4.0**	**F**
Sideoats grama	**Vaughn, El Reno**	**4.0**	**F**
Little bluestem	**Cimarron, Pastura**	**3.0**	**F**
Plains bristlegrass	**VNS, Southern**	**1.0**	**D**
Sand dropseed	**VNS, Southern**	**2.0**	**S**
Blue grama	**Lovington**	**1.0**	**D**
Forbs:			
Firewheel (Gaillardia)	**VNS, Southern**	**1.0**	**D**
Anuual Sunflower	**VNS, Southern**	**0.5**	**D**
Prairie Conflower	**VNS, Southern**	**0.5**	**D**
	Total PLS/acre	**17**	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box
VNS = Variety Not Stated, PLS = Pure Live Seed

- Seed mixes should be provided in bags separating seed types into the three categories: small (S), standard (D) and fluffy (F).
- VNS, Southern – Seed should be from a southern latitude collection of this species.
- Double seed application rate for broadcast or hydroseeding.
- If one species is not available, contact the SLO for an approved substitute; alternatively the SLO may require other species proportionately increased.
- Additional information on these seed species can be found on the USDA Plants Database website at http://plants.usda.gov.

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 83846

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 83846
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	500 sq/ft confirm samples is a maximum. Agree with need of a monitor well (temp at first), to be completed with data in an agree location with OCD, at same time as soil remediation. 120 days from 3/7/22 is allocated to finish work on approval.	3/7/2022