



August 22, 2023

Robert Hamlet
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 8824

**Re: REVISED
Work Plan Addendum
ConocoPhillips
Heritage Concho
Way South State Com 1H Tank Battery
Unit Letter A, Section 30, Township 26 South, Range 28 East
Eddy County, New Mexico
Incident ID# NRM2008650013**

Mr. Hamlet:

Tetra Tech, Inc. (Tetra Tech) was contracted by ConocoPhillips to evaluate a release that ensued from a site glass failure at a free water knockout (FWKO) at the tank battery. The release footprint is located in Public Land Survey System (PLSS) Unit Letter A, Section 30, Township 26 South, Range 28 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.018720°, -104.119516°, as shown on **Figures 1 and 2**.

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report (Appendix A), the release was discovered on December 25, 2019. The release was caused by a site glass failure on a free water knockout (FWKO). All of the fluids were contained inside the unlined facility firewall. Approximately four (4) barrels of crude oil and six (6) barrels of produced water were released. A vacuum truck was dispatched immediately to remove all freestanding fluids. COG recovered three (3) barrels of crude oil and 5 barrels of produced water. The New Mexico Oil Conservation Division (NMOCD) received the initial C-141 on January 9, 2020. The NMOCD Incident ID for this release is NRM2008650013.

PREVIOUS DOCUMENT SUBMITTALS

An original Work Plan associated with the incident was submitted to NMOCD by COG via email and marked received on September 26, 2020. The WP was denied by NMOCD via email on March 8, 2021. An Addendum Work Plan was then submitted to NMOCD by COG via email. The Addendum Work Plan was rejected by NMOCD on April 18, 2023, for the following reasons:

- *The Remediation Plan Addendum is Denied. Please, make sure a C-141 page 5 "Remediation Plan" page is signed and filled out at time of submission.*
- *This release is within a 100-year floodplain and high karst area and will need to be remediated to the strictest closure criteria from Table 1 of the OCD Spill Rule. Samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. The temporary monitoring well installation will allow COG to verify that there is no groundwater impact. The boring should be drilled safely and*

Tetra Tech

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

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com

purged. A groundwater sample should include general chemistry including major cations and anions.

- *Please keep the OCD up to date on the groundwater sample results. An additional meeting may be necessary in the future to discuss the results. The work will need to occur in 90 days after the work plan has been reviewed.*

CURRENT DOCUMENT OBJECTIVES

This REVISED Work Plan Addendum is intended to document ConocoPhillips' compliance with individual requests made by NMOCD regarding this Site, including both Bradford Billings and Jocelyn Harimon, in various methods of correspondence. This document was drafted in response to their review of Addendum Work Plan (dated April 15, 2021), and, based on calls and the most recent rejection of said Addendum Work Plan to include a complete signed C-141 (including the page 5 Remediation Plan) as requested by NMOCD. The C-141 is included as **Appendix A**. Associated regulatory correspondence is found in **Appendix B**. Shallow groundwater is present beneath the Site, as demonstrated below. The activities proposed in this REVISED Work Plan Addendum require considerable coordination with several regulatory entities, including the Environmental Compliance Office (ECO) Surface Resources Division of the New Mexico State Land Office (NMSLO); the Oil, Gas and Minerals Division of NMSLO (for MW Easement Application, Right of Entry Permit, and soil borings); and the New Mexico Office of the State Engineer (for WD-07 and WD-08 permits).

LAND OWNERSHIP

The Site is located on land managed by the New Mexico State Land Office (SLO). An archaeological survey within the surrounding pasture area was conducted by a licensed firm on April 17, 2023 in accordance with the Cultural Properties Protection (CPP) Rule. The report was submitted to the SLO, and the SLO cleared the Site for right of entry and soil borings following a review of the survey. Associated correspondence regarding the archaeological survey is found in **Appendix C**.

SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, or subsurface mines are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). However, there are two OSE stream bodies within 300 feet of the lateral extents of the release and the Site is located in a FEMA Zone A floodplain. The Site is also in an area of high karst potential.

Previous Site characterization information can be found in the initial Work Plan and Addendum Work Plan. The previous Work Plan and Addendum provided groundwater data. Groundwater is encountered at shallow depths in this area, less than 50 feet bgs. Boring BH-1 (2) summarized in the Addendum Work Plan (#1), indicated groundwater as encountered at a depth of 20 feet. The site characterization data is included in **Appendix D**.

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.

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ConocoPhillips

Based on the site characterization (high karst and shallow groundwater) and in accordance with Table I of 19.15.29.12 NMAC, the current RRALs for the Site are as follows:

Constituent	RRAL
Chloride	600 mg/kg
TPH (GRO+DRO+ORO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

Additionally, in accordance with the NMOCD guidance *Procedures for Implementation of the Spill Rule (19.15.29 NMAC)* (September 6, 2019), the following reclamation requirements for surface soils (0-4 ft bgs) outside of active oil and gas operations are as follows:

Constituent	Reclamation Requirements
Chloride	600 mg/kg
TPH (GRO+DRO+ORO)	100 mg/kg

Recent correspondence and additional sampling events may necessitate discussion regarding the current action levels for this incident. Heavy rain fell over southeastern New Mexico during 2013 and 2014, especially in the Loving and Malaga areas. Stream flow occurs in the major drainage (Owl Draw) during times of heavy rain. Extreme variability in the rainfall created flash flooding which affected significant portions of the drainage areas surrounding the Site. Several adjacent batteries and lease pads were damaged by the flooding events, as evidenced in historical imagery.

As described below, previous background soil borings associated with this Site indicated chloride concentrations, both in shallow and deeper soils, which exceeded the remediation and reclamation requirements listed above. It is conceivable that impact from damaged facilities upstream may have contributed to these chloride concentrations. After the additional data collection proposed in the vicinity of the Site, the current site characterization will be evaluated. After review of the collected data, ConocoPhillips will coordinate with NMOCD to determine whether revised action levels are warranted at the Site and will discuss the means to establish and determine those levels in subsequent reporting.

INITIAL SITE ASSESSMENT ACTIVITIES AND RESULTS

The release area footprint occurred around the heater treater, horizontal FWKO's and multiple steel surface lines. The reported impacted area measured approximately 25' x 60' inside the facility walls. COG initially assessed the impacts at the Site with a Geoprobe (direct push) drilling rig on April 7, 2020 (BH-1). Assessment activities and a description of the site are documented in the initial rejected COG Work Plan (dated September 23, 2020). The rejected Work Plan also proposed additional evaluation within the facility firewalls to determine access; background trenches to evaluate chloride; and a follow up Work Plan or Deferral.

Results from the April 2020 soil sampling event are summarized in **Table 1**. Analytical results associated with boring location BH-1 exceeded the proposed Site RRALs for chloride in soils. All other analytical results from the April 2020 sampling event were below Site RRALs for TPH and BTEX. A copy of the laboratory analytical report and chain-of-custody documentation are included in **Appendix E**. Vertical delineation was not achieved during the sampling event due to auger refusal at 7' bgs.

An Addendum Work Plan (dated April 15, 2021) was drafted by COG and submitted to the NMOCD. In the Addendum Work Plan, COG described how an additional access point inside the firewall was located east of the production equipment, and an air rotary drilling rig was used to further delineate impacts in the release footprint (Bore Hole-1) on December 14, 2020. The boring was terminated at 20' bgs, vertical delineation was not achieved, and the plan reported encountering shallow groundwater during drilling. The Work Plan addendum was also rejected by NMOCD. The rejected Work Plan Addendum also proposed background

trenches to evaluate chloride; permitting, installation, and sampling of monitoring well(s); and a follow up Work Plan or Abatement Plan.

Results from the December 2020 soil sampling event are summarized in **Table 2**. Analytical results associated with Bore Hole-1 exceeded the proposed Site RRALs for chloride in soils. However, soil samples were analyzed for chloride only. The boring locations are indicated on **Figure 3**. A copy of the laboratory analytical report and chain-of-custody documentation are included in **Appendix E**.

PREVIOUS BACKGROUND SAMPLING AND RESULTS

Table 3 provides background soil data that was obtained in previous investigations in the general vicinity. Incident nJMW1309539213 occurred in March 2013, and the footprint was just west of the facility firewall. The incident footprint was assessed and two trenches outside of the footprint were completed as a portion of the assessment work. Background soil results from (background trench) BGT-1 and BGT-2, installed on January 8, 2013, indicated chloride concentrations exceeding the current RRAL of 600 mg/kg in subsurface soils. Results from the 2013 background sampling event are summarized in **Table 3**. Analytical results in the subsurface range from 2,160 mg/kg to as high as 3,650 mg/kg at 4' bgs.

PROPOSED ADDITIONAL SITE ASSESSMENT ACTIVITIES (SOIL)

Based on discussions with NMOCD and previous rejections, three background soil borings will be installed in the release vicinity to an approximate depth of 20' bgs. The proposed background soil borings are labeled BG-2, BG-3 and BG-4. BG-1 is not used here to avoid confusion with a boring BG-1 that was drilled at the nearby Way South Tin Horn location. Soil samples will be collected on approximate one-foot intervals. Samples will be submitted to an accredited laboratory for analysis of TPH (Method 8015 modified), BTEX (Method 8021B), and chloride (EPA Method 300 or SM4500Cl-B). The proposed boring locations are indicated on **Figure 4**. These borings have been negotiated and coordinated with the Oil, Gas and Minerals Division of NMSLO for Right of Entry Permit.

PROPOSED ADDITIONAL SITE ASSESSMENT ACTIVITIES (GROUNDWATER)

As directed by NMOCD, ConocoPhillips plans to install from one to three monitoring wells on site, to determine groundwater quality. MW-1 will be installed near the initial release as shown in Figure 1. These monitoring wells are still in the permitting process with NMSLO and NMOSE.

Monitoring Well Installation and Sampling:

- Drilling and installing up to 3 permanent Monitoring Wells in the approximate locations shown in Figure 4, to determine groundwater quality and estimate gradient. Drilling will be completed by a New Mexico licensed water well driller.
- If sampling from MW-1 indicates no impact to groundwater from the release, no additional monitoring wells will be drilled. If sampling results indicate potential impact and/or potentially elevated background levels of chlorides, two additional monitoring wells will be installed.
- The actual depth of each new well will be determined in the field by a competent geologist during well installation. It is anticipated that the wells will be set at less than 50' feet bgs.
- Soil samples will be logged continuously to the base of the boring. The field geologist will log the soil characteristics along with any other pertinent information. The soil observations and well construction details will be recorded and presented on appropriate logs.

- For open boreholes, the annular space should be approximately 2" to allow the uniform deposition of well materials around the screen and riser, and to allow the passage of tremie pipes and well materials without unduly disturbing the borehole wall.
- Thus, for a two-inch well, the borehole diameter must be minimum of 6 inches.
 - Monitoring wells will be constructed of 2-inch diameter, flush-joint threaded PVC pipe. The casing should extend from the top of the screen to at least one foot above ground surface.
 - The top of the casing must be fitted with a removable cap, and the exposed casing must be protected by a locking steel well shroud. The shroud must be large enough in diameter to allow easy access for removal of the cap.
 - The screened interval length and elevation will be determined in the field.
 - A filter pack must be installed around the screen by filling the annular space from the bottom of the screen to 2 feet above the top of the screen with clean silica sand.
 - The well should be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.
 - A bentonite seal must be constructed immediately above the filter pack by emplacing bentonite chips or pellets (3/8-inch in size or smaller) in a manner that prevents bridging of the chips/pellets in the annular space. The bentonite seal must be 3 feet in thickness and hydrated with clean water. Adequate time should be allowed for expansion of the bentonite seal before installation of the annular space seal.
 - The annular space above the bentonite seal must be sealed with cement grout or a bentonite-based sealing material acceptable to the State Engineer.
 - After completion, the well will be allowed to stabilize for a minimum of 12 hours before development is initiated.
 - After installation and development, the monitoring wells will be purged and sampled for TPH, BTEX and chloride on a quarterly basis for a period of 2 quarters.
 - Groundwater will be sampled initially (one time) for Chlorides, BTEX , TPH, VOC 8260 full list, Cation/Anion (includes pH and TDS), Dissolved Iron and Dissolved Manganese . These parameters were selected based on NMOCD requirements for groundwater monitoring.
- Collecting additional soil samples during the drilling of the monitoring wells. The planned soil sampling intervals (Feet bgs) are as follows for each boring:

0-1
3-4
5-6
7-8
9-10
14-15
19-20

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August 22, 2023

ConocoPhillips

REMEDATION WORK PLAN

Based on the analytical results from the proposed additional assessment activities, ConocoPhillips will work with NMOCD to establish appropriate reclamation levels and RRALs. Based on these requirements, ConocoPhillips will prepare and submit to OCD an additional amendment to this REVISED Work Plan Addendum to complete remediation and reclamation of soils.

Groundwater sampling will be evaluated to determine the necessity of any further action on groundwater. If required, ConocoPhillips will work with NMOCD to develop an abatement plan for groundwater, accordingly. Please note, a signed Page 5 is included at the request of the NMOCD, however, as no official remediation plan has been finalized, the Remediation Plan Checklist on Page 5 is filled out but incomplete.

CONCLUSION

ConocoPhillips proposes to begin the additional assessment activities at the Site within 90 days of NMOCD work plan approval or 90 days of receiving both the NMSLO easement grant and NMOSE Permit to drill, whichever occurs later.

Upon completion of the proposed work, a summary report detailing the assessment activities and results will be submitted to NMOCD and NMSLO. If you have any questions concerning the proposed activities for the Site, please call me at (713) 806-8871.

Sincerely,
Tetra Tech, Inc.



Steve Jester
Project Manager



Christian M. Llull, P.G.
Program Manager

cc:
Mr. Ike Tavarez, RMR – ConocoPhillips
Mr. Mike Bratcher, NMOCD
ECO, NMSLO

LIST OF ATTACHMENTS

Figures:

- Figure 1 – Site Location and Overview Map
- Figure 2 – Topographic Map
- Figure 3 – Release Extent and COG 2020 Site Assessment
- Figure 4 – Proposed TT 2023 Site Assessment

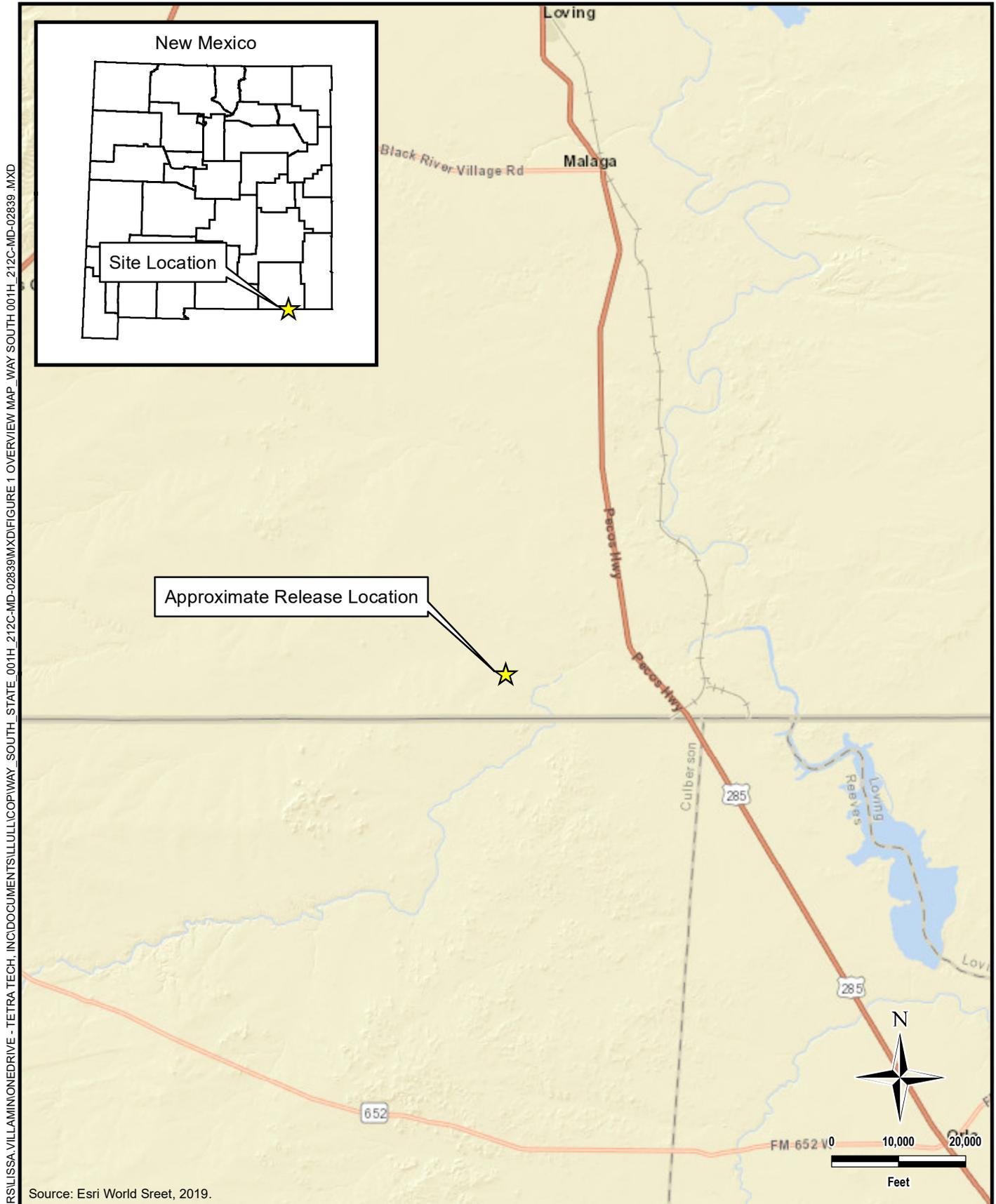
Tables:

- Table 1 – Summary of Analytical Results – Initial Soil Assessment
- Table 2 – Summary of Analytical Results – Additional Soil Assessment
- Table 3 – Summary of Analytical Results – Background Assessment

Appendices:

- Appendix A – C-141 Forms
- Appendix B – Regulatory Correspondence and NMSLO Soil Boring Permit
- Appendix C – Cultural Survey
- Appendix D – Site Characterization Data
- Appendix E – Laboratory Analytical Data
- Appendix F – Photographic Documentation
- Appendix G – Seed Mix

FIGURES



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Source: Esri World Sreet, 2019.



TETRA TECH

www.tetratech.com

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

CONOCOPHILLIPS

NRM2008650013
EDDY COUNTY, NEW MEXICO
(32.018720°, -104.119516°)

**WAY SOUTH STATE COM #001H
OVERVIEW MAP**

PROJECT NO.: 212C-MD-02839

DATE: JUNE 07, 2023

DESIGNED BY: LMV

Figure No.

1

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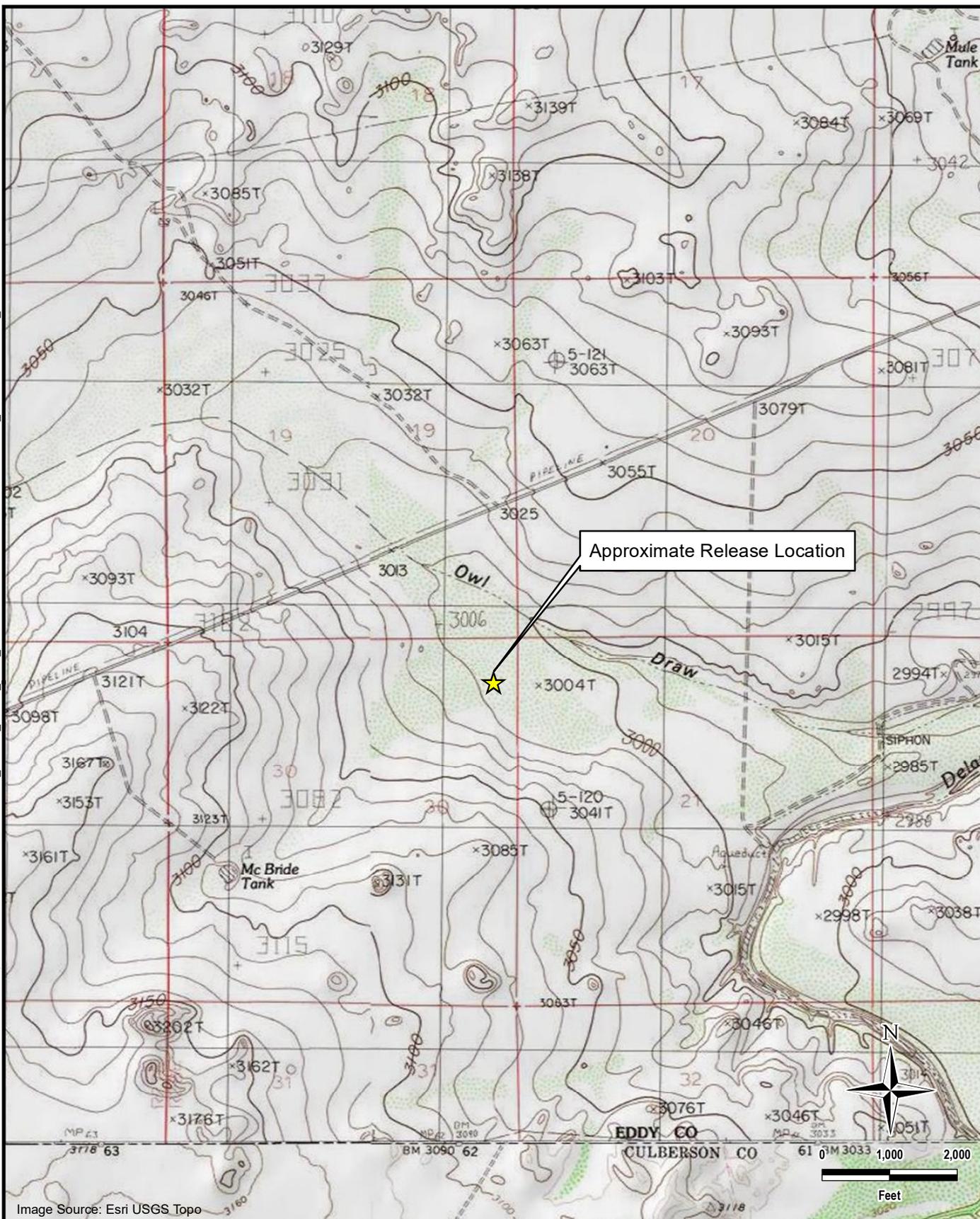


Image Source: Esri USGS Topo



TETRA TECH

www.tetratech.com

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

CONOCOPHILLIPS

NRM2008650013
EDDY COUNTY, NEW MEXICO
(32.018720°, -104.119516°)

**WAY SOUTH STATE COM #001H
TOPOGRAPHIC MAP**

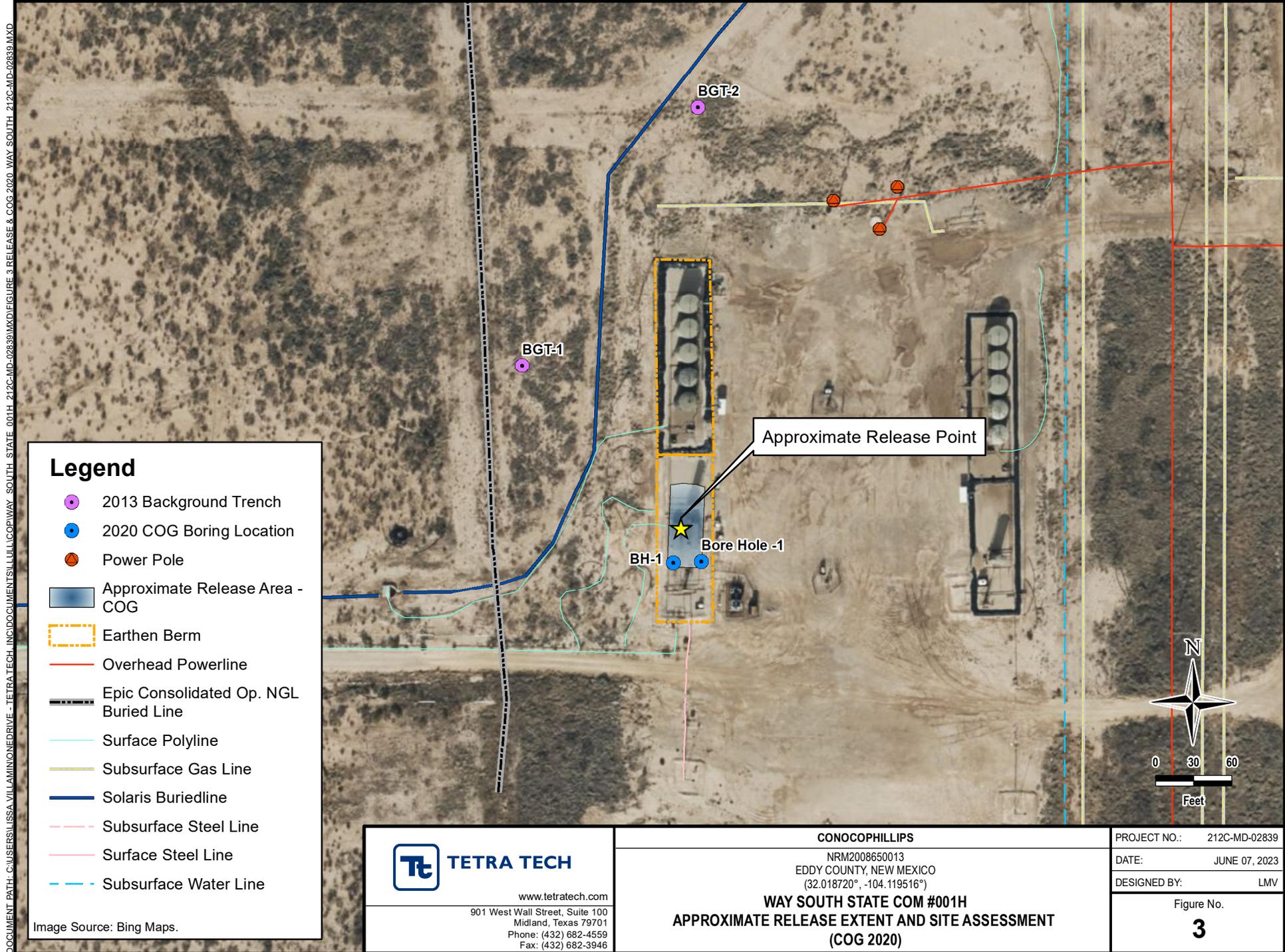
PROJECT NO.: 212C-MD-02839

DATE: JUNE 07, 2023

DESIGNED BY: LMV

Figure No.

2



DOCUMENT PATH: C:\USERS\ISSA.VILLAMONEDRIVE - TETRA TECH, INC\DOCUMENTS\111111\COPIWAY SOUTH STATE #001H - 212C-MD-02839\MXD\FIGURE 3 RELEASE & COG 2020 WAY SOUTH 212C-MD-02839.MXD

Legend

- 2013 Background Trench
- 2020 COG Boring Location
- Power Pole
- Approximate Release Area - COG
- Earthen Berm
- Overhead Powerline
- Epic Consolidated Op. NGL Buried Line
- Surface Polyline
- Subsurface Gas Line
- Solaris Buriedline
- - - Subsurface Steel Line
- Surface Steel Line
- - - Subsurface Water Line

Image Source: Bing Maps.

Tt TETRA TECH

www.tetrattech.com

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

CONOCOPHILLIPS

NRM2008650013
EDDY COUNTY, NEW MEXICO
(32.018720°, -104.119516°)

WAY SOUTH STATE COM #001H

APPROXIMATE RELEASE EXTENT AND SITE ASSESSMENT
(COG 2020)

PROJECT NO.:	212C-MD-02839
DATE:	JUNE 07, 2023
DESIGNED BY:	LMV
Figure No.	3

DOCUMENT PATH: C:\USERS\ISSA.VILLAMONEDRIVE - TETRA TECH, INC\DOCUMENTS\11111\COPIWAY SOUTH STATE #001H 212C-MD-02839\MXD\FIGURE 4 RELEASE & PROPOSED ITI 2023 WAY SOUTH 212C-MD-02839.MXD



Legend

- Proposed Monitoring Well Location
- Proposed Background Borings
- 2013 Background Trench
- 2020 COG Boring Location
- Power Pole
- Observed Impacted Area (Tetra Tech)
- Earthen Berm
- Overhead Powerline
- Epic Consolidated Op. NGL Buried Line
- Surface Polyline
- Subsurface Gas Line
- Solaris Buriedline
- Subsurface Steel Line
- Surface Steel Line
- Subsurface Water Line

Image Source: Bing Maps.

TETRA TECH

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

CONOCOPHILLIPS
 NRM2008650013
 EDDY COUNTY, NEW MEXICO
 (32.018720°, -104.119516°)

WAY SOUTH STATE COM #001H
APPROXIMATE RELEASE EXTENT, PROPOSED BACKGROUND BORINGS
AND PROPOSED MONITORING WELLS (TETRA TECH 2023)

PROJECT NO.:	212C-MD-02839
DATE:	JUNE 27, 2023
DESIGNED BY:	LMV
Figure No.	4

TABLES

TABLE 1
 SUMMARY OF ANALYTICAL RESULTS
 2020 COG SOIL ASSESSMENT- nAB1821441824
 CONOCOPHILLIPS
 WAY SOUTH STATE COM #001 RELEASE
 EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEX ²										TPH ³											
					Benzene		Toluene		Ethylbenzene		m,p-Xylenes		o-Xylene		Total Xylenes		Total BTEX		GRO		DRO		MRO		Total TPH	
			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	Q	mg/kg	Q	mg/kg
BH-1*	4/7/2020	1	6,960		<0.00201	U	<0.00201	U	<0.00201	U	<0.00402	U	<0.00201	U	<0.00201	U	<0.00201	U	<50.0	U	80.6		<50.0	U	80.6	
		2	1,810		<0.00198	U	<0.00198	U	<0.00198	U	<0.00397	U	<0.00198	U	<0.00198	U	<0.00198	U	<49.8	U	<49.8	U	<49.8	U	<49.8	U
		3	4,500		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	1,130		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		5	1,470		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		6	2,890		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		7	1,840		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

NOTES:
 ft. Feet
 bgs Below ground surface
 mg/kg Milligrams per kilogram
 TPH Total Petroleum Hydrocarbons
 GRO Gasoline range organics
 DRO Diesel range organics
 MRO Motor Oil range organics
 NS Sample not analyzed for parameter
 1 EPA Method 300.0
 2 EPA Method 8021B
 3 Method SW8015 Mod

Bold and italicized values indicate exceedance of proposed RRALs and Reclamation Requirements.
 QUALIFIERS: U Analyte was not detected.
 * - Installed with a Geoprobe Unit

TABLE 2
 SUMMARY OF ANALYTICAL RESULTS
 2020 COG SOIL ASSESSMENT- nAB1821441824
 CONOCOPHILLIPS
 WAY SOUTH STATE COM #001 RELEASE
 EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEX ²										TPH ³											
					Benzene		Toluene		Ethylbenzene		m,p-Xylenes		o-Xylene		Total Xylenes		Total BTEX		GRO		DRO		MRO		Total TPH	
			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	Q	mg/kg	Q	mg/kg
Bore Hole - 1	12/14/2020	0-1	859		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3-4	887		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		5-6	1,240		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		7-8	1,450		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		9-10	2,250		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		14-15	3,880		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		19-20	1,490		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

NOTES:

- ft. Feet
- bgs Below ground surface
- mg/kg Milligrams per kilogram
- TPH Total Petroleum Hydrocarbons
- GRO Gasoline range organics
- DRO Diesel range organics
- MRO Motor Oil range organics
- NS Sample not analyzed for parameter
- 1 EPA Method 300.0
- 2 EPA Method 8021B
- 3 Method SW8015 Mod

Bold and italicized values indicate exceedance of proposed RRALS and Reclamation Requirements.

TABLE 3
 SUMMARY OF ANALYTICAL RESULTS
 2013 BACKGROUND SOIL ASSESSMENT- nJMW1309539213
 CONOCOPHILLIPS
 WAY SOUTH STATE COM #001 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	
					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
Background Trench - 1	1/8/2013	ft. bgs																				
		0-1	194	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		2	995	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		4	2,160	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		6	2,170	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		8	1,080	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		10	991	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
Background Trench - 2	1/8/2013	0-1	<20.0	Qs, U	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		2	1,810	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		4	3,650	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		6	1,650	Qs	NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		8	1,340		NA		NA		NA		NA		NA		NA		NA		NA		NA	-
		10	1,330		NA		NA		NA		NA		NA		NA		NA		NA		NA	-

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 SM4500CI-B

2 Method 8021B

3 Method 8015M

NA Sample not analyzed for parameter

QUALIFIERS:

U The analyte is not detected above the SDL

Qs Spike recovery outside of laboratory limits.

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

APPENDIX A C-141 Forms

State of New Mexico
Oil Conservation Division

Incident ID	NRM2008650013
District RP	
Facility ID	
Application ID	

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

Initial Response

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

<input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name _____ Title: _____ Signature: <u></u> _____ Date: _____ email: _____ Telephone: _____
<u>OCD Only</u> Received by: <u>Ramona Marcus</u> Date: <u>3/26/2020</u>

NRM2008650013

***** LIQUID SPILLS - VOLUME CALCULATIONS *****

Location of spill: COG -Way South State Com 1H TB

Date of Spill: 25-Dec-2019

If the leak/spill is associated with production equipment, i.e. - wellhead, stuffing box, flowline, tank battery, production vessel, transfer pump, or storage tank place an "X" here:

Input Data:

If spill volumes from measurement, i.e. metering, tank volumes, etc. are known enter the volumes here: OIL: 0.0 BBL WATER: 0.0 BBL

If "known" spill volumes are given, input data for the following "Area Calculations" is optional. The above will override the calculated volumes.

Total Area Calculations						Standing Liquid Calculations					
Total Surface Area	width	length	wet soil depth	oil (%)		Standing Liquid Area	width	length	liquid depth	oil (%)	
Rectangle Area #1	55 ft	25 ft	X 0.70 in	50%		Rectangle Area #1	0 ft	X 0 ft	X 0.00 in	0%	
Rectangle Area #2	0 ft	X 0 ft	X 0.00 in	0%		Rectangle Area #2	0 ft	X 0 ft	X 0 in	0%	
Rectangle Area #3	0 ft	X 0 ft	X 0.0 in	0%		Rectangle Area #3	0 ft	X 0 ft	X 0 in	0%	
Rectangle Area #4	0 ft	X 0 ft	X 0.0 in	0%		Rectangle Area #4	0 ft	X 0 ft	X 0 in	0%	
Rectangle Area #5	0 ft	X 0 ft	X 0.0 in	0%		Rectangle Area #5	0 ft	X 0 ft	X 0 in	0%	
Rectangle Area #6	0 ft	X 0 ft	X 0 in	0%		Rectangle Area #6	0 ft	X 0 ft	X 0 in	0%	
Rectangle Area #7	0 ft	X 0 ft	X 0 in	0%		Rectangle Area #7	0 ft	X 0 ft	X 0 in	0%	
Rectangle Area #8	0 ft	X 0 ft	X 0 in	0%		Rectangle Area #8	0 ft	X 0 ft	X 0 in	0%	

0.1

production system leak - DAILY PRODUCTION DATA REQUIRED

Average Daily Production: Oil 0 BBL Water 0 BBL 0 Gas (MCFD)

Total Hydrocarbon Content in gas: 0% (percentage)

Did leak occur before the separator?: YES N/A (place an "X")

H2S Content in Produced Gas: 0 PPM

H2S Content in Tank Vapors: 0 PPM

Amount of Free Liquid Recovered: 0 BBL okay

Percentage of Oil in Free Liquid Recovered: 0% (percentage)

Liquid holding factor *: 0.14 gal per gal

Use the following when the spill wets the grains of the soil.

Use the following when the liquid completely fills the pore space of the soil:

* Sand = 0.08 gallon (gal.) liquid per gal. volume of soil.

Occurs when the spill soaked soil is contained by barriers, natural (or not).

* Gravelly (caliche) loam = 0.14 gal. liquid per gal. volume of soil.

* Clay loam = 0.20 gal. liquid per gal. volume of soil.

* Sandy clay loam soil = 0.14 gal liquid per gal. volume of soil.

* Gravelly (caliche) loam = 0.25 gal. liquid per gal. volume of soil.

* Clay loam = 0.16 gal. liquid per gal. volume of soil.

* Sandy loam = 0.5 gal. liquid per gal. volume of soil.

Total Solid/Liquid Volume: 1,375 sq. ft. 40 cu. ft. 40 cu. ft. Total Free Liquid Volume: sq. ft. cu. ft. cu. ft.

Estimated Volumes Spilled

	<u>H2O</u>	<u>OIL</u>
Liquid in Soil:	<u>1.0</u> BBL	<u>1.0</u> BBL
Free Liquid:	<u>0.0</u> BBL	<u>0.0</u> BBL
Totals:	<u>1.0</u> BBL	<u>1.0</u> BBL

Estimated Production Volumes Lost

	<u>H2O</u>	<u>OIL</u>
Estimated Production Spilled:	<u>0.0</u> BBL	<u>0.0</u> BBL

Estimated Surface Damage

Surface Area: 1,375 sq. ft.
Surface Area: .0316 acre

Total Liquid Spill Liquid: 1.0 BBL 1.00 BBL

Recovered Volumes

Estimated oil recovered: BBL check - okay
Estimated water recovered: BBL check - okay

Estimated Weights, and Volumes

Saturated Soil = 8,983 lbs 80 cu. ft. 3 cu. yds.
Total Liquid = 2 BBL 84 gallon 699 lbs

Air Emission from flowline leaks:

Volume of oil spill: - BBL
Separator gas calculated: - MCF
Separator gas released: - MCF
Gas released from oil: - lb
H2S released: - lb
Total HC gas released: - lb
Total HC gas released: - MCF

Air Emission of Reporting Requirements:

	<u>New Mexico</u>	<u>Texas</u>
HC gas release reportable?	<u>NO</u>	<u>NO</u>
H2S release reportable?	<u>NO</u>	<u>NO</u>

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NRM2008650013
District RP	
Facility ID	
Application ID	

Release Notification

4WSW9-200109-C-1410

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

Cause of Release

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: Shelly Wells Date: 8/23/2023

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

APPENDIX B
Regulatory Correspondence and NMSLO Soil
Boring Permit

From: [Jester, Steve](#)
To: [Billings, Bradford, EMNRD](#); [Harimon, Jocelyn, EMNRD](#)
Cc: Ike.Tavarez@conocophillips.com; [Jester, Steve](#)
Subject: [EXTERNAL] FW: Regarding application Id. 244344 Incident # NRM2008650013 WAY SOUTH STATE COM #001H
Date: Wednesday, December 21, 2022 3:04:29 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[Background_Chloride_2013-2020_Soil_Assessment_WAY_SOUTH_STATE_COM_#001H.xlsx](#)
Importance: High

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Brad and Jocelyn,

Per our Teams meeting earlier this afternoon, the figure below shows the planned location (red Circle) for an on-site temporary MW to take GW samples. We will install it as close as is safely practicable near BH-1(2).

Based on the results obtained from this temp MW, additional wells may be installed at the pink circle locations to obtain background GW data and GW potentiometric elevations.

Also attached are the soil data obtained from samples at BH-1 and BH-1(2), as well as background chloride soil concentrations from previous investigations in this immediate area. The background soil locations are also labeled on the figure below.

With your concurrence, we will move forward to obtain an NMOSE permit and then install this MW.

Let Ike and me know if you have any questions,
Steve



Proposed MW Locations:

Red Circle – proposed temp MW near BH-1 (2)

Pink Circles – Future MW if needed

Steve Jester | Principal Consultant
 Cell 713-806-8871
Steve.Jester@tetrattech.com

TETRA TECH | Complex World, Clear Solutions™
 1500 City West, #1000 | Houston, TX 77042
<http://www.tetrattech.com/en/oil-and-gas>

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Please consider the environment before printing. [Read more](#)



From: Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Sent: Friday, December 16, 2022 12:10 PM
To: Esparza, Brittany <Brittany.Esparza@conocophillips.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Subject: [EXTERNAL]Regarding application Id. 244344 Incident # NRM2008650013 WAY SOUTH STATE COM #001H

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern,

Regarding application Id. 244344 Incident # NRM2008650013 WAY SOUTH STATE COM #001H.

After reviewing the Addendum to Work Plan for the COG Way South State 001H (NRM2008650013) the OCD respectfully requests a meeting to discuss the specific placement of the upgradient and downgradient monitor wells as well as any possible requests for variance or deferral for this release. Bradford Billings and I have availability next Wednesday 12/21/2022 to meet and discuss.

Jocelyn Harimon

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.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 169446

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 169446
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	12/21/2022

OCD Permitting

Home Searches Incidents Incident Details

NRM2008650013 WAY SOUTH STATE COM #001H @ 30-015-37234

General Incident Information

Site Name: WAY SOUTH STATE COM #001H
 Well: [\[30-015-37234\]](#) WAY SOUTH STATE COM #001H
 Facility:
 Operator: [\[229137\]](#) COG OPERATING LLC
 Status: Closure Not Approved
 Type: Release Other
 District: Artesia

Severity: Minor
 Surface Owner: State
 County: Eddy (15)

Incident Location: A-30-26S-28E 0 FNL 0 FEL
 Lat/Long: 32.01911,-104.11941 NAD83
 Directions:

- Quick
- [Gene](#)
- [Mater](#)
- [Event](#)
- [Order](#)
- Assoc
- [Incide](#)
- [Well f](#)
- New
- [New I](#)
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Notes

Source of Referral: Industry Rep
 Action / Escalation: Referred to Environmental Inspector

Resulted In Fire:
 Will or Has Reached Watercourse:
 Endangered Public Health:
 Property Or Environmental Damage:
 Fresh Water Contamination:

Contact Details

Contact Name: Jennifer Knowlton
 Contact Title:

Event Dates

Date of Discovery: 12/25/2019
 Extension Date: 03/16/2021
 Initial C-141 Received: 01/09/2020
 Characterization Report Received: 04/19/2021
 Remediation Plan Received: 09/26/2020
 Closure Report Received:

OCD Notified of Release:
 Cancelled Date:
 Characterization Report Approved:
 Remediation Plan Approved:
 Remediation Due: 04/16/2021
 Closure Report Approved:

Compositional Analysis of Vented and/or Flared Natural Gas

No Compositional Analysis Found

Incidents Materials

Cause	Source	Material	Volume			Units
			Unk.	Released	Recovered	
Equipment Failure	Other (Specify)	Crude Oil	<input type="checkbox"/>	4	3	1 BBL

Incident Events

Date	Detail
04/18/2023	The Remediation Plan Addendum is Denied. Please, make sure a C-141 page 5 "Remediation Plan" page is signed and filled out at time of submission. This release is within a 100-year floodplain and high karst area and will need to be remediated to the strictest closure criteria from Table 1 of the OCD Spill Rule. Samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. The temporary monitoring well installation will allow COG to verify that there is no groundwater impact. The boring should be drilled safely and purged. A groundwater sample should include general chemistry including major cations and anions. Please keep the OCD up to date on the groundwater sample results. An additional meeting may be necessary in the future to discuss the results. The work will need to occur in 90 days after the work plan has been reviewed.
04/18/2023	The (04/18/2023, C-141) application [24434] was rejected by OCD. The operator was emailed with details of this event.
04/18/2023	An application [24434] was submitted to OCD for review. It was submitted, indicating that it was an: [C-141] Application for administrative approval of a release notification and corrective action The operator was emailed confirmation of this event.
12/21/2022	The (12/21/2022, IM-BNF) application [169446] was accepted by OCD. The operator was emailed with details of this event.
12/21/2022	The (12/21/2022, IM-BNF) application [169446] was assigned to this incident.
04/19/2021	The (04/18/2023, C-141) application [24434] was assigned to this incident.
03/16/2021	ConocoPhillips request for an extension to June 15th, 2021 is denied. Almost 15 months have passed since the release occurred and numerous extensions have already been granted. ConocoPhillips will have 30 days to submit a remediation/closure plan to the payment portal.
03/08/2021	The (03/08/2021, C-141) application [10373] was rejected by OCD. The operator was emailed with details of this event.
03/08/2021	An application [10373] was submitted to OCD for review. It was submitted, indicating that it was an: [C-141] Application for administrative approval of a release notification and corrective action The operator was emailed confirmation of this event.
12/25/2020	C-141 received on 01092020 for release on 12/25/2020. The cause of the release was reported as "The release was caused by a site glass failure. The release was on the pad. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or 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."
09/28/2020	The (03/08/2021, C-141) application [10373] was assigned to this incident.
06/26/2020	Your request for an extension to September 25th, 2020 is approved. Based on the assessment data and access issues, additional evaluation will be needed prior to implementing remediation. COG is requesting a three-month extension until September 25, 2020 to complete evaluation, prepare, finalize and submit a Work Plan or Closure Report.
03/26/2020	The (03/26/2020, C-141) application [3285] was accepted by OCD. The operator was emailed with details of this event.
03/26/2020	The (03/26/2020, C-141) application [3285] was assigned to this incident.
03/26/2020	An application [3285] was submitted to OCD for review. It was submitted, indicating that it was an: [C-141] Application for administrative approval of a release notification and corrective action The operator was emailed confirmation of this event.

Orders

No Orders Found



Stephanie Garcia Richard
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S
OFFICE

Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

May 1, 2023

ConocoPhillips (Tetra Tech as Contractor)
Attn: Ike Tavarez
600 W Illinois Ave.
Midland, TX 79701

RE: Rule 12 Water Exploration / Soil Boring Permit # **WE-0818**

We are in receipt of your application and fees (\$ 100.00 per Application) requesting a TEMPORARY BORING PERMIT for Water exploration. The effective date of this authorization is for a period of not to exceed 1 year, commencing on **May 1, 2023** and ending on **April 30, 2024**. This Authorization (Right of Entry) letter is for the sole purpose of **3 soil borings to depth of 25' bgs and 6 soil borings to 1' bgs** in the following locations:

Township	Range	Section	Subdivision	County	Coordinates
26S	28E	30	NE4NE4	Eddy	32.018720, -104.119516
					32.019358, -104.118459
					32.018332, -104.119744
					32.019316, -104.119839
					32.020156, -104.119364
					32.018655, -104.120179

CONDITIONS OF USE

- A. The issuance of this Exploration Authorization does not guarantee a Water Easement will be issued for this property being explored, nor does it indicate a preference for a future water easement issuance to the holder of the authorization by the Commissioner of Public Lands.
- B. No refund of Permit application fees will occur after Permit approval letter is mailed.
- C. Authorized party shall notify the State Land Office District Resource Manager by telephone at least one business day prior to commencing any exploration activities.
- D. No blading or widening of any two-track dirt roads that provides access to the Property is permitted under this Authorization, except as necessary for the ingress and egress of required vehicles.
- E. No mining or removal of material for purposes other than testing is allowed under this Authorization. No sale of any material extracted from the Property is allowed under this Authorization.
- F. Authorized party shall observe all federal, state and local laws and regulations applicable to the Property.
- G. Authorized party shall take all reasonable precautions to prevent and suppress forest, brush and grass fires and prevent pollution of waters on or in the vicinity of the Property.
- H. Authorized party shall not block or disrupt roads or trails commonly in use.
- I. This Authorization is subject to any and all easements and rights-of-way previously granted and now in force and affect.

- J. Authorized party shall be responsible for repair and restitution for damage to any property improvements as a result of activities related to this exploration.
- K. **Authorized party shall conduct exploration activities only if a state-permitted archaeologist as per the Cultural Properties Act, §18-6-5(O) is present on the permitted site if an archaeological survey has not been conducted clearing the work beforehand.** Authorized party shall abide by the decisions of the permitted Archaeologist regarding prevention of damage to cultural property sites. **An archaeological report is to be submitted to State Land Office Cultural Resources Specialist within fifteen (15) days of the expiration date of this Authorization.** (An archeologist is not required to be present as long as there are no surface disturbing activities being performed).

SURFACE RECLAMATION AND RESTORATION

- A. All test holes must be plugged as soon as testing is completed.
- B. Drilling, excavation and other surface disturbing activities shall be restricted to areas deemed to have no archaeological significance.
- C. Access to the Property shall be over existing roads. Reclamation of all roads shall conform to the requirements of State Land Office Rule 20. No upgrading of the existing roads shall be done, except as necessary for the ingress and egress of required vehicles.
- D. All topsoil from the areas to be disturbed shall be stockpiled for use in reclamation.
- E. Upon completion of the use and operations permitted by this Authorization, all disturbed sites shall be re-contoured to approximate the original contours.
- F. All material removed by excavation shall be replaced into the test holes, with the exception of an adequate sample, on or before the expiration date of this Authorization.
- G. The natural environmental conditions that exist contemporaneously with this grant shall be preserved and protected. All applicable environmental laws and regulations shall be complied with and such reclamation or corrective actions as may be necessary to conduct EXPLORATORY WELL BORING consistent with safe and sound environmental management principles and practices shall be taken in order to protect the Property from any pollution, erosion or other environmental degradation and to avoid diminishing the value of the Property for any future use.

INDEMNITY

Authorized party shall save, hold harmless, indemnify and defend the State of New Mexico, the Commissioner and Commissioner's employees, agents and contractors, in both their official and individual capacities, from any and all liability, claims, losses, damages, or expenses of any character or nature whatsoever, including but not limited to attorney's fees, court costs, loss of land value or use, third party claims, penalties, or removal, remedial or restoration costs arising out of, or alleged to arise out of:

- A. The operations or presence on the Property, or on adjacent or proximate state trust lands, including those used to access the Property for the purposes of this Authorization, of Authorized party or authorized party's employees, agents, contractors or invitees;
- B. The activities of third parties on the Property, or on adjacent or proximate state trust lands, including those used to access the Property or other adjacent or proximate state trust lands, whether with or without Authorized party's knowledge or consent;
- C. Any Hazardous Materials located in, under, upon or otherwise affecting the Property or adjacent or proximate state trust lands, regardless of their point of origin or date of contamination.

If you have any questions or concerns please contact Faith Crosby, Water Bureau Manager at (505) 827-5849 or David Gallegos, Water Resource Analyst at (505) 476-0378.

Respectfully,

Stephanie Garcia Richard /SS
Stephanie Garcia Richard
Commissioner of Public Lands
SS/dg



Date 5/1/23

xc: Azucena Ramirez, NMOSE District II; Azucena.Ramirez@ose.nm.gov
Steve Jester, Tetra Tech, STEVE.JESTER@tetrattech.com
Kelli Fox, NMSLO DRM Director

APPENDIX C

Cultural Survey Documentation

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Registration

Lead Agency: New Mexico State Land Office

Performing Agency: SWCA Environmental Consultants

Activity ID: 80223

Performing Agency Report No: 23-245

Report Recipient (Your Client): Tetra Tech

- Activity Types:**
- Research Design
 - Archaeological Survey/Inventory
 - Architectural Survey/Inventory
 - Test Excavation
 - Monitoring
 - Collections/Non-Field Study
 - Compliance Decision
 - Literature Review Overview
 - Excavation
 - Ethnographic Study
 - Resource/Property Visit
 - Historic Structures Report
 - Other:

Total Survey Acreage: 18.15

Total Tribal Acreage: 0.00

Total Resources Visited: 0

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Associate/Register Resources

Prefix	Number	Field Site/Other Number	In GIS	Resource Type	Collections Made?	Revisit
			✓		<input type="checkbox"/>	

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Report Details

Lead Agency

Lead Agency: New Mexico State Land Office

Lead Agency Report No.

Report Number: _____

Title of Report

Title of Report: A Cultural Resources Survey of the Way South State Com Monitor Well Project in Eddy County, New Mexico

Authors: Paisley DeFreese

Type of Report

Publication Type: Report, Monograph, or Book Negative

Description of Undertaking (what does the project entail?)

Description: Tetra Tech contracted SWCA Environmental Consultants (SWCA) to conduct an intensive cultural resources pedestrian survey in support of the Way South State Com Monitor Well project in Eddy County, New Mexico. The proposed project consists of constructing and maintaining a new well and pad and is approximately 23.26 kilometers (14.45 miles) south of Malaga, New Mexico on lands managed by the New Mexico State Land Office (SLO). The SLO will serve as the lead agency.

Tetra Tech is proposing to build a monitor well. The proposed area of potential effects (APE) is a 10-acre (4.04 hectare) block. The project is completely on SLO land. Tetra Tech sent a site monitor to survey with SWCA as part of their standard safety protocol.

Dates of Investigation

From: 04/17/2023 **To:** 04/17/2023

Report Date

Report Date: 04/26/2023

Performing Agency/Consultant

Name: SWCA Environmental Consultants

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Principal Investigator: Christine Kendrick

Field Supervisor: Thea Stehlik-Barry

Field Personnel Names: N/A

Historian/Other: N/A

Report Details

Performing Agency Report Number

Report Number: 23-245

Client/Customer (project proponent)

Name: Tetra Tech

Contact: Steve Jester

Address: 1500 City West, #1000
Houston, TX 77042

Phone: (713) 806-8871

Client/Customer Project Number

Project Number: 80223

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Ownership & Location

Land Ownership Status (Must be indicated on Project Map)

Land Ownership:

Land Owner/Manager	Protocol	Acres Surveyed	Acres in APE
NM SLO		18.15	10

Total Survey Acreage: 18.15

Total Tribal Acreage: 0.00

Record Search(es)

Date of HPD/ARMS File Review: 30-March-2023

Date of Other Agency File Review: 30-March-2023

Survey Data

Source Graphics: NAD 83

USGS 7.5' (1:24,000) topo map Other Topo Map Scale:
 GPS Unit
 Aerial Photos Other Source Graphic(s):

The following tables (b,c,& e) are calculated by the NMCRIS Map Service

USGS 7.5' Topographic Map(s)

Map Name	USGS Quad Code
Red Bluff	32104-A1

County(ies)

County	FIPS
Eddy	

Legal Description

Unplatted	Township (N/S)	Range (E/W)	Section
	T26S	R29E	29
	T26S	R29E	30

Projected Legal Description

Nearest City or Town: Malaga

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

GIS

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NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Methodology

Survey Field Methods

Intensity: 100% coverage

Configuration: Block Survey Units Linear Survey Units (l x y)

Other Survey Units

Scope: Non-Selective

Coverage Method: Systematic Pedestrian Coverage **Other Method:** _____

Survey Interval (m): 15 **Crew Size:** 1

Fieldwork Dates: From: 04/17/2023 **To:** 04/17/2023

Survey Person Hours: 1.25 **Recording Person Hours:** 0

Additional Narrative: Colton Bickerstaff, a Tetra Tech monitor, surveyed with SWCA.

Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.)

Environmental Setting:

The project area falls within the Chihuahuan Basins and Playas (24a) ecoregion. This ecoregion includes alluvial fans, internally drained basins, and river valleys mostly below 4,500 feet in elevation (Griffith et al. 2006). The elevation of the project area is 1,061.6 m (3,483 feet) above mean sea level. This ecoregion is composed of desert grasses and shrub land in erosional settings. This project is within the shrub land setting. Typical vegetation includes creosote bush, tarbush, yuccas, sandsage, viscid acacia, tasajillo, lechuguilla, mesquite, and ceniza. (Griffith et al. 2006). Wildlife in the area includes mule deer, prairie dog, gopher, fox, coyote, skunk, black-tailed jackrabbit, desert cottontail, scaled quail, burrowing owl, mourning dove, wrens, various hawks, bull snake, prairie rattlesnake, plain hognose snake, western hooknose snake and numerous lizards (Biota Information System of New Mexico 2023; Brown 1994). Important animal species prehistorically include deer, jackrabbit, and cottontail.

Geology underlying the project area comprises Holocene to middle Pleistocene eolian deposits ([Qe] [U.S. Geological Survey 2023]). Two soils are present within the project area: Gypsum land-Cottonwood complex, 0 to 3 percent slopes (0.28 percent survey area) are well drained, with a low runoff class; Cottonwood-Reeves loams, overflow, 0 to 3 percent slopes (99.72 percent of survey area) and are well drained, with a moderate runoff class (Natural Resources Conservation Service 2023).

Weather data for the survey area was compiled using the Carlsbad Caverns, New Mexico (291480), climate station data (period of record February 1, 1930, to June 6, 2016). Rainfall in the survey area can occur year-round but is most abundant from May through October. During that time period, rainfall totals 30.1 cm (11.9 inches), with an average of 5.0 cm (1.98 inches) per month for those months; September has the heaviest average precipitation. Snowfall is heaviest during December at 5.6 cm (2.2 inches) and can fall between October and March. Temperatures are coldest in December and January at 0.8

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

degree Celsius (33.6 degrees Fahrenheit) and warmest in June at 32.8 degrees Celsius (91.1 degrees Fahrenheit) (Western Regional Climate Center 2023).

Biota Information System of New Mexico

2023 Database Query for Eddy County. Available at: <http://www.bison-m.org/>. Accessed April 2023.

Griffith, G. E., J. M. Omernik, M. M. McGraw, G. Z. Jacobi, C. M. Canavan, T. S. Schrader, D. Mercer, R. Hill, and B. C. Moran

2006 Ecoregions of New Mexico. Color poster with map, descriptive text, summary tables, and photographs. Map scale 1:1,100,000. U.S. Geological Survey, Reston, Virginia.

Natural Resources Conservation Service

2023 Web Soil Survey of Eddy County, New Mexico. Available at: <http://websoilsurvey.nrcs.usda.gov/app/>. Accessed April 2023.

Western Regional Climate Center

2023 Climate Summary for Carlsbad Caverns Climate Station (291480). Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm1480>. Accessed April 2023

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Methodology

Percent Ground Visibility

Ground Visibility: 76-99 %

Condition of Survey Area: Area was heavily disturbed with a well pad, access roads, flowlines, cleared pad areas, fence lines, and cattle traffic.

Attachments (check all appropriate boxes)

- USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn (required)
- Copy of NMCRIS Map Check (required)
- LA Site Forms – new sites (with sketch map & topographic map) if applicable
- LA Site Forms (update) – previously recorded & unrelocated sites (first 2 pages minimum)
- List and Description of Isolates, if applicable
- List and Description of Collections, if applicable

Other Attachments

- Photographs and Log
- Other attachments **Describe:** _____

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Cultural Resource Findings

Investigation Results

Archaeological Sites Discovered and Registered: 0

Archaeological Sites Discovered and NOT Registered: 0

Previously Recorded Archaeological Sites Revisited (site update form required): 0

Previously Recorded Archaeological Sites Not Relocated (site update form required): 0

Total Archaeological Sites (visited & recorded): 0

Total Isolates Recorded: 0

✓ Non-Selective Isolate Recording

HCPI Properties Discovered and Registered: 0

HCPI Properties Discovered And NOT Registered: 0

Previously Recorded HCPI Properties Revisited: 0

Previously Recorded HCPI Properties NOT Relocated: 0

Total HCPI Properties (visited & recorded, including acequias): 0

If No Cultural Resources Found, Discuss Why: 0

Management Summary

SWCA surveyed a 30.48-m (100-foot) buffer on all sides of the proposed project polygons for a total survey area of 18.15 acres (7.33 hectares). No archaeological sites or historic cultural properties (buildings, structures, or objects) or isolated occurrences were observed. This is likely due to the small survey area in addition to the previous surveys around the project also finding no cultural materials.

Summary: SLO cultural resources preservation efforts requires that an archaeological survey be conducted to current standards for the APE pursuant to and in compliance with New Mexico Administrative Code (NMAC) 4.10.15 to ensure that cultural properties are not inadvertently excavated, harmed, or destroyed by any person. SWCA recommends that the proposed project will have no effect on any cultural resources listed or eligible for listing in the New Mexico State Register of Cultural Properties or the National Register of Historic Places. However, if buried cultural deposits are discovered during project construction, work should cease immediately, and the New Mexico SLO and State Historic Preservation Officer should be contacted

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Attachments

Documents:

Attachment Type	Description	Name	File Type	Size	Upload Date	Upload By
Report/Manuscript	NMCRIS_152756 NIAF	NMCRIS_152756	PDF Document	6,879 KB	21-April-2023	Paisley DeFreese

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

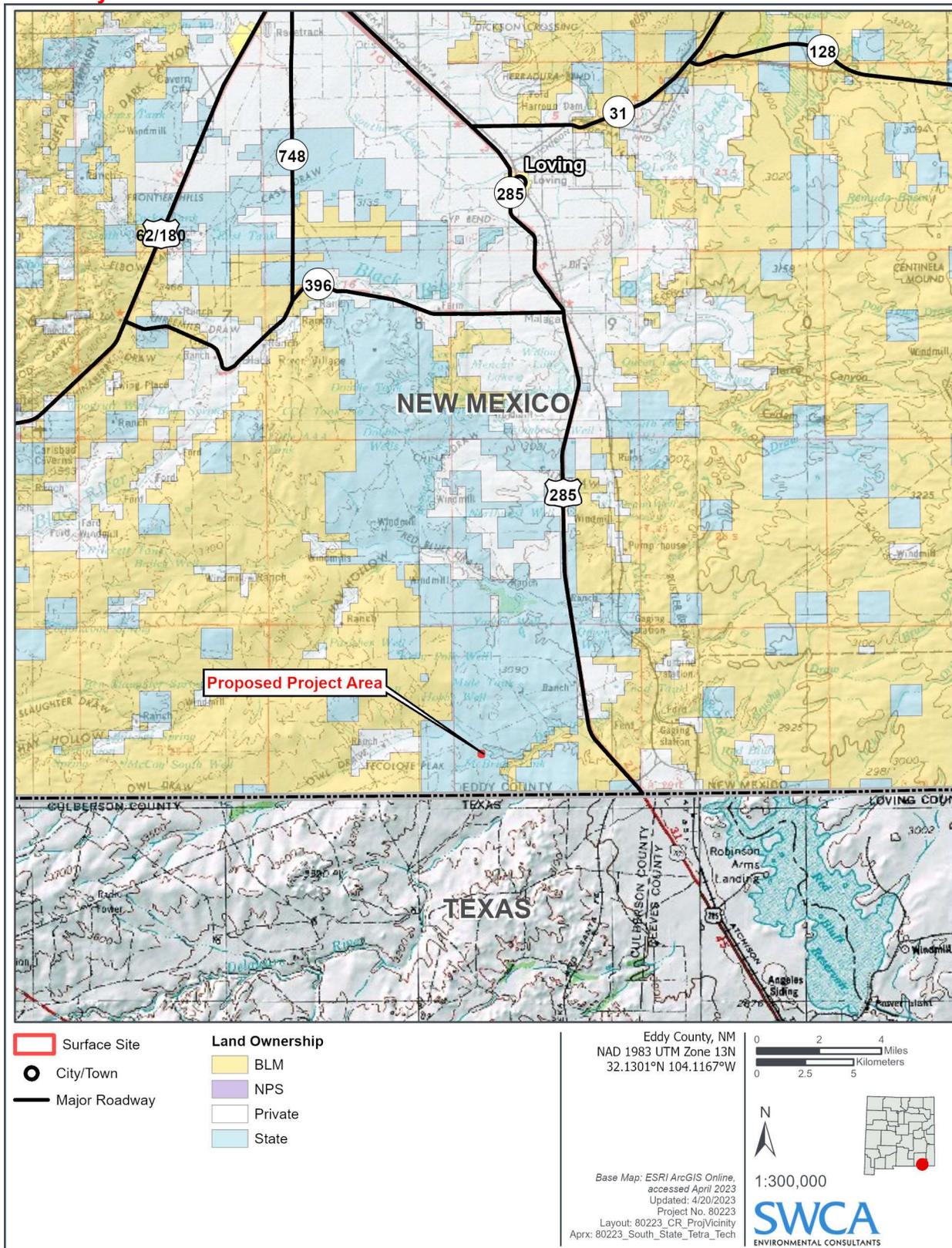


Figure 1. Project vicinity map.

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

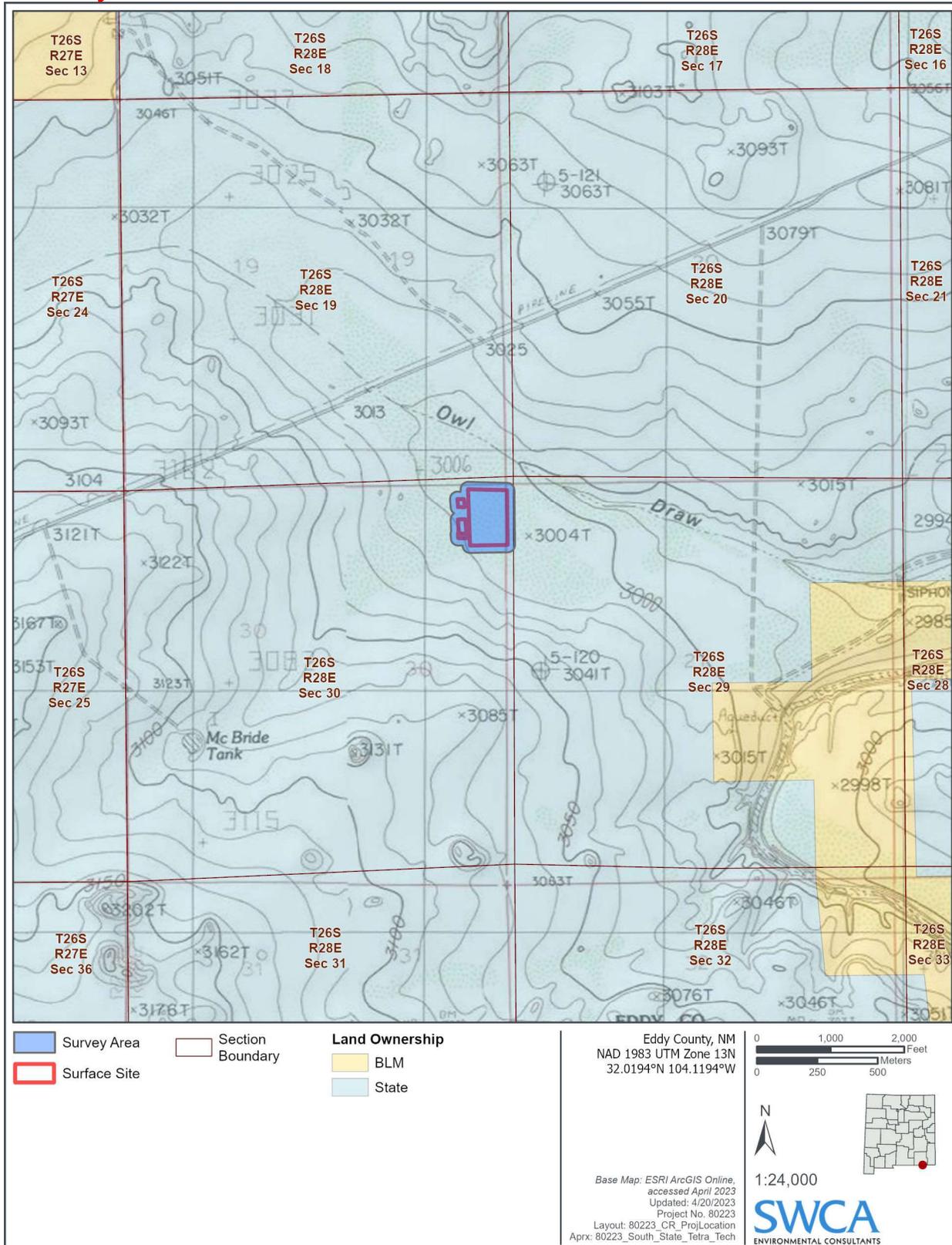


Figure 2. Project location map.

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6



Figure 3. Project overview, facing northeast (Frame -9754).



Figure 4. Project overview, facing southwest (Frame -9456).

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6



Figure 5. Project overview, facing southeast (Frame -5308).



Figure 6. Project overview, facing north (Frame -2509).

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Table 1. Previously Known Cultural Resources within 500 m (0.31 mile) of the Project Area

*Redacted

Table 2. Previously Completed Cultural Resource Surveys within 500 m (0.31 mile) of the Project Area

*Redacted

Figure 7. ARMS screenshot with the survey area in blue and sites in yellow.

*Redacted

APPENDIX D

Site Characterization

National Flood Hazard Layer FIRMette



104°7'29"W 32°1'24"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| OTHER FEATURES | | Levee, Dike, or Floodwall |
| | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| MAP PANELS | | 17.5 |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| MAP PANELS | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/19/2022 at 1:24 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04466 POD1	CUB	ED		3	3	2	29	26S	28E	584327	3542357	1282	96	33	63

Average Depth to Water: **33 feet**
Minimum Depth: **33 feet**
Maximum Depth: **33 feet**

Record Count: 1

UTM NAD83 Radius Search (in meters):

Easting (X): 583161.57

Northing (Y): 3542891.64

Radius: 1500

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

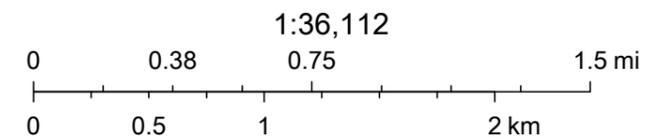
OCD Karst Potential Map



9/22/2022, 4:40:36 PM

Karst Occurrence Potential

- High
- Medium



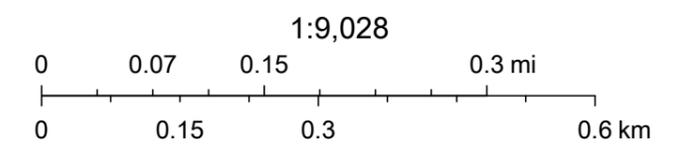
BLM, OCD, New Mexico Tech, Esri, HERE, Garmin, Maxar

OCD Waterbodies Map



9/22/2022, 4:43:12 PM

— OSE Streams



Esri, HERE, Garmin, GeoTechnologies, Inc., Maxar, NM OSE

APPENDIX E

Laboratory Analytical Data

Report Date: January 11, 2013

Work Order: 13011002

Page Number: 1 of 3

Summary Report

Ike Tavarez
 Tetra Tech
 1910 N. Big Spring Street
 Midland, TX 79705

Report Date: January 11, 2013

Work Order: 13011002



Project Location: Eddy Co., NM
 Project Name: COG/Way South State Com. #1H TB
 Project Number: 114-6401534

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
318048	Background Trench 1 0-1'	soil	2013-01-08	00:00	2013-01-09
318049	Background Trench 1 2'	soil	2013-01-08	00:00	2013-01-09
318050	Background Trench 1 4'	soil	2013-01-08	00:00	2013-01-09
318051	Background Trench 1 6'	soil	2013-01-08	00:00	2013-01-09
318052	Background Trench 1 8'	soil	2013-01-08	00:00	2013-01-09
318053	Background Trench 1 10'	soil	2013-01-08	00:00	2013-01-09
318054	Background Trench 2 0-1'	soil	2013-01-08	00:00	2013-01-09
318055	Background Trench 2 2'	soil	2013-01-08	00:00	2013-01-09
318056	Background Trench 2 4'	soil	2013-01-08	00:00	2013-01-09
318057	Background Trench 2 6'	soil	2013-01-08	00:00	2013-01-09
318058	Background Trench 2 8'	soil	2013-01-08	00:00	2013-01-09
318059	Background Trench 2 10'	soil	2013-01-08	00:00	2013-01-09

Sample: 318048 - Background Trench 1 0-1'

Param	Flag	Result	Units	RL
Chloride	Q*	194	mg/Kg	4

Sample: 318049 - Background Trench 1 2'

Param	Flag	Result	Units	RL
Chloride	Q*	995	mg/Kg	4

Report Date: January 11, 2013

Work Order: 13011002

Page Number: 2 of 3

Sample: 318050 - Background Trench 1 4'

Param	Flag	Result	Units	RL
Chloride	Q*	2160	mg/Kg	4

Sample: 318051 - Background Trench 1 6'

Param	Flag	Result	Units	RL
Chloride	Q*	2170	mg/Kg	4

Sample: 318052 - Background Trench 1 8'

Param	Flag	Result	Units	RL
Chloride	Q*	1080	mg/Kg	4

Sample: 318053 - Background Trench 1 10'

Param	Flag	Result	Units	RL
Chloride	Q*	991	mg/Kg	4

Sample: 318054 - Background Trench 2 0-1'

Param	Flag	Result	Units	RL
Chloride	Q*	<20.0	mg/Kg	4

Sample: 318055 - Background Trench 2 2'

Param	Flag	Result	Units	RL
Chloride	Q*	1810	mg/Kg	4

Sample: 318056 - Background Trench 2 4'

Param	Flag	Result	Units	RL
Chloride	Q*	3650	mg/Kg	4

Sample: 318057 - Background Trench 2 6'

Param	Flag	Result	Units	RL
Chloride	Q*	1650	mg/Kg	4

Report Date: January 11, 2013

Work Order: 13011002

Page Number: 3 of 3

Sample: 318058 - Background Trench 2 8'

Param	Flag	Result	Units	RL
Chloride		1340	mg/Kg	4

Sample: 318059 - Background Trench 2 10'

Param	Flag	Result	Units	RL
Chloride		1330	mg/Kg	4



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1298 806-794-1296 FAX 806-794-1298
 200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
 5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
 (BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
 E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
 Tetra Tech
 1910 N. Big Spring Street
 Midland, TX, 79705

Report Date: January 11, 2013

Work Order: 13011002



Project Location: Eddy Co., NM
 Project Name: COG/Way South State Com. #1H TB
 Project Number: 114-6401534

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
318048	Background Trench 1 0-1'	soil	2013-01-08	00:00	2013-01-09
318049	Background Trench 1 2'	soil	2013-01-08	00:00	2013-01-09
318050	Background Trench 1 4'	soil	2013-01-08	00:00	2013-01-09
318051	Background Trench 1 6'	soil	2013-01-08	00:00	2013-01-09
318052	Background Trench 1 8'	soil	2013-01-08	00:00	2013-01-09
318053	Background Trench 1 10'	soil	2013-01-08	00:00	2013-01-09
318054	Background Trench 2 0-1'	soil	2013-01-08	00:00	2013-01-09
318055	Background Trench 2 2'	soil	2013-01-08	00:00	2013-01-09
318056	Background Trench 2 4'	soil	2013-01-08	00:00	2013-01-09
318057	Background Trench 2 6'	soil	2013-01-08	00:00	2013-01-09
318058	Background Trench 2 8'	soil	2013-01-08	00:00	2013-01-09
318059	Background Trench 2 10'	soil	2013-01-08	00:00	2013-01-09

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

A handwritten signature in black ink that reads "Michael Abel". The signature is written in a cursive style with a large initial 'M'.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

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Sample 318052 (Background Trench 1 8')	6
Sample 318053 (Background Trench 1 10')	6
Sample 318054 (Background Trench 2 0-1')	6
Sample 318055 (Background Trench 2 2')	7
Sample 318056 (Background Trench 2 4')	7
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Case Narrative

Samples for project COG/Way South State Com. #1H TB were received by TraceAnalysis, Inc. on 2013-01-09 and assigned to work order 13011002. Samples for work order 13011002 were received intact at a temperature of 17.7 C. Samples were received without ice.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	83039	2013-01-11 at 13:06	98013	2013-01-11 at 13:09
Chloride (Titration)	SM 4500-Cl B	83041	2013-01-11 at 13:47	98017	2013-01-11 at 13:50

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 13011002 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: January 11, 2013
114-6401534

Work Order: 13011002
COG/Way South State Com. #1H TB

Page Number: 5 of 14
Eddy Co., NM

Analytical Report

Sample: 318048 - Background Trench 1 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-01-11	Analyzed By:	AH
QC Batch:	98013	Sample Preparation:	2013-01-11	Prepared By:	AH
Prep Batch:	83039				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*		194	mg/Kg	5	4.00

Sample: 318049 - Background Trench 1 2'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-01-11	Analyzed By:	AH
QC Batch:	98013	Sample Preparation:	2013-01-11	Prepared By:	AH
Prep Batch:	83039				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*		995	mg/Kg	5	4.00

Sample: 318050 - Background Trench 1 4'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-01-11	Analyzed By:	AH
QC Batch:	98013	Sample Preparation:	2013-01-11	Prepared By:	AH
Prep Batch:	83039				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Q*		2160	mg/Kg	5	4.00

Report Date: January 11, 2013
114-6401534

Work Order: 13011002
COG/Way South State Com. #1H TB

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Eddy Co., NM

Sample: 318051 - Background Trench 1 6'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 98013 Date Analyzed: 2013-01-11 Analyzed By: AH
Prep Batch: 83039 Sample Preparation: 2013-01-11 Prepared By: AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	qs		2170	mg/Kg	5	4.00

Sample: 318052 - Background Trench 1 8'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 98013 Date Analyzed: 2013-01-11 Analyzed By: AH
Prep Batch: 83039 Sample Preparation: 2013-01-11 Prepared By: AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	qs		1080	mg/Kg	5	4.00

Sample: 318053 - Background Trench 1 10'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 98013 Date Analyzed: 2013-01-11 Analyzed By: AH
Prep Batch: 83039 Sample Preparation: 2013-01-11 Prepared By: AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	qs		991	mg/Kg	5	4.00

Sample: 318054 - Background Trench 2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 98013 Date Analyzed: 2013-01-11 Analyzed By: AH
Prep Batch: 83039 Sample Preparation: 2013-01-11 Prepared By: AH

Report Date: January 11, 2013
114-6401534

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Eddy Co., NM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	qs,U		<20.0	mg/Kg	5	4.00

Sample: 318055 - Background Trench 2 2'

Laboratory: Midland
 Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
 QC Batch: 98013 Date Analyzed: 2013-01-11 Analyzed By: AH
 Prep Batch: 83039 Sample Preparation: 2013-01-11 Prepared By: AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	qs		1810	mg/Kg	5	4.00

Sample: 318056 - Background Trench 2 4'

Laboratory: Midland
 Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
 QC Batch: 98013 Date Analyzed: 2013-01-11 Analyzed By: AH
 Prep Batch: 83039 Sample Preparation: 2013-01-11 Prepared By: AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	qs		3650	mg/Kg	5	4.00

Sample: 318057 - Background Trench 2 6'

Laboratory: Midland
 Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
 QC Batch: 98013 Date Analyzed: 2013-01-11 Analyzed By: AH
 Prep Batch: 83039 Sample Preparation: 2013-01-11 Prepared By: AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	qs		1650	mg/Kg	5	4.00

Report Date: January 11, 2013
114-6401534

Work Order: 13011002
COG/Way South State Com. #1H TB

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Eddy Co., NM

Sample: 318058 - Background Trench 2 8'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2013-01-11	Analyzed By: AH
QC Batch: 98017	Sample Preparation: 2013-01-11	Prepared By: AH
Prep Batch: 83041		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1340	mg/Kg	5	4.00

Sample: 318059 - Background Trench 2 10'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2013-01-11	Analyzed By: AH
QC Batch: 98017	Sample Preparation: 2013-01-11	Prepared By: AH
Prep Batch: 83041		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1330	mg/Kg	5	4.00

Report Date: January 11, 2013
114-6401534

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Method Blanks

Method Blank (1) QC Batch: 98013

QC Batch: 98013
Prep Batch: 83039

Date Analyzed: 2013-01-11
QC Preparation: 2013-01-11

Analyzed By: AH
Prepared By: AH

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 98017

QC Batch: 98017
Prep Batch: 83041

Date Analyzed: 2013-01-11
QC Preparation: 2013-01-11

Analyzed By: AH
Prepared By: AH

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Report Date: January 11, 2013
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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Q*	Q*	4680	mg/Kg	5	2500	1650	121	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			4400	mg/Kg	5	2500	1650	110	78.9 - 121	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 318065

QC Batch: 98017
Prep Batch: 83041

Date Analyzed: 2013-01-11
QC Preparation: 2013-01-11

Analyzed By: AH
Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2640	mg/Kg	5	2500	133	100	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2690	mg/Kg	5	2500	133	102	78.9 - 121	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: January 11, 2013
114-6401534

Work Order: 13011002
COG/Way South State Com. #1H TB

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Eddy Co., NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

Report Date: January 11, 2013
114-6401534

Work Order: 13011002
COG/Way South State Com. #1H TB

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Eddy Co., NM

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

13011002

Analysis Request of Chain of Custody Record



TETRA TECH

1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

SITE MANAGER:
Ike Tovar

PROJECT NAME:
Way South State Cor #14
Eddy Co NM
SAMPLE IDENTIFICATION

CLIENT NAME:
COG

PRESERVATIVE METHOD

NUMBER OF CONTAINERS
1

DATE
10/13

TIME
11

LAB I.D. NUMBER
058

DATE
11/18

TIME
10

LAB I.D. NUMBER
059

DATE

TIME

MATRIX

COMP

GRAB

DATE

TIME

LAB I.D. NUMBER

DATE

TIME

LAB I.D. NUMBER

DATE

BTX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Vr Pd Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/626

PCBs 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

DATE

TIME

PAGE: 2 OF 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

RELINQUISHED BY: (Signature) *[Signature]* RECEIVED BY: (Signature) *[Signature]*

DATE: *11/13*

TIME: *16:55*

RELINQUISHED BY: (Signature) *[Signature]*

DATE: *11/13*

TIME: *16:55*

RELINQUISHED BY: (Signature) *[Signature]*

DATE: *11/13*

TIME: *16:55*

RECEIVING LABORATORY: *Tetra*

ADDRESS: *Midland*

CITY: *Midland*

STATE: *TX*

ZIP: *79701*

PHONE: *432-682-4559*

DATE: *11/13*

TIME: *16:55*

REMARKS: *Rush (Mud?)*

17.7

17.7

17.7

17.7

RECEIVED BY: (Signature) *[Signature]*

DATE: *11/13*

TIME: *16:55*

RECEIVED BY: (Signature) *[Signature]*

DATE: *11/13*

Certificate of Analysis Summary 658416

COG Operating LLC, Artesia, NM

Project Name: Way South State Corn #001H (12/25/19)



Project Id: Ike Tavaréz
Contact: Eddy County, NM
Project Location: Eddy County, NM

Date Received in Lab: Thu 04.09.2020 10:50
Report Date: 04.10.2020 16:15
Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 658416-007				
	Field Id: BH-1 7(Refusal)				
	Depth:				
	Matrix: SOIL				
	Sampled: 04.07.2020 00:00				
	Extracted: 04.09.2020 13:45				
Chloride by EPA 300	Analyzed: 04.09.2020 17:50				
	Units/RL: mg/kg RL				
Chloride	1840 100				

Jessica Kramer

Jessica Kramer
Project Manager

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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



Analytical Report 658416

for

COG Operating LLC

Project Manager: Ike Tavarez

Way South State Corn #001H (12/25/19)

04.10.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.10.2020

Project Manager: **Ike Tavarez**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **658416**
Way South State Corn #001H (12/25/19)
Project Address: Eddy County, NM

Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 658416. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 658416 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,



Jessica Kramer
Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 658416

COG Operating LLC, Artesia, NM

Way South State Corn #001H (12/25/19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 1'	S	04.07.2020 00:00		658416-001
BH-1 2'	S	04.07.2020 00:00		658416-002
BH-1 3'	S	04.07.2020 00:00		658416-003
BH-1 4'	S	04.07.2020 00:00		658416-004
BH-1 5'	S	04.07.2020 00:00		658416-005
BH-1 6'	S	04.07.2020 00:00		658416-006
BH-1 7'(Refusal)	S	04.07.2020 00:00		658416-007



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Way South State Corn #001H (12/25/19)

Project ID:
Work Order Number(s): 658416

Report Date: 04.10.2020
Date Received: 04.09.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122631 BTEX by EPA 8021B

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



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM
Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 1'** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-001 Date Collected: 04.07.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 04.09.2020 13:45 Basis: Wet Weight
 Seq Number: 3122605

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6960	50.0	mg/kg	04.09.2020 16:48		10

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.09.2020 14:00 Basis: Wet Weight
 Seq Number: 3122627

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	04.09.2020 19:08	U	1
Diesel Range Organics	C10C28DRO	80.6	50.0	mg/kg	04.09.2020 19:08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.09.2020 19:08	U	1
Total TPH	PHC635	80.6	50.0	mg/kg	04.09.2020 19:08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-130	04.09.2020 19:08	
o-Terphenyl	84-15-1	83	%	70-130	04.09.2020 19:08	



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 1'** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-001 Date Collected: 04.07.2020 00:00
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL % Moisture:
 Analyst: KTL Date Prep: 04.09.2020 14:45 Basis: Wet Weight
 Seq Number: 3122631

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.10.2020 05:56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.10.2020 05:56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.10.2020 05:56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.10.2020 05:56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.10.2020 05:56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.10.2020 05:56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.10.2020 05:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	130	%	70-130	04.10.2020 05:56	
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.10.2020 05:56	



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM
Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 2'** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-002 Date Collected: 04.07.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 04.09.2020 13:45 Basis: Wet Weight
 Seq Number: 3122605

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1810	100	mg/kg	04.09.2020 16:55		20

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 04.09.2020 14:00 Basis: Wet Weight
 Seq Number: 3122627

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	04.09.2020 19:26	U	1
Diesel Range Organics	C10C28DRO	<49.8	49.8	mg/kg	04.09.2020 19:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.09.2020 19:26	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.09.2020 19:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-130	04.09.2020 19:26	
o-Terphenyl	84-15-1	80	%	70-130	04.09.2020 19:26	



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 2'** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-002 Date Collected: 04.07.2020 00:00
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
 Tech: KTL % Moisture:
 Analyst: KTL Date Prep: 04.09.2020 14:45 Basis: Wet Weight
 Seq Number: 3122631

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.10.2020 06:16	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.10.2020 06:16	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.10.2020 06:16	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.10.2020 06:16	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.10.2020 06:16	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.10.2020 06:16	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.10.2020 06:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	04.10.2020 06:16	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 06:16	



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM

Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 3'** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-003 Date Collected: 04.07.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 04.09.2020 13:45 Basis: Wet Weight
 Seq Number: 3122605

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4500	100	mg/kg	04.09.2020 17:02		20



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM

Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 4'**
Lab Sample Id: 658416-004

Matrix: Soil
Date Collected: 04.07.2020 00:00

Date Received: 04.09.2020 10:50

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 04.09.2020 13:45

Basis: Wet Weight

Seq Number: 3122605

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1130	50.4	mg/kg	04.09.2020 17:09		10



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM

Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 5'** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-005 Date Collected: 04.07.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 04.09.2020 13:45 Basis: Wet Weight
 Seq Number: 3122605

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1470	49.8	mg/kg	04.09.2020 17:16		10



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM

Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 6'** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-006 Date Collected: 04.07.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 04.09.2020 13:45 Basis: Wet Weight
 Seq Number: 3122605

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2890	99.8	mg/kg	04.09.2020 17:43		20



Certificate of Analytical Results 658416

COG Operating LLC, Artesia, NM

Way South State Corn #001H (12/25/19)

Sample Id: **BH-1 7'(Refusal)** Matrix: Soil Date Received: 04.09.2020 10:50
 Lab Sample Id: 658416-007 Date Collected: 04.07.2020 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 04.09.2020 13:45 Basis: Wet Weight
 Seq Number: 3122605

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1840	100	mg/kg	04.09.2020 17:50		20



QC Summary 658416

COG Operating LLC

Way South State Corn #001H (12/25/19)

Analytical Method: Chloride by EPA 300

Seq Number: 3122605

MB Sample Id: 7700921-1-BLK

Matrix: Solid

LCS Sample Id: 7700921-1-BKS

Prep Method: E300P

Date Prep: 04.09.2020

LCSD Sample Id: 7700921-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	257	103	90-110	0	20	mg/kg	04.09.2020 15:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3122605

Parent Sample Id: 658411-001

Matrix: Soil

MS Sample Id: 658411-001 S

Prep Method: E300P

Date Prep: 04.09.2020

MSD Sample Id: 658411-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	81.1	1260	1390	104	1390	104	90-110	0	20	mg/kg	04.09.2020 15:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3122605

Parent Sample Id: 658417-001

Matrix: Soil

MS Sample Id: 658417-001 S

Prep Method: E300P

Date Prep: 04.09.2020

MSD Sample Id: 658417-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1550	1240	2870	106	2840	104	90-110	1	20	mg/kg	04.09.2020 17:30	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3122627

MB Sample Id: 7700962-1-BLK

Matrix: Solid

LCS Sample Id: 7700962-1-BKS

Prep Method: SW8015P

Date Prep: 04.09.2020

LCSD Sample Id: 7700962-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<50.0	1000	884	88	900	90	70-130	2	20	mg/kg	04.09.2020 17:21	
Diesel Range Organics	<50.0	1000	968	97	984	98	70-130	2	20	mg/kg	04.09.2020 17:21	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	76		95		95		70-130	%	04.09.2020 17:21
o-Terphenyl	81		87		92		70-130	%	04.09.2020 17:21

Analytical Method: TPH By SW8015 Mod

Seq Number: 3122627

MB Sample Id: 7700962-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.09.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.09.2020 17:02	

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

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

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

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



QC Summary 658416

COG Operating LLC

Way South State Corn #001H (12/25/19)

Analytical Method: TPH By SW8015 Mod

Seq Number: 3122627

Parent Sample Id: 658411-001

Matrix: Soil

MS Sample Id: 658411-001 S

Prep Method: SW8015P

Date Prep: 04.09.2020

MSD Sample Id: 658411-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<49.9	997	831	83	817	82	70-130	2	20	mg/kg	04.09.2020 18:15	
Diesel Range Organics	<49.9	997	885	89	880	88	70-130	1	20	mg/kg	04.09.2020 18:15	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		91		70-130	%	04.09.2020 18:15
o-Terphenyl	91		85		70-130	%	04.09.2020 18:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122631

MB Sample Id: 7701025-1-BLK

Matrix: Solid

LCS Sample Id: 7701025-1-BKS

Prep Method: SW5030B

Date Prep: 04.09.2020

LCSD Sample Id: 7701025-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0823	82	0.0842	84	70-130	2	35	mg/kg	04.10.2020 01:52	
Toluene	<0.00200	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	04.10.2020 01:52	
Ethylbenzene	<0.00200	0.100	0.108	108	0.109	109	70-130	1	35	mg/kg	04.10.2020 01:52	
m,p-Xylenes	<0.00400	0.200	0.227	114	0.227	114	70-130	0	35	mg/kg	04.10.2020 01:52	
o-Xylene	<0.00200	0.100	0.116	116	0.116	116	70-130	0	35	mg/kg	04.10.2020 01:52	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		98		97		70-130	%	04.10.2020 01:52
4-Bromofluorobenzene	115		123		122		70-130	%	04.10.2020 01:52

Analytical Method: BTEX by EPA 8021B

Seq Number: 3122631

Parent Sample Id: 658411-001

Matrix: Soil

MS Sample Id: 658411-001 S

Prep Method: SW5030B

Date Prep: 04.09.2020

MSD Sample Id: 658411-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0754	75	0.0700	70	70-130	7	35	mg/kg	04.10.2020 02:33	
Toluene	<0.00200	0.100	0.0890	89	0.0799	80	70-130	11	35	mg/kg	04.10.2020 02:33	
Ethylbenzene	<0.00200	0.100	0.0915	92	0.0801	80	70-130	13	35	mg/kg	04.10.2020 02:33	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.165	83	70-130	14	35	mg/kg	04.10.2020 02:33	
o-Xylene	<0.00200	0.100	0.0945	95	0.0826	83	70-130	13	35	mg/kg	04.10.2020 02:33	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	04.10.2020 02:33
4-Bromofluorobenzene	120		115		70-130	%	04.10.2020 02:33

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

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

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

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



One Concho
Center/600Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG Site Manager: Ike Tavaraz itavaraz@concho.com

Project Name: COG Robert Grubbs Jr rgrubbs@concho.com

Project Location: Eddy County, NM Project #: Way South State Com #001H (12/25/19)

Invoice to: COG

Receiving Laboratory: Xenco Sampler Signature: Robert Grubbs Jr

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION		SAMPLING		MATRIX				PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)	
	DATE	TIME	YEAR: 2020		WATER	SOIL	HCL	HNO ₃	ICE						
BH-1 1'	4/7/2020				X					X				1	
BH-1 2'	4/7/2020				X					X				1	
BH-1 3'	4/7/2020				X					X				1	
BH-1 4'	4/7/2020				X					X				1	
BH-1 5'	4/7/2020				X					X				1	
BH-1 6'	4/7/2020				X					X				1	
BH-1 7' (Refusal)	4/7/2020				X					X				1	

LAB USE ONLY	REMARKS:
X	RUSH: Same Day 24 hr 48 hr 72 hr
	Rush Charges Authorized
	Special Report Limits or TRRP Report

10584110

ANALYSIS REQUEST
(Circle or Specify Method No.)

<input checked="" type="checkbox"/>	BTEX 8021B
<input checked="" type="checkbox"/>	TPH TX1005 (Ext to C35)
<input checked="" type="checkbox"/>	TPH 8015M (GRO - DRO - MRO)
	PAH 8270C
	Total Metals Ag As Ba Cd Cr Pb Se Hg
	TCLP Metals Ag As Ba Cd Cr Pb Se Hg
	TCLP Volatiles
	TCLP Semi Volatiles
	RCI
	GC/MS Vol. 8260B / 624
	GC/MS Semi. Vol. 8270C/625
	PCB's 8082 / 608
	NORM
	PLM (Asbestos)
	Chloride
	Chloride Sulfate TDS
	General Water Chemistry (see attached list)
	Anion/Cation Balance
	EC Electrical Conductivity
	Hold

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC
Date/ Time Received: 04.09.2020 10:50:00 AM
Work Order #: 658416
Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R9

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 04.09.2020
 Checklist reviewed by: Jessica Kramer Date: 04.09.2020



Certificate of Analysis Summary 681131

COG Operating LLC, Artesia, NM

Project Name: Way South State Com #001H (12/25/19)

Project Id:
Contact: Ike Tavarez
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.15.2020 14:25
Report Date: 12.16.2020 14:39
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	681131-001		681131-002		681131-003		681131-004		681131-005		681131-006	
	<i>Field Id:</i>	Bore Hole-1 0-1'		Bore Hole-1 3'-4'		Bore Hole-1 5'-6'		Bore Hole-1 7'-8'		Bore Hole-1 9'-10'		Bore Hole-1 14'-15'	
	<i>Depth:</i>												
	<i>Matrix:</i>	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
<i>Sampled:</i>	12.14.2020 00:00		12.14.2020 00:00		12.14.2020 00:00		12.14.2020 00:00		12.14.2020 00:00		12.14.2020 00:00		
Chloride by EPA 300	<i>Extracted:</i>	12.15.2020 17:05		12.15.2020 17:05		12.15.2020 17:05		12.15.2020 17:05		12.15.2020 17:05		12.15.2020 17:05	
	<i>Analyzed:</i>	12.15.2020 23:20		12.15.2020 23:25		12.15.2020 23:30		12.15.2020 23:35		12.15.2020 23:41		12.15.2020 23:46	
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride	859	24.8	887	50.2	1240	24.9	1450	50.0	2250	50.0	3880	100	

BRL - Below Reporting Limit

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

Jessica Kramer



Certificate of Analysis Summary 681131

COG Operating LLC, Artesia, NM

Project Name: Way South State Com #001H (12/25/19)

Project Id:
Contact: Ike Tavarez
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.15.2020 14:25
Report Date: 12.16.2020 14:39
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	681131-007				
	<i>Field Id:</i>	Bore Hole-1 19'-20'				
	<i>Depth:</i>					
	<i>Matrix:</i>	SOIL				
	<i>Sampled:</i>	12.14.2020 00:00				
Chloride by EPA 300	<i>Extracted:</i>	12.15.2020 17:05				
	<i>Analyzed:</i>	12.15.2020 23:51				
	<i>Units/RL:</i>	mg/kg RL				
Chloride		1490 50.4				

BRL - Below Reporting Limit

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

Jessica Kramer

Analytical Report 681131

for

COG Operating LLC

Project Manager: Ike Tavarez

Way South State Com #001H (12/25/19)

12.16.2020

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.16.2020

Project Manager: **Ike Tavaréz**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: Eurofins Xenco, LLC Report No(s): **681131**
Way South State Com #001H (12/25/19)
Project Address: Eddy County, New Mexico

Ike Tavaréz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 681131. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 681131 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer
Project Manager

A Small Business and Minority Company

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



Sample Cross Reference 681131

COG Operating LLC, Artesia, NM

Way South State Com #001H (12/25/19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bore Hole-1 0-1'	S	12.14.2020 00:00		681131-001
Bore Hole-1 3'-4'	S	12.14.2020 00:00		681131-002
Bore Hole-1 5'-6'	S	12.14.2020 00:00		681131-003
Bore Hole-1 7'-8'	S	12.14.2020 00:00		681131-004
Bore Hole-1 9'-10'	S	12.14.2020 00:00		681131-005
Bore Hole-1 14'-15'	S	12.14.2020 00:00		681131-006
Bore Hole-1 19'-20'	S	12.14.2020 00:00		681131-007



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Way South State Com #001H (12/25/19)

Project ID:
Work Order Number(s): 681131

Report Date: 12.16.2020
Date Received: 12.15.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 681131

COG Operating LLC, Artesia, NM

Way South State Com #001H (12/25/19)

Sample Id: **Bore Hole-1 0-1'**

Matrix: Soil

Date Received: 12.15.2020 14:25

Lab Sample Id: 681131-001

Date Collected: 12.14.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.15.2020 17:05

% Moisture:

Seq Number: 3145041

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	859	24.8	mg/kg	12.15.2020 23:20		5



Certificate of Analytical Results 681131

COG Operating LLC, Artesia, NM Way South State Com #001H (12/25/19)

Sample Id: **Bore Hole-1 3'-4'** Matrix: Soil Date Received: 12.15.2020 14:25
 Lab Sample Id: 681131-002 Date Collected: 12.14.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.15.2020 17:05 % Moisture:
 Seq Number: 3145041 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	887	50.2	mg/kg	12.15.2020 23:25		10



Certificate of Analytical Results 681131

COG Operating LLC, Artesia, NM

Way South State Com #001H (12/25/19)

Sample Id: **Bore Hole-1 5'-6'**

Matrix: Soil

Date Received: 12.15.2020 14:25

Lab Sample Id: 681131-003

Date Collected: 12.14.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.15.2020 17:05

% Moisture:

Seq Number: 3145041

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	24.9	mg/kg	12.15.2020 23:30		5



Certificate of Analytical Results 681131

COG Operating LLC, Artesia, NM

Way South State Com #001H (12/25/19)

Sample Id: **Bore Hole-1 7'-8'**

Matrix: Soil

Date Received: 12.15.2020 14:25

Lab Sample Id: 681131-004

Date Collected: 12.14.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.15.2020 17:05

% Moisture:

Seq Number: 3145041

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1450	50.0	mg/kg	12.15.2020 23:35		10



Certificate of Analytical Results 681131

COG Operating LLC, Artesia, NM

Way South State Com #001H (12/25/19)

Sample Id: **Bore Hole-1 9'-10'** Matrix: Soil Date Received: 12.15.2020 14:25
 Lab Sample Id: 681131-005 Date Collected: 12.14.2020 00:00
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE
 Analyst: CHE Date Prep: 12.15.2020 17:05 % Moisture:
 Seq Number: 3145041 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2250	50.0	mg/kg	12.15.2020 23:41		10



Certificate of Analytical Results 681131

COG Operating LLC, Artesia, NM

Way South State Com #001H (12/25/19)

Sample Id: **Bore Hole-1 14'-15'**

Matrix: Soil

Date Received: 12.15.2020 14:25

Lab Sample Id: 681131-006

Date Collected: 12.14.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.15.2020 17:05

% Moisture:

Seq Number: 3145041

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3880	100	mg/kg	12.15.2020 23:46		20



Certificate of Analytical Results 681131

COG Operating LLC, Artesia, NM

Way South State Com #001H (12/25/19)

Sample Id: **Bore Hole-1 19'-20'**

Matrix: Soil

Date Received: 12.15.2020 14:25

Lab Sample Id: 681131-007

Date Collected: 12.14.2020 00:00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

Analyst: CHE

Date Prep: 12.15.2020 17:05

% Moisture:

Seq Number: 3145041

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1490	50.4	mg/kg	12.15.2020 23:51		10



COG Operating LLC
Way South State Com #001H (12/25/19)

Analytical Method: Chloride by EPA 300

Seq Number: 3145041

MB Sample Id: 7717198-1-BLK

Matrix: Solid

LCS Sample Id: 7717198-1-BKS

Prep Method: E300P

Date Prep: 12.15.2020

LCSD Sample Id: 7717198-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	254	102	90-110	0	20	mg/kg	12.15.2020 21:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3145041

Parent Sample Id: 680923-011

Matrix: Soil

MS Sample Id: 680923-011 S

Prep Method: E300P

Date Prep: 12.15.2020

MSD Sample Id: 680923-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	485	2500	3320	113	3270	111	90-110	2	20	mg/kg	12.15.2020 21:36	X

Analytical Method: Chloride by EPA 300

Seq Number: 3145041

Parent Sample Id: 680935-001

Matrix: Soil

MS Sample Id: 680935-001 S

Prep Method: E300P

Date Prep: 12.15.2020

MSD Sample Id: 680935-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	359	1240	1710	109	1700	108	90-110	1	20	mg/kg	12.15.2020 22:49	

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

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

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

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



One Concho Center/600/Illinois Avenue/Midland, Texas
Tel (432) 683-7443

081131

ANALYSIS REQUEST
(Circle or Specify Method No.)

Client Name: COG		Site Manager: Ike Tavarez itavarez@concho.com Robert Grubbs Jr rgrubbs@concho.com										
Project Name: Way South State Com #001H (12/25/19)		Project #:										
Project Location: Eddy County, NM		Project #:										
Invoice to: COG		Sampler Signature: Robert Grubbs Jr										
Receiving Laboratory: Xenco		Comments:										
LAB # (USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING	YEAR: 2020	DATE	TIME	MATRIX	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	TPH TX1005 (Ext to C35)		
										WATER	SOIL	HCL
		Bore Hole -1 0-1'	12/14/2020		X					1		X
		Bore Hole -1 3-4'	12/14/2020		X				1		X	
		Bore Hole -1 5-6'	12/14/2020		X				1		X	
Bore Hole -1 7-8'	12/14/2020		X				1		X			
Bore Hole -1 9-10'	12/14/2020		X				1		X			
Bore Hole -1 14-15'	12/14/2020		X				1		X			
Bore Hole -1 19-20'	12/14/2020		X				1		X			
Reinquished by: Robert Grubbs Jr		Date: 12/15/2020	Time: 1425	Received by: [Signature]		Date: 12/15/2023	Time: 1425	LAB USE ONLY				
Reinquished by:		Date:	Time:	Received by:		Date:	Time:	REMARKS:				
Reinquished by:		Date:	Time:	Received by:		Date:	Time:	X RUSH: Same Day 24 hr 48 hr 72 hr				
Reinquished by:		Date:	Time:	Received by:		Date:	Time:	Rush Charges Authorized				
Reinquished by:		Date:	Time:	Received by:		Date:	Time:	Special Report Limits or TRRP Report				
Reinquished by:		Date:	Time:	Received by:		Date:	Time:	Special Report Limits or TRRP Report				

ORIGINAL COPY

(Circle) HAND DELIVERED FEDEX Ups Tracking #

- 206

Sample Temperature

LAB USE ONLY

REMARKS:

X RUSH: Same Day 24 hr 48 hr 72 hr

Rush Charges Authorized

Special Report Limits or TRRP Report

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 12.15.2020 02.25.00 PM

Work Order #: 681131

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	-2.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Brianna Teel

Date: 12.15.2020

Checklist reviewed by:



Jessica Kramer

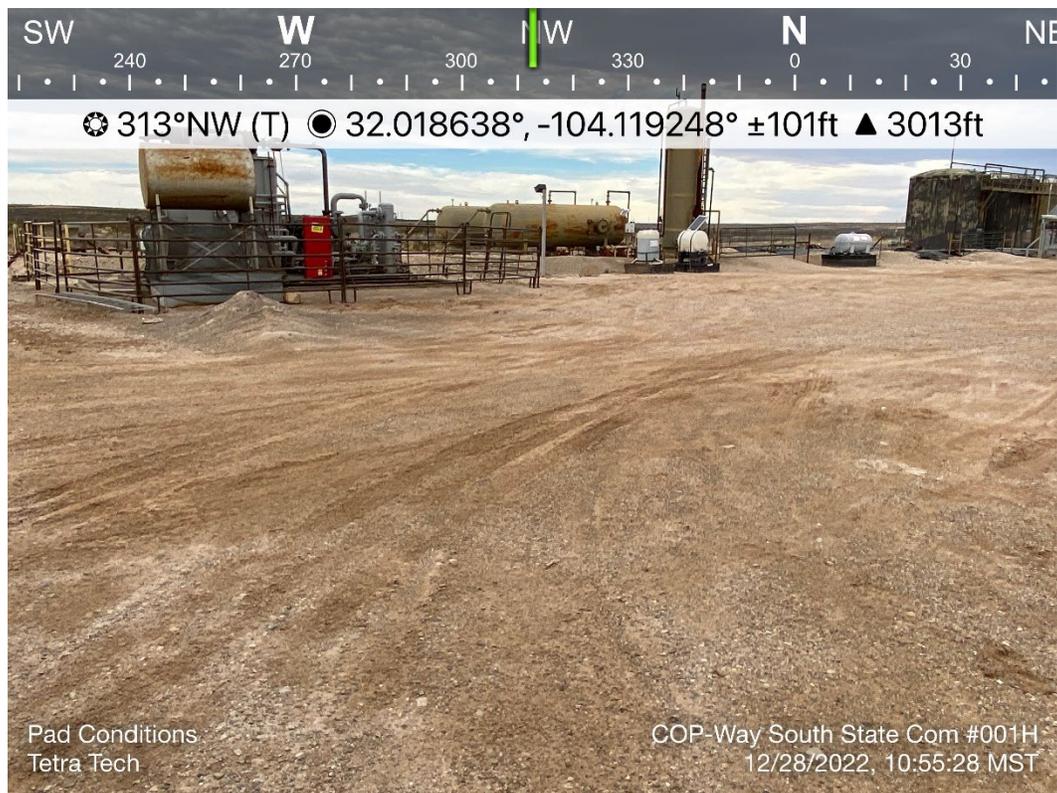
Date: 12.16.2020

APPENDIX F

Photographic Documentation



TETRA TECH, INC. PROJECT NO. 212C-MD-02839	DESCRIPTION	View west. View of site signage.	1
	SITE NAME	Way South State Com #001H Release	2/6/2023



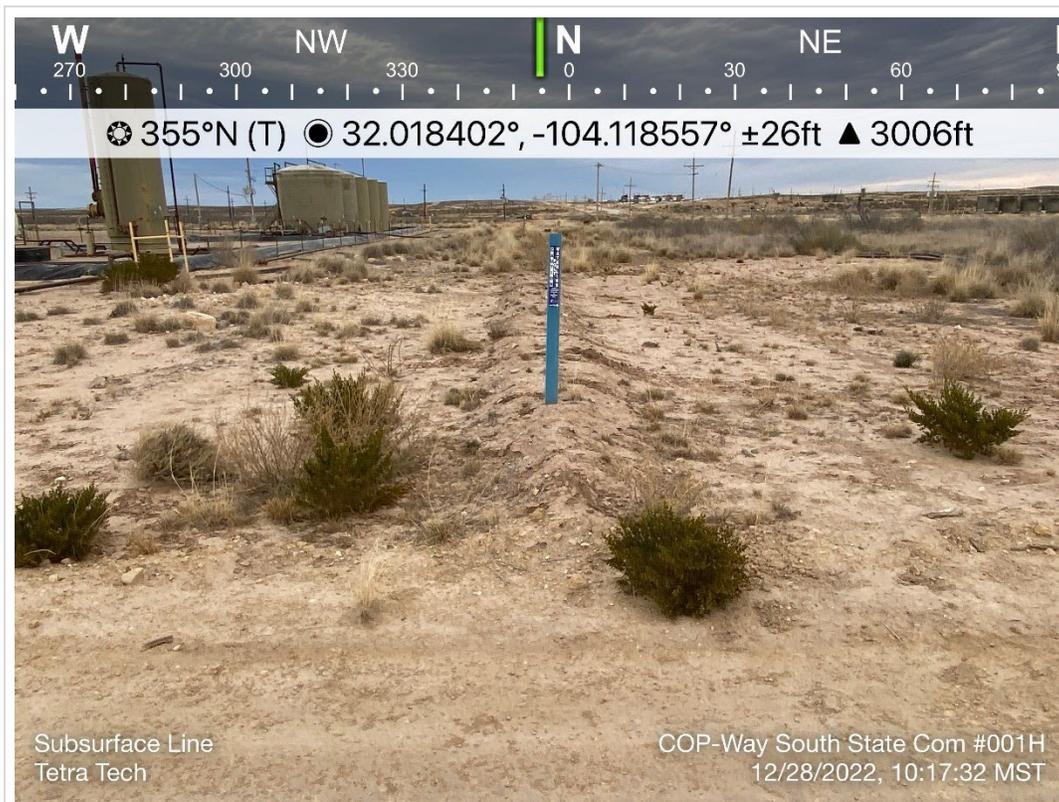
TETRA TECH, INC. PROJECT NO. 212C-MD-02839	DESCRIPTION	View northwest. View of pad conditions and current production equipment present on-site.	2
	SITE NAME	Way South State Com #001H Release	12/28/2022



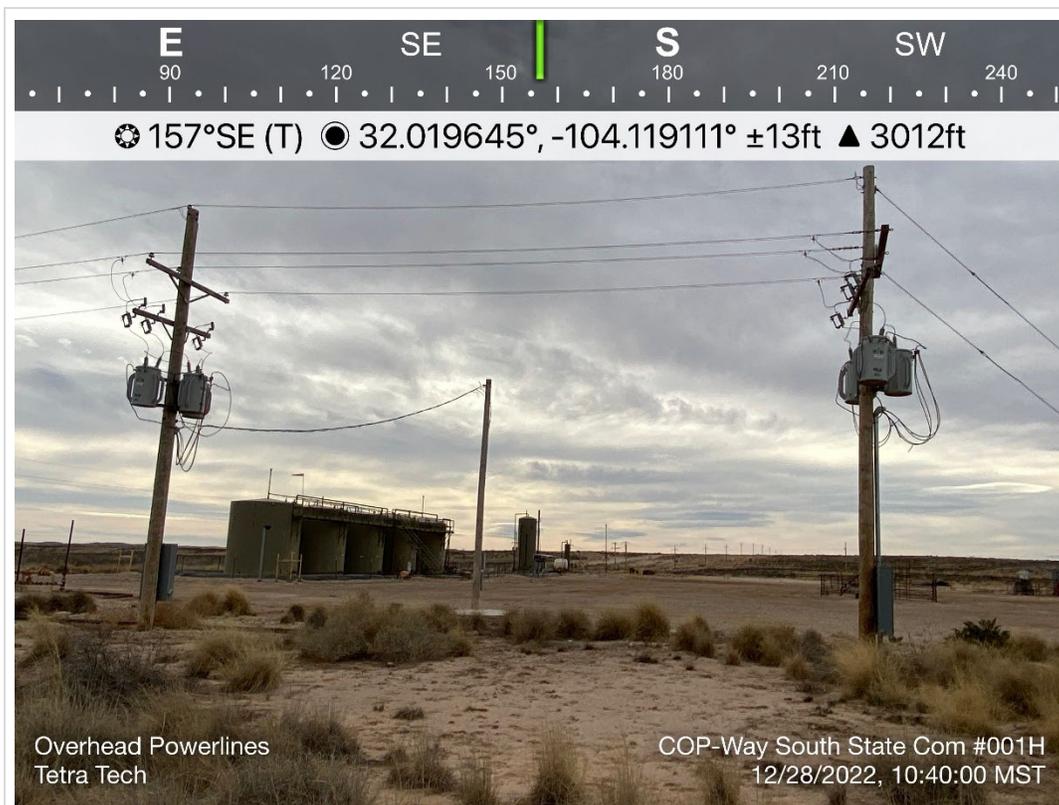
TETRA TECH, INC. PROJECT NO. 212C-MD--02839	DESCRIPTION	View northwest. View of approximate release extent. Production equipment present.	3
	SITE NAME	Way South State Com #001H Release	12/28/2022



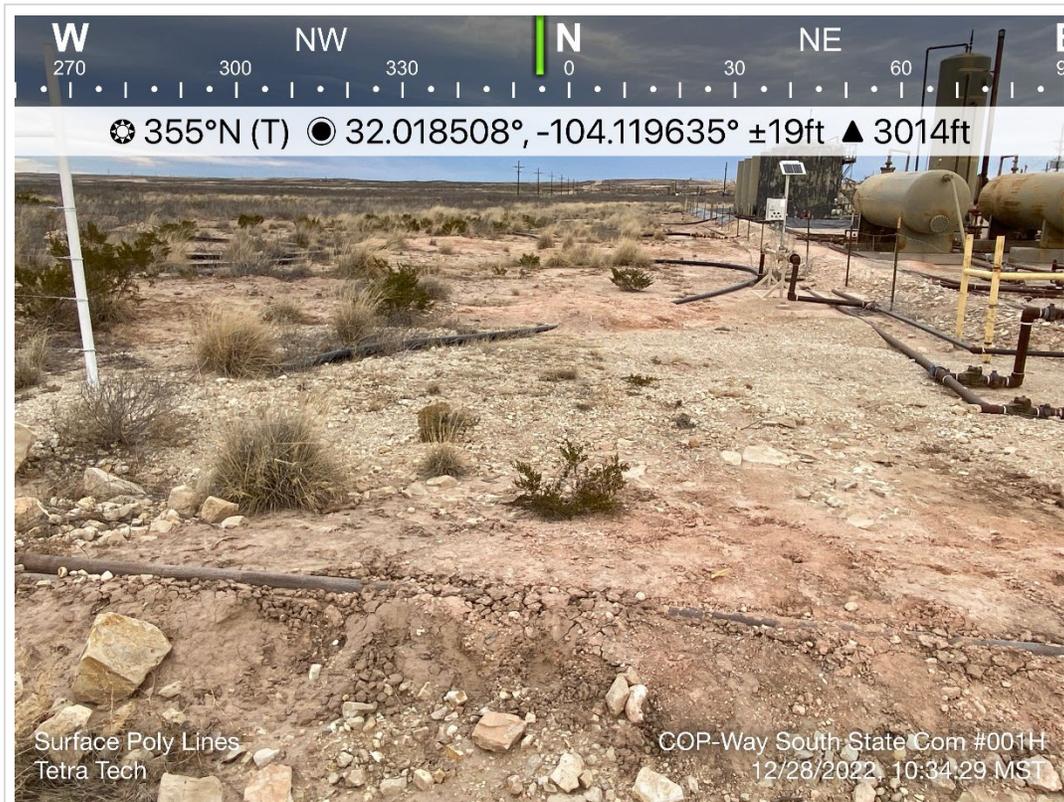
TETRA TECH, INC. PROJECT NO. 212C-MD--02839	DESCRIPTION	View east. View of pad conditions. Production equipment present.	4
	SITE NAME	Way South State Com #001H Release	12/28/2022



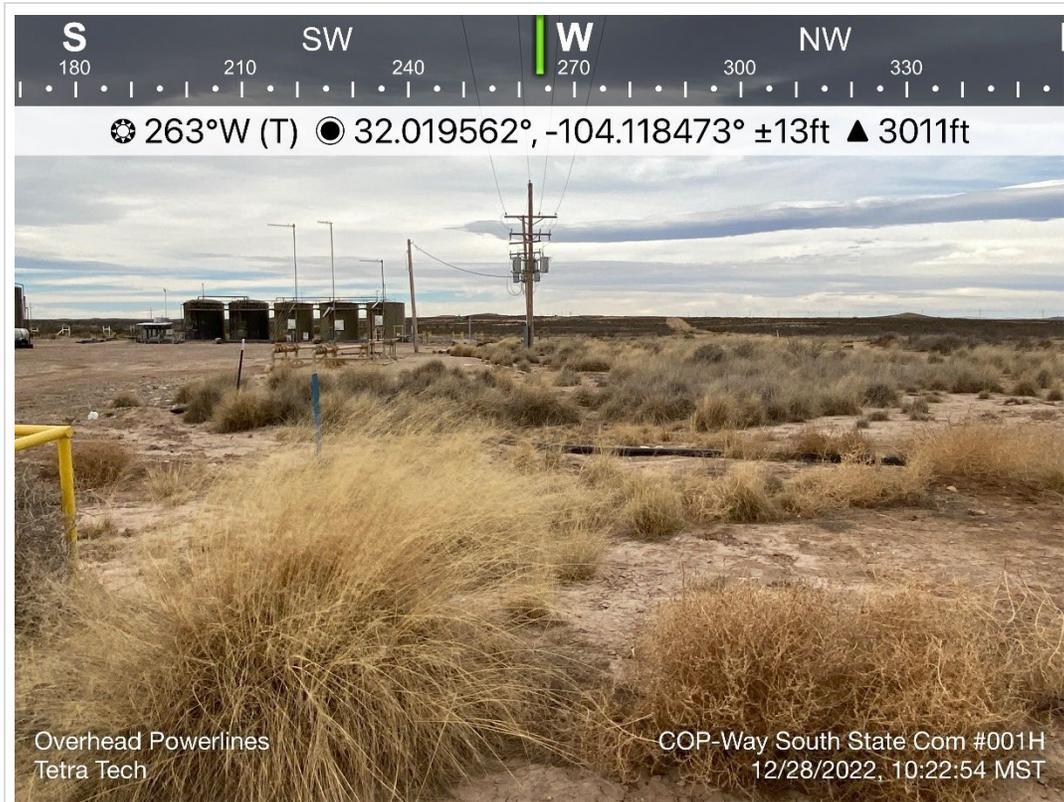
TETRA TECH, INC. PROJECT NO. 212C-MD--02839	DESCRIPTION	View east. View of gate and surface poly line.	5
	SITE NAME	Way South State Com #001H Release	12/28/2022



TETRA TECH, INC. PROJECT NO. 212C-MD--02839	DESCRIPTION	View southeast. View of overhead power lines and view of production equipment.	6
	SITE NAME	Way South State Com #001H Release	12/28/2022



TETRA TECH, INC. PROJECT NO. 212C-MD--02839	DESCRIPTION	View north. View of production equipment and surface poly lines.	7
	SITE NAME	Way South State Com #001H Release	12/28/2022



TETRA TECH, INC. PROJECT NO. 212C-MD--02839	DESCRIPTION	View west. View of over head powerlines, production equipment and surface poly lines.	8
	SITE NAME	Way South State Com #001H Release	12/28/2022

APPENDIX G

Seed Mixture Details

NMSLO Seed Mix**Loamy (L)****LOAMY (L) SITES SEED MIXTURE:**

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Black grama	VNS, Southern	1.0	D
Blue grama	Lovington	1.0	D
Sideoats grama	Vaughn, El Reno	4.0	F
Sand dropseed	VNS, Southern	2.0	S
Alkali sacaton	VNS, Southern	1.0	
Little bluestem	Cimarron, Pastura	1.5	F
Forbs:			
Firewheel (<i>Gaillardia</i>)	VNS, Southern	1.0	D
Shrubs:			
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F
		Total PLS/acre	18.0

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 255702

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 255702
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation plan approved. Submit a report via the OCD permitting portal by 6/21/2024.	2/16/2024