TETRA TECH

November 23, 2022

District Supervisor
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Release Characterization and Work Plan Addendum
ConocoPhillips
Heritage Concho
Compadres Fee Tank Battery Release
Unit Letter H, Section 4, Township 22 South, Range 27 East
Eddy County, New Mexico
Incident ID NAB1803951001
2RP-4608

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess and evaluate a release that occurred from the separator at the Compadres Fee Tank Battery. The release footprint is located in Public Land Survey System (PLSS) Unit Letter H, Section 4, Township 22 South, and Range 27 East, Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.423826°, -104.189028°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), the Compadres Fee Tank Battery release was discovered on February 2, 2018. The release occurred due to the inlet vessel losing supply gas to the dump valve, which resulted in pressure building up in the separator. The buildup in pressure caused a 1-inch popoff line on the separator to release fluids into the facility. Approximately 22 barrels (bbls) of produced water were released, of which 20 bbls were recovered. The C-141 form for the release was submitted to the New Mexico Oil Conservation Division (NMOCD) by COG Operating, LLC (COG) on February 7, 2018. The NMOCD Incident ID for this release is NAB1803951001.

SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, private domestic water wells, springs, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29.12 New Mexico Administrative Code (NMAC). Please note that no continuous or significant waterbody is within the lateral extent of the release; however, a New Mexico Office of the State Engineers (NMOSE) unnamed stream body does lie approximately 140 feet east of the release. The Site is in an area of medium karst potential.

According to the NMOSE reporting system, there are no wells within approximately ½ mile (800 meters) of the Site. The average depth to water based on data from nine (9) wells located within approximately 1.5 miles (2,500 meters) of the Site is 22 feet bgs. According to boring logs from two borings drilled at the Site in September 2018, soils with trace moisture were encountered at approximately 20 feet bgs, at which depth the borings were terminated to avoid encountering groundwater. Thus, the Site is likely underlain by shallow groundwater (less than 50 feet bgs). The site characterization data is included in Appendix B.

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

REGULATORY FRAMEWORK

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

Based on the site characterization (including karst potential and assumed depth to groundwater of less than 50 feet bgs) and in accordance with Table I of 19.15.29.12 NMAC, the RRALs for the Site are as follows:

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

INITIAL ASSESSMENT ACTIVITIES AND SAMPLING RESULTS

On February 22, 2018, COG personnel collected assessment samples from two (2) locations located within the release extent, T-1 and AH-1. The assessment was conducted with piping and infrastructure present within the tank battery. Six (6) samples were collected from T-1 to a depth of 6 feet and two (2) samples from AH-1 to a depth of 0.5 feet. A total of eight (8) soil samples were sent to Xenco Laboratories in Midland, Texas to be analyzed for chloride via EPA Method 300, TPH via EPA Method 8015M, and BTEX via EPA Method 8021B. Sample locations are shown in Figure 3.

The analytical results from T-1 exceeded the Site RRAL for chloride (600 mg/kg) at the depth intervals of 0 feet, 1 feet, and 2 feet bgs. The surface sample (0 feet bgs) collected from T-1 also exceeded the TPH RRAL of 100 mg/kg. The analytical results from AH-1 exceeded site RRALs for chloride and TPH at depth intervals of 0 feet and 0.5 feet bgs. A copy of the analytical laboratory report and chain-of-custody documentation are included in Appendix C. Sample results from the initial assessment are summarized in Table 1. Photographic documentation of the release area and initial response extent is included as Appendix D.

COG WORK PLAN

COG submitted a Work Plan, dated April 9, 2018, to the NMOCD via email describing the initial response, assessment activities, and sampling results. COG proposed excavating the impacted area in the vicinity of sample location T-1 to a depth of 3 feet bgs, backfilling with caliche, and grading to match the surrounding areas. At the time, AH-1 could not be further delineated due to infrastructure present within the tank battery. Therefore, COG proposed to excavate without threatening the structural integrity of the surrounding infrastructure and collect a confirmation sample at the bottom of the excavated area to be analyzed for TPH and chloride. The Work Plan was approved via email by Mr. Mike Bratcher on May 15, 2018, with the following comments:

"Due to the large number of water wells that exist in relative close proximity to the site (the upper portion of T22S – R27E & the lower portion of T21S – R27E), the potential for ground water being relatively shallow (possibly less than 50'), hydrocarbon impact in the battery showing elevated levels with no delineation, OCD requests a boring be installed to a minimum of 50 feet bgs, to investigate the potential for shallow ground water at the site. In the event the boring is completely dry at 50', boring operations may cease and the boring plugged. If ground water is encountered at 50' or less, a sample is to be obtained per proper sampling procedures, and tested for contaminants. If there is a showing of potential ground water at 50', the boring is to be extended in a manner that will allow for determination of actual depth to ground water and potential impact. The preferred placement of the boring would be as close to the battery as possible on the west side, southern portion of the site (based on probable gradient). The placement may be modified if any available data indicates gradient to be in a different direction. At the time of this writing, OCD has not researched any gradient data."

Regulatory correspondence including the NMOCD approval is included as Appendix F.

ADDITIONAL SITE ASSESSMENT AND SAMPLING RESULTS

In September 2018, Tetra Tech personnel conducted a site visit and additional soil sampling on behalf of COG. During the site visit, it was noted that the previously noted production equipment and infrastructure had been removed from the bermed area (see Appendix D). A total of two (2) soil borings were installed with an air rotary drill rig, one within the release footprint (BH-1) and a second (Background) in the pasture outside of the facility area to analyze for background levels of chloride. The borings were sampled and each terminated at 20 feet bgs. These soil samples were sent to Xenco Laboratories in Midland, Texas to be analyzed for chloride via EPA Method 300, TPH via EPA Method 8015M, and BTEX via EPA Method 8021B. Sample locations are shown in Figure 4. Boring logs, included as Appendix E, present soil descriptions, sample depths, and field screening data from September 2018 Site assessment. Photographic documentation of the assessment activities is included as Appendix D.

The analytical results from BH-1 exceeded the Site RRAL for chloride (600 mg/kg) down to a depth of 15 feet bgs. Analytical results associated with the 19-20 interval were below the RRAL for chloride, and the impact was vertically delineated. There were no analytical results which exceeded the Site RRAL for TPH (100 mg/kg) in BH-1. The analytical results associated with the background boring (drilled outside of the battery) did not exceed Site RRALs for any of the analyzed constituents.

REMEDIATION WORK PLAN ADDENDUM

As the previous work plan was approved, but remediation was based upon the existing infrastructure and limitations associated with the production equipment, the remedy has been revised. Based on the previously-approved Work Plan and the analytical results of the September 2018 additional Site assessment activities, the remaining impacted material is proposed to be removed as shown in Figure 5. The formerly bermed tank battery facility footprint will be excavated to a depth of 4 feet bgs to remove soils impacted by the reported produced water release and the residual TPH impacts within the bermed area. The area around BH-1 will be remediated with a benched excavation to a total depth of 15 feet bgs to address impacted soils above Site RRALs.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation floor and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 1,045 cubic yards.

If groundwater is encountered during the planned remedial activities or expected to be encountered due to deepening of the excavation, the excavation will cease at the appropriate depth, all soils above that depth will be remediated, closure for the impacted soil site will be requested, and a separate groundwater investigation would be opened. In the event that excavation floor samples are below Site RRALs, COP requests full closure of the site with no further action.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 6. Four (4) confirmation floor samples and six (6) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 3,510 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 400 square feet of excavated area. Confirmation samples will be submitted for analysis of TPH (Method 8015 modified), BTEX (Method 8260B), and chloride (USEPA Method 300.0). Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade.

CONCLUSION

ConocoPhillips proposes to remediate the release area as described above and in accordance with the conditionally approved COG Work Plan within 90 days of NMOCD approval of this Work Plan addendum. This Work Plan Addendum presents the findings of the additional assessment and delineation activities. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD.

If you have any questions concerning the soil assessment, additional delineation, or the proposed remediation activities for the Site, please call me at (512) 338-2861 or email at Christian.llull@tetratech.com.

Sincerely,
Tetra Tech, Inc.

Christian M. Llull, P.G.
Program Manager

cc:
Mr. Ike Tavarez, RMR – ConocoPhillips

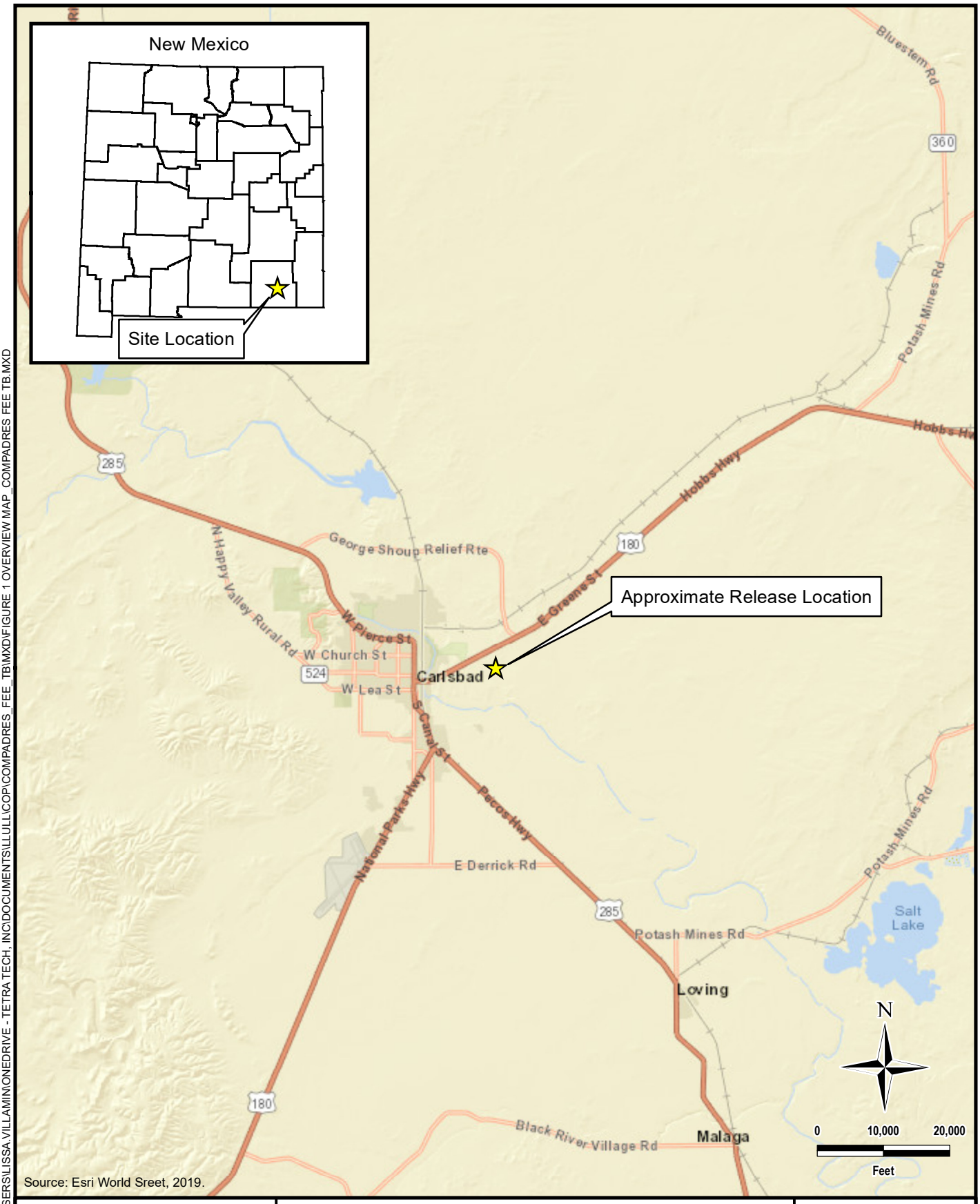
LIST OF ATTACHMENTS

Figures:

Tables:

Appendices:

FIGURES



Source: Esri World Sreet, 2019.

DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\COMPADRES_FEE_TB\MXD\FIGURE 1 OVERVIEW MAP_COMPADRES FEE TB.MXD

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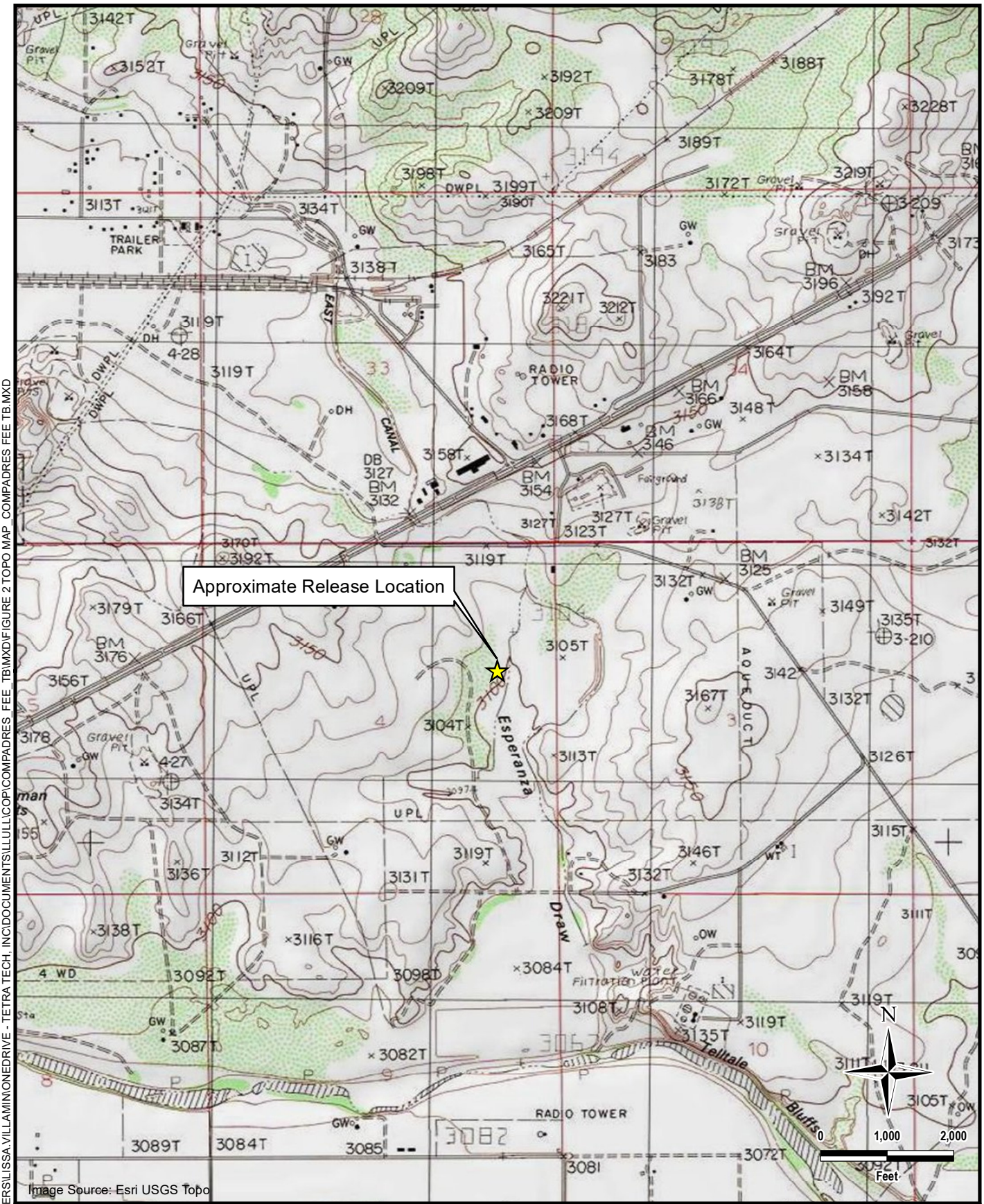
CONOCOPHILLIPS

NAB1803951001
(32.423826° -104.189028°)
EDDY COUNTY, NEW MEXICO

COMPADRES FEE TB RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-028467
DATE:	OCTOBER 25, 2022
DESIGNED BY:	LMV

Figure No.
1



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LULL\COP\COMPADRES_FEE_TB\MXD\FIGURE 2 TOPO MAP_COMPADRES FEE TB.MXD

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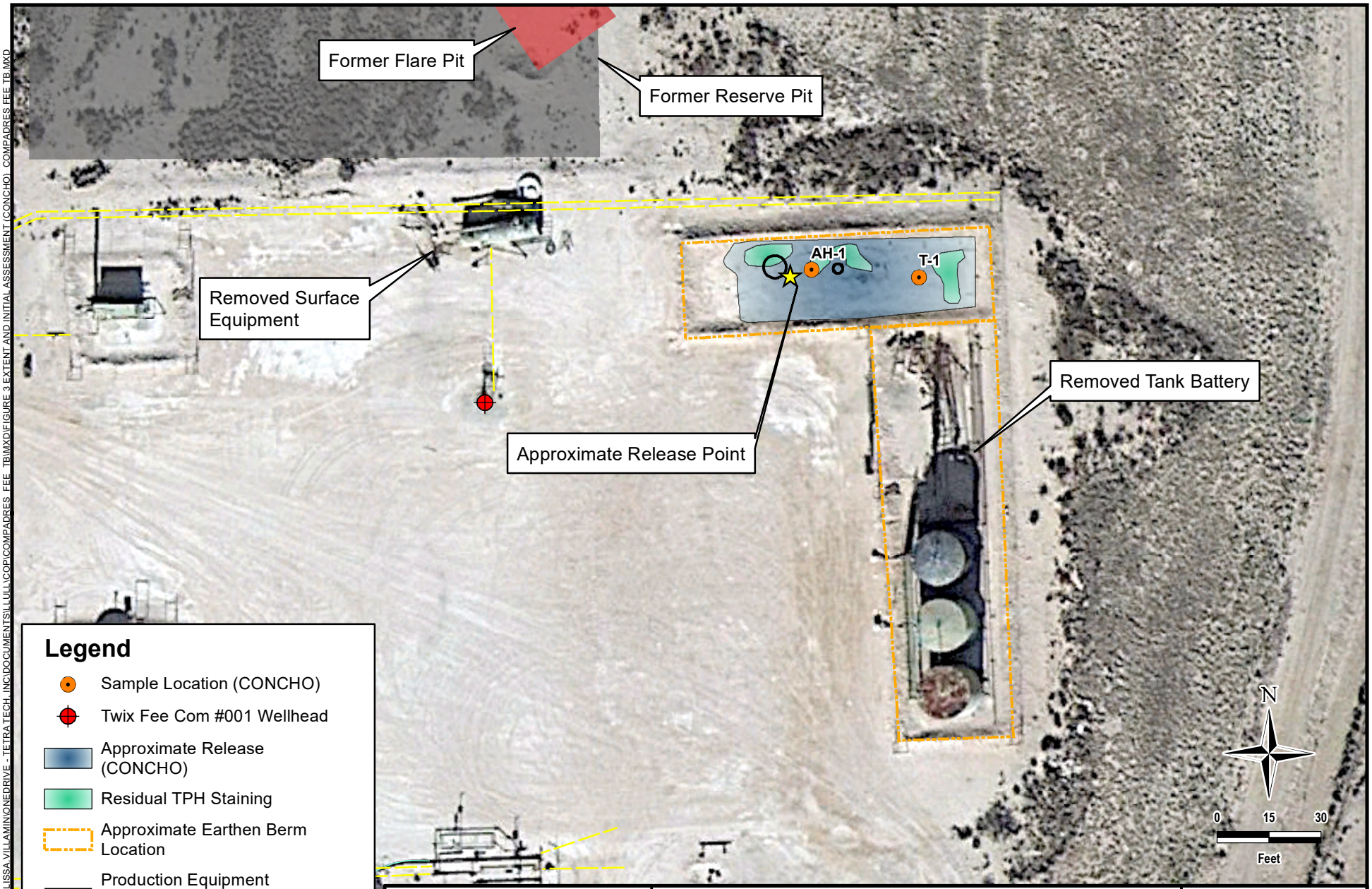
CONOCOPHILLIPS

NAB1803951001
(32.423826° -104.189028°)
EDDY COUNTY, NEW MEXICO

COMPADRES FEE TB RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02867
DATE:	OCTOBER 25, 2022
DESIGNED BY:	LMV

Figure No.
2



Legend

- Sample Location (CONCHO)
- Twix Fee Com #001 Wellhead
- Approximate Release (CONCHO)
- Residual TPH Staining
- Approximate Earthen Berm Location
- Production Equipment (Removed)
- Subsurface Line
- Surface Flowline

Image Source: Google Earth, 2019.

DOCUMENT PATH: C:\USERS\LISSA.VILLAMINO\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LULLI\COP\COMPADRES_FEE_TB\MXD\FIGURE 3 EXTENT AND INITIAL ASSESSMENT (CONCHO) COMPADRES FEE TB.MXD

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CONOCOPHILLIPS

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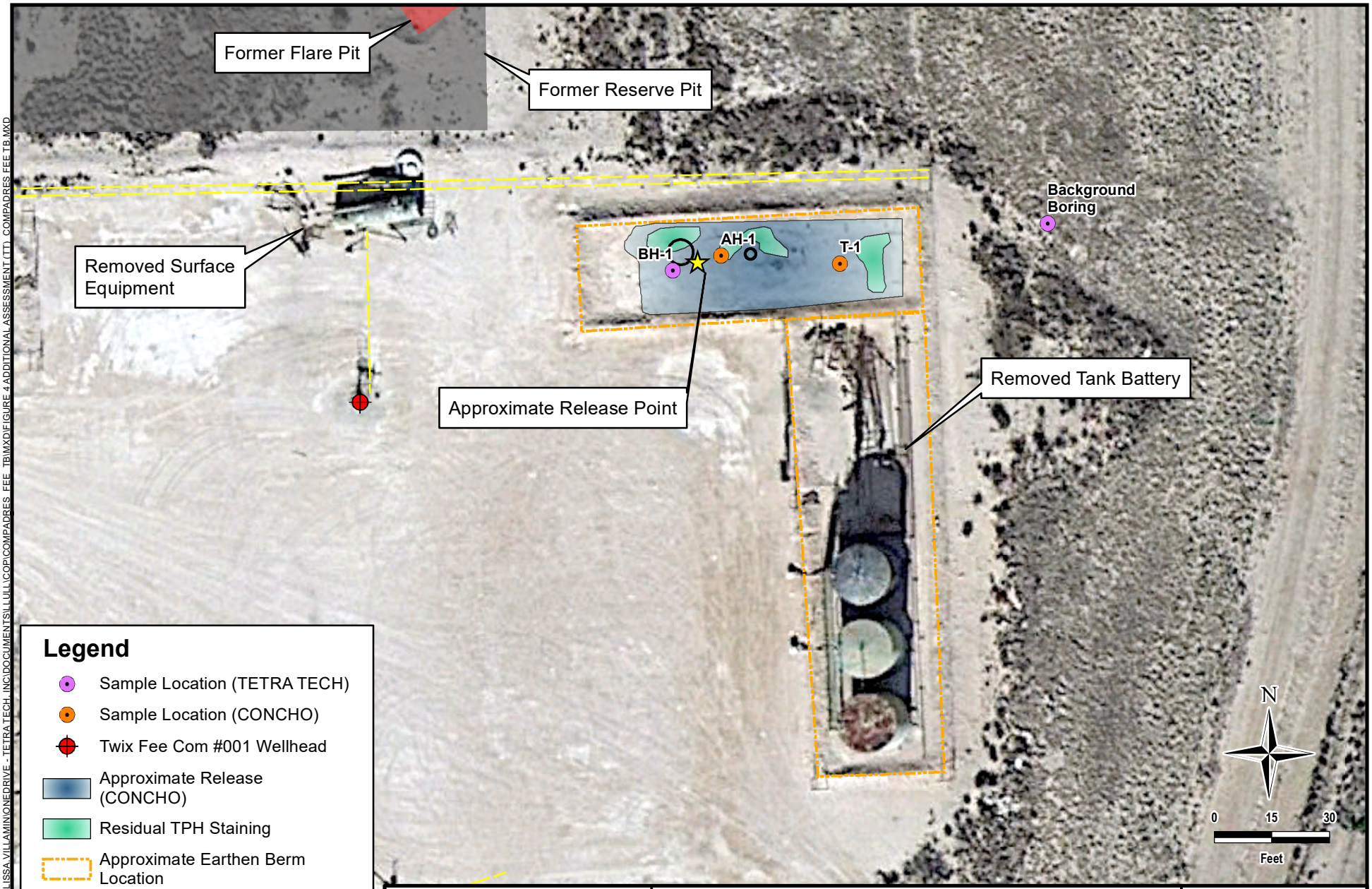
EDDY COUNTY, NEW MEXICO

COMPADRES FEE TB RELEASE
APPROXIMATE RELEASE EXTENT AND INITIAL ASSESSMENT (CONCHO)

PROJECT NO.:	212C-MD-02867
DATE:	NOVEMBER 21, 2022
DESIGNED BY:	LMV

Figure No.
3



Legend

- Sample Location (TETRA TECH)
- Sample Location (CONCHO)
- Twix Fee Com #001 Wellhead
- Approximate Release (CONCHO)
- Residual TPH Staining
- Approximate Earthen Berm Location
- Production Equipment (Removed)
- Subsurface Line

Image Source: Google Earth, 2019.

DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LULLUCOP\COMPADRES_FEE_TB\MXD\FIGURE 4 ADDITIONAL ASSESSMENT (TT)_COMPADRES FEE TB.MXD

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CONOCOPHILLIPS

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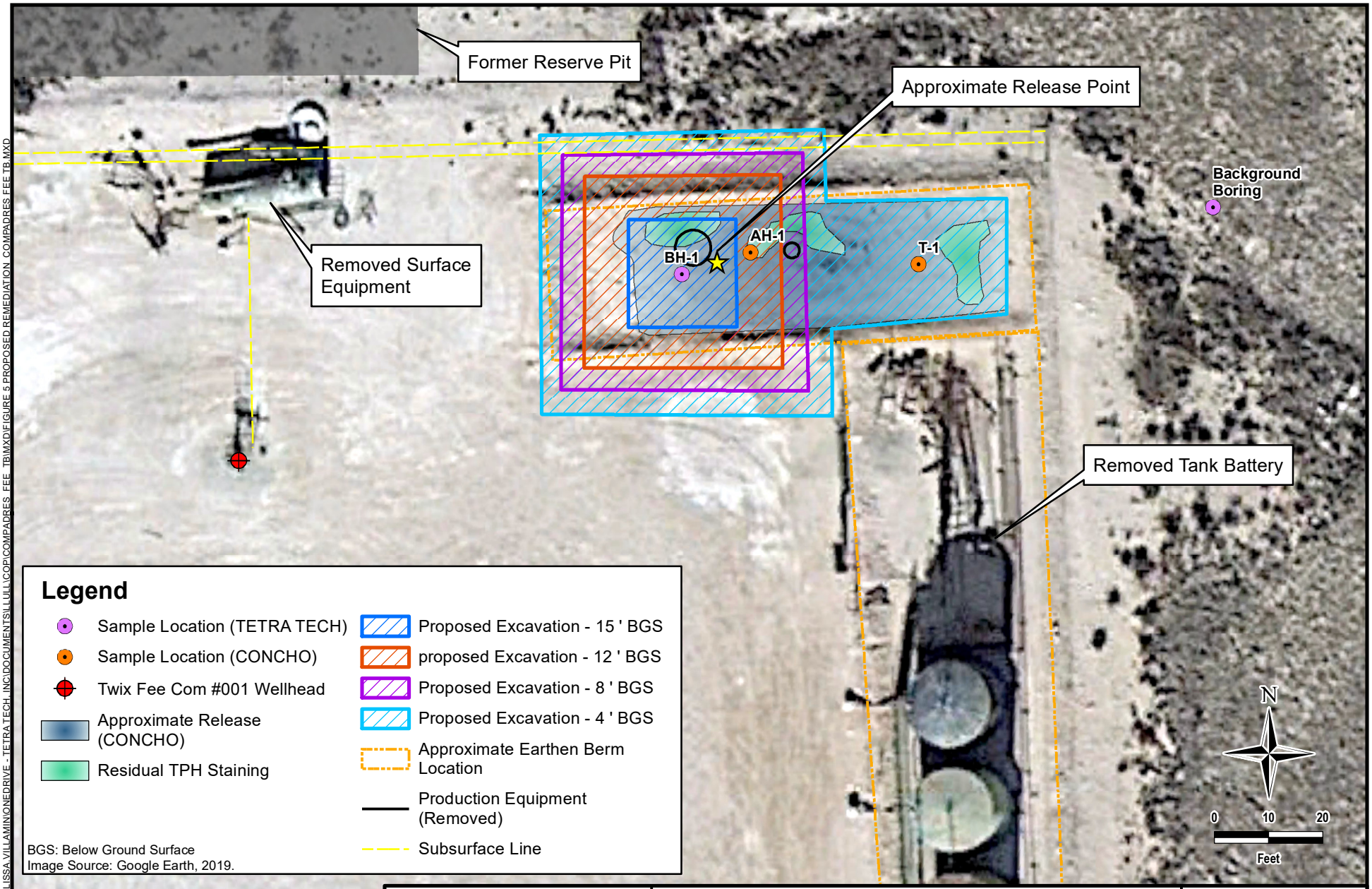
EDDY COUNTY, NEW MEXICO

COMPADRES FEE TB RELEASE
ADDITIONAL ASSESSMENT (TETRA TECH)

PROJECT NO.:	212C-MD-02867
DATE:	NOVEMBER 21, 2022
DESIGNED BY:	LMV

Figure No.
4



Legend

- Sample Location (TETRA TECH)
- Sample Location (CONCHO)
- Twix Fee Com #001 Wellhead
- Approximate Release (CONCHO)
- Residual TPH Staining
- Proposed Excavation - 15 ' BGS
- proposed Excavation - 12 ' BGS
- Proposed Excavation - 8 ' BGS
- Proposed Excavation - 4 ' BGS
- Approximate Earthen Berm Location
- Production Equipment (Removed)
- Subsurface Line

BGS: Below Ground Surface
Image Source: Google Earth, 2019.

DOCUMENT PATH: C:\USERS\LISSA.VILLAMIL\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LULLI\COP\COMPADRES FEE TB\MXD\FIGURE 5 PROPOSED REMEDIATION COMPADRES FEE TB.MXD

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CONOCOPHILLIPS

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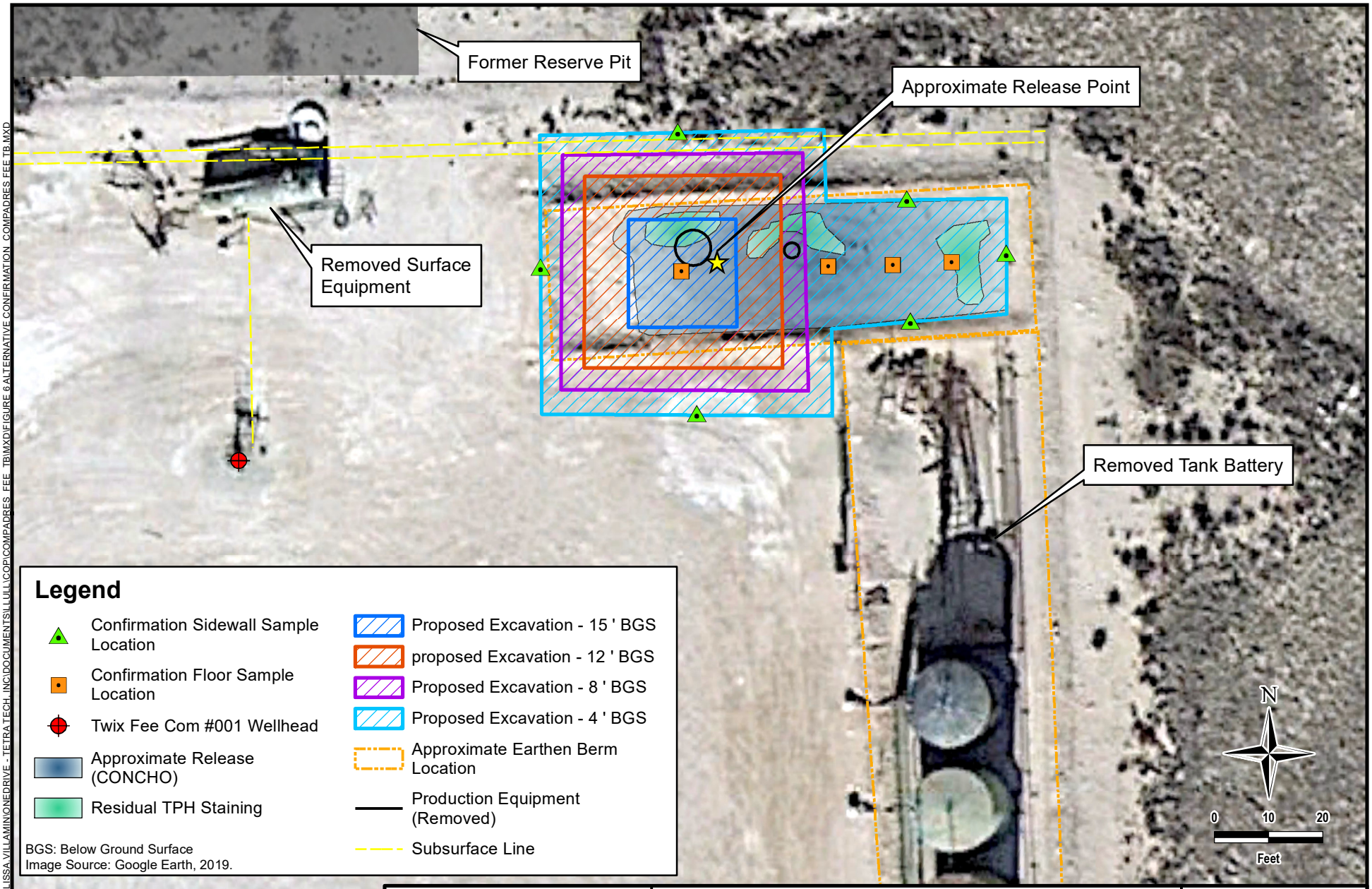
EDDY COUNTY, NEW MEXICO

COMPADRES FEE TB RELEASE
PROPOSED REMEDIATION EXTENT

PROJECT NO.:	212C-MD-02867
DATE:	NOVEMBER 21, 2022
DESIGNED BY:	LMV

Figure No.
5



Legend

- Confirmation Sidewall Sample Location
- Confirmation Floor Sample Location
- Twix Fee Com #001 Wellhead
- Approximate Release (CONCHO)
- Residual TPH Staining
- Proposed Excavation - 15 ' BGS
- proposed Excavation - 12 ' BGS
- Proposed Excavation - 8 ' BGS
- Proposed Excavation - 4 ' BGS
- Approximate Earthen Berm Location
- Production Equipment (Removed)
- Subsurface Line

BGS: Below Ground Surface
Image Source: Google Earth, 2019.

DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LULLU\COP\COMPADRES_FEE_TB\MXD\FIGURE 6 ALTERNATIVE CONFIRMATION_COMPADRES FEE TB.MXD

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COMPADRES FEE TB RELEASE
ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.:	212C-MD-02867
DATE:	NOVEMBER 21, 2022
DESIGNED BY:	LMV

Figure No.
6

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
INITIAL SOIL ASSESSMENT - NAB1803951001/2RP-4608
CONOCOPHILLIPS
COMPADRES FEE TB RELEASE
EDDY COUNTY, NEW MEXICO

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		ORO		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	Q	mg/kg	Q
T-1	2/22/2018	0	***20,000***		<0.00198	U	<0.00198	U	<0.00198	U	<0.00396	U	<0.00198	U	<0.00198	U	<0.00198	U	<15.0	U	***103***		<15.0	U	***103***	
		1	***4,010***		<0.00201	U	<0.00201	U	<0.00201	U	<0.00402	U	<0.00201	U	<0.00201	U	<0.00201	U	<15.0	U	<15.0	U	<15.0	U	<15.0	U
		2	***1620***		<0.00202		<0.00202	U	<0.00202	U	<0.00403	U	<0.00202	U	<0.00202		<0.00202		<15.0	U	<15.0	U	<15.0	U	<15.0	U
		3	247		<0.00199	U	<0.00199	U	<0.00199	U	<0.00398	U	<0.00199	U	<0.00199	U	<0.00199	U	<14.9	U	<14.9	U	<14.9	U	<14.9	U
		4	NA		<0.00199	U	<0.00199	U	<0.00199	U	<0.00398	U	<0.00199	U	<0.00199	U	<0.00199	U	<14.9	U	<14.9	U	<14.9	U	<14.9	U
		6	NA		<0.00200	U	<0.00200	U	<0.00200	U	<0.00399	U	<0.00200	U	<0.00200	U	<0.00200	U	<15.0	U	<15.0	U	<15.0	U	<15.0	U
AH-1	2/22/2018	0	***3,240***		<0.0200	U	<0.0200	U	<0.0200	U	<0.0401	U	<0.0200	U	<0.0200	U	<0.0200	U	***271***		***9620***		***472***		***10,400***	
		0.5	***1,400***		<0.0199	U	<0.0199	U	0.111		0.302		0.350		0.652		0.763		***257***		***10,300***		***517***		***11,100***	

NOTES:

ft.	Feet
bgs	Below ground surface
mg/kg	Milligrams per kilogram
TPH	Total Petroleum Hydrocarbons
GRO	Gasoline range organics
DRO	Diesel range organics
ORO	Oil Range Hydrocarbons
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 Remediation RRALs and Reclamation Requirements.

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

U - Analyte was not detected

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
ADDITIONAL SOIL ASSESSMENT - 2RP-4608 / NAB1803951001
HERITAGE CONCHO
COMPADRES FEE TB RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride[1]		BTEX[2]														TPH[3]									
			Chloride	PID			Benzene		Toluene		Ethylbenzene		m,p-Xylenes		o-Xylene		Total Xylenes		Total BTEX		GRO		DRO		MRO		Total TPH	
		ft. bgs	ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q
BH #1	9/25/2018	0-1	-	-	173		< 0.00200		< 0.00200		< 0.00200		< 0.00401		< 0.00200		< 0.00200		< 0.00200		< 15.0		< 15.0		< 15.0		< 15.0			
		2-3	-	-	577		< 0.00199		< 0.00199		< 0.00199		< 0.00398		< 0.00199		< 0.00199		< 0.00199		< 14.9		76.5		< 14.9		76.5			
		4-5	-	-	***855***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		6-7	-	-	***931***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		9-10	-	-	***856***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		14-15	-	-	***802***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		19-20	-	-	252		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
Background	9/25/2018	0-1	-	-	< 5.01		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		2-3	-	-	< 4.95		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		6-7	-	-	< 5.00		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		9-10	-	-	155		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		14-15	-	-	157		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA			
		19-20	-	-	57.7		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

NA 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 Site RRALs.

Shaded rows indicate intervals proposed for excavation.

APPENDIX A
C-141 Forms

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 07 2018
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

Submit to appropriate District Office in accordance with 19.15.29 NMAC.

fAB1803942943
nAB1803951001

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **COG Operating, LLC** (OGRID# 229137)	Contact: **Robert McNeill**
Address: **600 West Illinois Avenue, Midland TX 79701**	Telephone No.: **432-683-7443**
Facility Name: **COMPADRES FEE Tank Battery**	Facility Type: **Tank Battery**

Surface Owner: Private	Mineral Owner: Private	API No.:

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	4	22S	27E					Eddy

Latitude: 32.423556 **Longitude**: -104.188985 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 22 bbls PW	Volume Recovered: 20 bbls PW
Source of Release: Water Tanks	Date and Hour of Occurrence: 2/2/2018	Date and Hour of Discovery: 2/2/2018 10:00 AM
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The inlet vessel lost supply gas to the dump valve which resulted in a pressure build up in the separator. The buildup in pressure caused the 1" pop off line on the separator to release fluids into the facility.

Describe Area Affected and Cleanup Action Taken.*

This release remained inside the unlined facility. A vacuum truck was dispatched to recover all freestanding fluids. Concho will have the spill area evaluated for any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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

Signature: Dakota Neel

Printed Name: Dakota Neel

Title: HSE Coordinator

E-mail Address dneel2@concho.com

Date: 2/7/2018 Phone: 575-746-2010

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By

Approval Date: 2/8/18 Expiration Date: N/A

Conditions of Approval: See attached

Attached ☐ 2RP-4608

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 2/07/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4108 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 3/07/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Bratcher, Mike, EMNRD

From: Dakota Neel <DNeel2@concho.com>
Sent: Wednesday, February 7, 2018 9:58 AM
To: Weaver, Crystal, EMNRD; Bratcher, Mike, EMNRD
Cc: Robert McNeill; Sheldon Hitchcock; Rebecca Haskell; Christopher Gray
Subject: (C-141 Initial) Compadres Fee Tank Battery 2-2-2018
Attachments: (C-141 Initial) Compadres Fee Tank Battery 2-2-2018.pdf

Ms. Weaver,

Please find the attached initial C-141 for your consideration. If you have any questions or concerns please contact me.

Thank you,

Dakota Neel
HSE Coordinator
COG Operating LLC
Cell: 432-215-2783
dneel2@concho.com

2407 Pecos Ave.
Artesia , NM 88210

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 11/23/2022

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 11/23/2022

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

Signature: Ashley Maxwell Date: _____

Proposed alternative sampling plan denied due to depth to groundwater being approximately 22 feet below surface and documented moisture detected in a sample collected at 15 feet below surface.

OCD approves confirmation samples to be collected every 300 square feet for both the base of the excavation and side walls.

APPENDIX B
Site Characterization Data

OCD Waterbodies Map

10/10/2022, 12:07:20 PM

OSE Streams

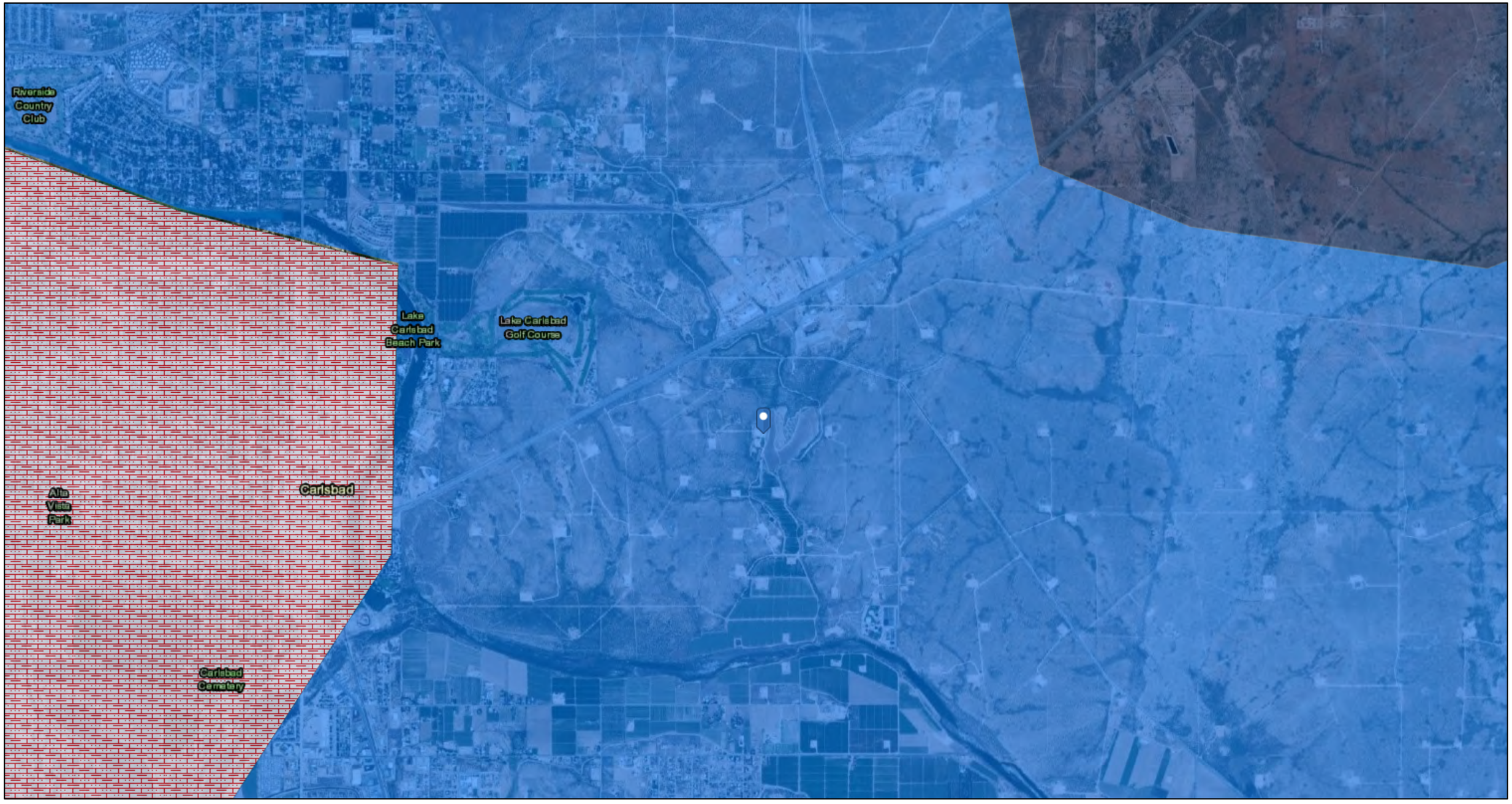
1:2,257

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

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

OCD Karst Potential Map



10/10/2022, 11:58:11 AM

Karst Occurrence Potential

- High
- Medium
- Critical Karst Resource Area

1:36,112

0 0.38 0.75 1.5 mi

0 0.5 1 2 km

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

New Mexico Oil Conservation Division

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

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

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 00589		CUB	ED	2	4	4	04	22S	27E	576412	3586974*	718			
C 00479		C	ED			3	03	22S	27E	576919	3587082*	892	200		
C 02193		C	ED			4	32	21S	27E	574476	3588675*	2037	55	15	40
C 04457 POD4		CUB	ED	1	3	1	33	21S	27E	574936	3589466	2223	20	15	5
C 00092 A	O	CUB	ED	1	3	4	09	22S	27E	575815	3585346*	2369	200		
C 02899		C	ED	1	3	4	09	22S	27E	575815	3585346*	2369	33	22	11
C 03038		C	ED	1	3	4	09	22S	27E	575815	3585346*	2369	43	15	28
C 00160		C	ED	2	3	3	10	22S	27E	576826	3585355*	2389	85	40	45
C 00160 CLW198701	O	C	ED	2	3	3	10	22S	27E	576826	3585355*	2389			
C 02374		C	ED		3	4	09	22S	27E	575916	3585247*	2450	54	15	39
C 02379		C	ED		3	4	09	22S	27E	575916	3585247*	2450	55	20	35
C 03029		C	ED		3	4	09	22S	27E	575916	3585247*	2450	45	18	27
C 01250		C	ED		3	3	27	21S	27E	576677	3590107*	2469	250	45	205

Average Depth to Water: **22 feet**
Minimum Depth: **15 feet**
Maximum Depth: **45 feet**

Record Count: 13

UTMNAD83 Radius Search (in meters):

Easting (X): 576251.55 **Northing (Y):** 3587674.62 **Radius:** 2500

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

212C-MD-01420 | TETRA TECH | **LOG OF BORING BH-1** | Page 1 of 1

Project Name: Compadres Fee Tank Battery

Borehole Location: Approx. GPS Coordinates: 32.423833°-104.189075° Surface Elevation: 3107 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 4 | Date Started: 9/25/2018 | Date Finished: 9/25/2018

WATER LEVEL OBSERVATIONS

While Drilling ▽ ft Upon Completion of Drilling ▼ ft

Remarks: AIR ROTARY

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			305									**-SM-** SAND: Brown, fine to medium grained, trace Gravel	2	
			510									**-SM-** SAND: Brown, fine to medium grained, with Gravel	4	
5			16600									**-SM-** SAND: Yellowish brown, trace rock fragments	6	
			16000									**-SM-** SILTY SAND: Pinkish brown, very fine to fine grained	9	
10			14000									**-SM-** SILTY SAND: Reddish Brown, very fine to fine grained	14	
15			19000									**-SM-** SILTY SAND: Reddish Brown, fine grained, with Chert nodules	19	
20			525									**-SM-** GRAVELLY SAND: Brown, fine to medium grained, damp	20	

Bottom of borehole at 20.0 feet.

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

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

Notes: Surface elevation is an estimated value from Google Earth data.

Field Staff: Mike Carmona | Drilling Equipment: Air Rotary | Subcontractor: Scarborough Drilling

212C-MD-01420	TETRA TECH	**LOG OF BORING Background**	Page 1 of 1

Project Name: Compadres Fee Tank Battery

Borehole Location: Approx. GPS Coordinates: 32.423849, -104.188751 | Surface Elevation: 3104 ft

Borehole Number: Background | Borehole Diameter (in.): 4 | Date Started: 9/25/2018 | Date Finished: 9/25/2018

WATER LEVEL OBSERVATIONS

While Drilling ▽ ft Upon Completion of Drilling ▼ ft

Remarks: AIR ROTARY

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
0			143									**-CL-** SANDY CLAY: Brown, fine to medium grained, trace Gravel	4	
			784											
5			600									**-SM-** SAND: Yellowish brown, trace Gravel	6	
			650									**-ML-** SANDY SILT: Pinkish tan, very fine to fine grained	9	
10			596									**-SM-** SAND: Reddish Brown, fine to medium grained, trace Chert fragments and gravel-sized Potassium Feldspar	14	
15			401									**-SM-** SAND: Reddish Brown, medium grained, with Gravel	17	
												-SM- GRAVELLY SAND: Brown, fine to medium grained, gravel composed primarily of chert clasts, damp		
20													20	

Bottom of borehole at 20.0 feet.

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

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

Notes: Surface elevation is an estimated value from Google Earth data.

Field Staff: Mike Carmona | Drilling Equipment: Air Rotary | Subcontractor: Scarborough Drilling

APPENDIX C
Laboratory Analytical Data

Certificate of Analysis Summary 577423

COG Operating LLC, Artesia, NM

Project Name: Compadres Fee Btty

Project Id:
Contact: Sheldon Hitchcock
Project Location:

Date Received in Lab: Mon Feb-26-18 07:45 am
Report Date: 07-MAR-18
Project Manager: Jessica Kramer

Analysis Requested		Lab Id:	577423-001		577423-002		577423-003		577423-004		577423-005		577423-006	
		Field Id:	T-1 0'		T-1 1'		T-1 2'		T-1 3'		T-1 4'		T-1 6' Refusal	
		Depth:			1- ft		2- ft		3- ft		4- ft		6- ft	
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Feb-22-18 08:30		Feb-22-18 08:35		Feb-22-18 08:40		Feb-22-18 08:45		Feb-22-18 08:50		Feb-22-18 09:00	
BTEX by EPA 8021B		Extracted:	Feb-28-18 15:00		Feb-28-18 15:00		Feb-28-18 15:00		Feb-28-18 15:00		Feb-28-18 16:40		Feb-28-18 16:40	
		Analyzed:	Feb-28-18 23:50		Mar-01-18 00:09		Mar-01-18 00:28		Mar-01-18 00:47		Mar-01-18 07:17		Mar-01-18 05:31	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene			<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Toluene			<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene			<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes			<0.00396	0.00396	<0.00402	0.00402	<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399
o-Xylene			<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes			<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Total BTEX			<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300		Extracted:	Feb-27-18 18:15		Feb-27-18 18:15		Mar-06-18 17:00		Mar-02-18 09:00					
		Analyzed:	Feb-27-18 22:59		Feb-27-18 23:28		Mar-06-18 22:05		Mar-02-18 12:33					
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride			20000	250	4010	24.7	1620	24.9	247	49.5				
TPH By SW8015 Mod		Extracted:	Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00	
		Analyzed:	Feb-27-18 04:48		Feb-27-18 05:15		Feb-27-18 05:40		Feb-27-18 06:08		Feb-27-18 06:33		Feb-27-18 07:01	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)			<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)			103	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)			<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0
Total TPH			103	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0

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

Mike Kimmel
Client Services Manager

Final 1.000

Certificate of Analysis Summary 577423

COG Operating LLC, Artesia, NM

Project Name: Compadres Fee Btty

Project Id:
Contact: Sheldon Hitchcock
Project Location:

Date Received in Lab: Mon Feb-26-18 07:45 am
Report Date: 07-MAR-18
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	577423-007		577423-008				
	Field Id:	AH-1 0'		AH-1 0.5 Refusal				
	Depth:	0- ft		0.5- ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Feb-22-18 09:20		Feb-22-18 09:30				
BTEX by EPA 8021B	***Extracted:***	Feb-28-18 16:40		Feb-28-18 16:40				
	Analyzed:	Mar-01-18 08:53		Mar-01-18 09:12				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		<0.0200	0.0200	<0.0199	0.0199			
Toluene		<0.0200	0.0200	<0.0199	0.0199			
Ethylbenzene		<0.0200	0.0200	0.111	0.0199			
m,p-Xylenes		<0.0401	0.0401	0.302	0.0398			
o-Xylene		<0.0200	0.0200	0.350	0.0199			
Total Xylenes		<0.0200	0.0200	0.652	0.0199			
Total BTEX		<0.0200	0.0200	0.763	0.0199			
Chloride by EPA 300	***Extracted:***	Feb-27-18 18:15		Feb-27-18 18:15				
	Analyzed:	Feb-27-18 23:35		Feb-27-18 23:58				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		3240	24.9	1400	24.6			
TPH By SW8015 Mod	***Extracted:***	Feb-26-18 16:00		Feb-26-18 16:00				
	Analyzed:	Feb-27-18 07:26		Feb-27-18 07:51				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		271	75.0	257	74.9			
Diesel Range Organics (DRO)		9620	75.0	10300	74.9			
Oil Range Hydrocarbons (ORO)		472	75.0	517	74.9			
Total TPH		10400	75.0	11100	74.9			

Mike Kimmel
Client Services Manager

Analytical Report 577423

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Compadres Fee Btty

07-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

07-MAR-18

Project Manager: **Sheldon Hitchcock**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **577423**
Compadres Fee Btty
Project Address:

Sheldon Hitchcock:

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) 577423. 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. 577423 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Mike Kimmel
Client Services Manager

Sample Cross Reference 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 0'	S	02-22-18 08:30		577423-001
T-1 1'	S	02-22-18 08:35	1 ft	577423-002
T-1 2'	S	02-22-18 08:40	2 ft	577423-003
T-1 3'	S	02-22-18 08:45	3 ft	577423-004
T-1 4'	S	02-22-18 08:50	4 ft	577423-005
T-1 6' Refusal	S	02-22-18 09:00	6 ft	577423-006
AH-1 0'	S	02-22-18 09:20	0 ft	577423-007
AH-1 0.5 Refusal	S	02-22-18 09:30	0.5 ft	577423-008

CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Compadres Fee Btty

Project ID:
Work Order Number(s): *577423*

Report Date: *07-MAR-18*
Date Received: *02/26/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3042447 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3042493 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Samples 577423-007 and -008 diluted due to hydrocarbons in diesel range.

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 0'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-001	Date Collected:	02.22.18 08.30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.27.18 18.15	Basis:	Wet Weight
Seq Number:	3042461				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20000**	250	mg/kg	02.27.18 22.59		50

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 04.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**103**	15.0	mg/kg	02.27.18 04.48		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 04.48	U	1
Total TPH	PHC635	**103**	15.0	mg/kg	02.27.18 04.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.27.18 04.48	
o-Terphenyl	84-15-1	117	%	70-135	02.27.18 04.48	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 0'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-001	Date Collected:	02.22.18 08.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 15.00	Basis:	Wet Weight
Seq Number:	3042447				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.28.18 23.50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.28.18 23.50	
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.28.18 23.50	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 1'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-002	Date Collected:	02.22.18 08.35	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.27.18 18.15	Basis:	Wet Weight
Seq Number:	3042461				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4010**	24.7	mg/kg	02.27.18 23.28		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 05.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 05.15	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 05.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 05.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.27.18 05.15	
o-Terphenyl	84-15-1	104	%	70-135	02.27.18 05.15	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 1'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-002	Date Collected:	02.22.18 08.35	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 15.00	Basis:	Wet Weight
Seq Number:	3042447				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.01.18 00.09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	03.01.18 00.09	
1,4-Difluorobenzene	540-36-3	84	%	70-130	03.01.18 00.09	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 2'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-003	Date Collected:	02.22.18 08.40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.06.18 17.00	Basis:	Wet Weight
Seq Number:	3043018				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1620**	24.9	mg/kg	03.06.18 22.05		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 05.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 05.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 05.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 05.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.27.18 05.40	
o-Terphenyl	84-15-1	108	%	70-135	02.27.18 05.40	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 2'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-003	Date Collected:	02.22.18 08.40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 15.00	Basis:	Wet Weight
Seq Number:	3042447				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.01.18 00.28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	03.01.18 00.28	
1,4-Difluorobenzene	540-36-3	84	%	70-130	03.01.18 00.28	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 3'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-004	Date Collected:	02.22.18 08.45	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.02.18 09.00	Basis:	Wet Weight
Seq Number:	3042826				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**247**	49.5	mg/kg	03.02.18 12.33		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.27.18 06.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.27.18 06.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.27.18 06.08	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.27.18 06.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.27.18 06.08	
o-Terphenyl	84-15-1	106	%	70-135	02.27.18 06.08	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 3'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-004	Date Collected:	02.22.18 08.45	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 15.00	Basis:	Wet Weight
Seq Number:	3042447				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.18 00.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.01.18 00.47	
1,4-Difluorobenzene	540-36-3	83	%	70-130	03.01.18 00.47	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 4'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-005	Date Collected:	02.22.18 08.50	Sample Depth:	4 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.27.18 06.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.27.18 06.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.27.18 06.33	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.27.18 06.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.27.18 06.33	
o-Terphenyl	84-15-1	105	%	70-135	02.27.18 06.33	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 16.40	Basis:	Wet Weight
Seq Number:	3042493				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.18 07.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.01.18 07.17	
1,4-Difluorobenzene	540-36-3	88	%	70-130	03.01.18 07.17	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 6' Refusal**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-006	Date Collected:	02.22.18 09.00	Sample Depth:	6 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 07.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 07.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 07.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 07.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.27.18 07.01	
o-Terphenyl	84-15-1	95	%	70-135	02.27.18 07.01	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 16.40	Basis:	Wet Weight
Seq Number:	3042493				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.01.18 05.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.01.18 05.31	
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.01.18 05.31	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**AH-1 0'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-007	Date Collected:	02.22.18 09.20	Sample Depth:	0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.27.18 18.15	Basis:	Wet Weight
Seq Number:	3042461				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3240**	24.9	mg/kg	02.27.18 23.35		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**271**	75.0	mg/kg	02.27.18 07.26		5
Diesel Range Organics (DRO)	C10C28DRO	**9620**	75.0	mg/kg	02.27.18 07.26		5
Oil Range Hydrocarbons (ORO)	PHCG2835	**472**	75.0	mg/kg	02.27.18 07.26		5
Total TPH	PHC635	**10400**	75.0	mg/kg	02.27.18 07.26		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	02.27.18 07.26	
o-Terphenyl	84-15-1	129	%	70-135	02.27.18 07.26	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**AH-1 0'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-007	Date Collected:	02.22.18 09.20	Sample Depth:	0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 16.40	Basis:	Wet Weight
Seq Number:	3042493				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Toluene	108-88-3	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
m,p-Xylenes	179601-23-1	<0.0401	0.0401	mg/kg	03.01.18 08.53	U	10
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Total BTEX		<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	70-130	03.01.18 08.53	
4-Bromofluorobenzene	460-00-4	87	%	70-130	03.01.18 08.53	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**AH-1 0.5 Refusal**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-008	Date Collected:	02.22.18 09.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.27.18 18.15	Basis:	Wet Weight
Seq Number:	3042461				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1400**	24.6	mg/kg	02.27.18 23.58		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**257**	74.9	mg/kg	02.27.18 07.51		5
Diesel Range Organics (DRO)	C10C28DRO	**10300**	74.9	mg/kg	02.27.18 07.51		5
Oil Range Hydrocarbons (ORO)	PHCG2835	**517**	74.9	mg/kg	02.27.18 07.51		5
Total TPH	PHC635	**11100**	74.9	mg/kg	02.27.18 07.51		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	02.27.18 07.51	
o-Terphenyl	84-15-1	123	%	70-135	02.27.18 07.51	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**AH-1 0.5 Refusal**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-008	Date Collected:	02.22.18 09.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 16.40	Basis:	Wet Weight
Seq Number:	3042493				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	03.01.18 09.12	U	10
Toluene	108-88-3	<0.0199	0.0199	mg/kg	03.01.18 09.12	U	10
Ethylbenzene	100-41-4	**0.111**	0.0199	mg/kg	03.01.18 09.12		10
m,p-Xylenes	179601-23-1	**0.302**	0.0398	mg/kg	03.01.18 09.12		10
o-Xylene	95-47-6	**0.350**	0.0199	mg/kg	03.01.18 09.12		10
Total Xylenes	1330-20-7	**0.652**	0.0199	mg/kg	03.01.18 09.12		10
Total BTEX		**0.763**	0.0199	mg/kg	03.01.18 09.12		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	70-130	03.01.18 09.12	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.01.18 09.12	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 577423

COG Operating LLC

Compadres Fee Btty

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3042461 — Matrix: Solid — Date Prep: 02.27.18
MB Sample Id: 7639892-1-BLK — LCS Sample Id: 7639892-1-BKS — LCSD Sample Id: 7639892-1-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	246	98	247	99	90-110	0	20	mg/kg	02.27.18 21:09	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3042826 — Matrix: Solid — Date Prep: 03.02.18
MB Sample Id: 7640118-1-BLK — LCS Sample Id: 7640118-1-BKS — LCSD Sample Id: 7640118-1-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	265	106	266	106	90-110	0	20	mg/kg	03.02.18 10:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3043018 — Matrix: Solid — Date Prep: 03.06.18
MB Sample Id: 7640279-1-BLK — LCS Sample Id: 7640279-1-BKS — LCSD Sample Id: 7640279-1-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	239	96	242	97	90-110	1	20	mg/kg	03.06.18 21:28	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3042461 — Matrix: Soil — Date Prep: 02.27.18
Parent Sample Id: 577420-009 — MS Sample Id: 577420-009 S — MSD Sample Id: 577420-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.91	246	246	100	246	100	90-110	0	20	mg/kg	02.27.18 21:31	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3042461 — Matrix: Soil — Date Prep: 02.27.18
Parent Sample Id: 577422-013 — MS Sample Id: 577422-013 S — MSD Sample Id: 577422-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	84.8	246	332	100	333	101	90-110	0	20	mg/kg	02.27.18 23:13	

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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

Final 1.000

QC Summary 577423

COG Operating LLC

Compadres Fee Btty

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3042826 — Matrix: Soil — Date Prep: 03.02.18
Parent Sample Id: 577798-001 — MS Sample Id: 577798-001 S — MSD Sample Id: 577798-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	56.6	250	321	106	323	107	90-110	1	20	mg/kg	03.02.18 10:42	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3042826 — Matrix: Soil — Date Prep: 03.02.18
Parent Sample Id: 577798-002 — MS Sample Id: 577798-002 S — MSD Sample Id: 577798-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	322	249	606	114	596	110	90-110	2	20	mg/kg	03.02.18 11:56	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3043018 — Matrix: Soil — Date Prep: 03.06.18
Parent Sample Id: 578231-001 — MS Sample Id: 578231-001 S — MSD Sample Id: 578231-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	341	248	695	143	570	92	90-110	20	20	mg/kg	03.06.18 21:43	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3043018 — Matrix: Soil — Date Prep: 03.06.18
Parent Sample Id: 578232-003 — MS Sample Id: 578232-003 S — MSD Sample Id: 578232-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	285	114	90-110	10	20	mg/kg	03.06.18 22:59	X

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3042220 — Matrix: Solid — Date Prep: 02.26.18
MB Sample Id: 7639806-1-BLK — LCS Sample Id: 7639806-1-BKS — LCSD Sample Id: 7639806-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	924	92	980	98	70-135	6	35	mg/kg	02.26.18 21:55	
Diesel Range Organics (DRO)	<15.0	1000	959	96	1000	100	70-135	4	35	mg/kg	02.26.18 21:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		110		118		70-135	%	02.26.18 21:55
o-Terphenyl	123		111		118		70-135	%	02.26.18 21:55

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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

Final 1.000

QC Summary 577423

COG Operating LLC

Compadres Fee Btty

Analytical Method: TPH By SW8015 Mod | Prep Method: TX1005P
Seq Number: 3042220 | Matrix: Soil | Date Prep: 02.26.18
Parent Sample Id: 577420-012 | MS Sample Id: 577420-012 S | MSD Sample Id: 577420-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1040	104	910	91	70-135	13	35	mg/kg	02.26.18 23:12	
Diesel Range Organics (DRO)	<15.0	999	1160	116	1040	104	70-135	11	35	mg/kg	02.26.18 23:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		105		70-135	%	02.26.18 23:12
o-Terphenyl	116		102		70-135	%	02.26.18 23:12

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3042447 | Matrix: Solid | Date Prep: 02.28.18
MB Sample Id: 7639959-1-BLK | LCS Sample Id: 7639959-1-BKS | LCSD Sample Id: 7639959-1-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	0.0851	85	0.0847	85	70-130	0	35	mg/kg	02.28.18 17:10	
Toluene	<0.00200	0.100	0.0910	91	0.0897	90	70-130	1	35	mg/kg	02.28.18 17:10	
Ethylbenzene	<0.00200	0.100	0.101	101	0.100	100	70-130	1	35	mg/kg	02.28.18 17:10	
m,p-Xylenes	<0.00401	0.200	0.201	101	0.200	100	70-130	0	35	mg/kg	02.28.18 17:10	
o-Xylene	<0.00200	0.100	0.0989	99	0.0985	99	70-130	0	35	mg/kg	02.28.18 17:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		86		87		70-130	%	02.28.18 17:10
4-Bromofluorobenzene	103		112		107		70-130	%	02.28.18 17:10

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3042493 | Matrix: Solid | Date Prep: 02.28.18
MB Sample Id: 7639995-1-BLK | LCS Sample Id: 7639995-1-BKS | LCSD Sample Id: 7639995-1-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	0.0998	0.0835	84	0.0861	85	70-130	3	35	mg/kg	03.01.18 02:59	
Toluene	<0.00200	0.0998	0.0880	88	0.0908	90	70-130	3	35	mg/kg	03.01.18 02:59	
Ethylbenzene	<0.00200	0.0998	0.0998	100	0.103	102	70-130	3	35	mg/kg	03.01.18 02:59	
m,p-Xylenes	<0.00399	0.200	0.196	98	0.205	102	70-130	4	35	mg/kg	03.01.18 02:59	
o-Xylene	<0.00200	0.0998	0.0976	98	0.103	102	70-130	5	35	mg/kg	03.01.18 02:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		90		70-130	%	03.01.18 02:59
4-Bromofluorobenzene	103		115		115		70-130	%	03.01.18 02:59

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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 577423

COG Operating LLC

Compadres Fee Btty

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3042447 — Matrix: Soil — Date Prep: 02.28.18
Parent Sample Id: 577422-005 — MS Sample Id: 577422-005 S — MSD Sample Id: 577422-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0800	80	0.0762	75	70-130	5	35	mg/kg	02.28.18 17:48	
Toluene	<0.00201	0.100	0.0841	84	0.0810	80	70-130	4	35	mg/kg	02.28.18 17:48	
Ethylbenzene	<0.00201	0.100	0.0945	95	0.0907	90	70-130	4	35	mg/kg	02.28.18 17:48	
m,p-Xylenes	<0.00402	0.201	0.188	94	0.181	90	70-130	4	35	mg/kg	02.28.18 17:48	
o-Xylene	<0.00201	0.100	0.0935	94	0.0904	90	70-130	3	35	mg/kg	02.28.18 17:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		89		70-130	%	02.28.18 17:48
4-Bromofluorobenzene	112		108		70-130	%	02.28.18 17:48

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3042493 — Matrix: Soil — Date Prep: 02.28.18
Parent Sample Id: 577410-001 — MS Sample Id: 577410-001 S — MSD Sample Id: 577410-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0516	52	0.0616	62	70-130	18	35	mg/kg	03.01.18 03:37	X
Toluene	<0.00199	0.0994	0.0554	56	0.0636	64	70-130	14	35	mg/kg	03.01.18 03:37	X
Ethylbenzene	<0.00199	0.0994	0.0598	60	0.0672	67	70-130	12	35	mg/kg	03.01.18 03:37	X
m,p-Xylenes	<0.00398	0.199	0.119	60	0.131	66	70-130	10	35	mg/kg	03.01.18 03:37	X
o-Xylene	<0.00199	0.0994	0.0627	63	0.0653	65	70-130	4	35	mg/kg	03.01.18 03:37	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		84		70-130	%	03.01.18 03:37
4-Bromofluorobenzene	117		107		70-130	%	03.01.18 03:37

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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

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Page 1 of 1

Xenco Quote #

Xenco Job # 577423

Client / Reporting Information

Company Name / Branch: COG Operating, LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: slhitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com
Project Contact: Sheldon Hitchcock
Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Compadres Fed Batt
Project Location:
Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illinois Ave
Midland Tx, 79701
PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	None	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)	Field Comments
1	T-1 0'	0	2/22/18	8:30	S	1								/	X	X	X	
2	T-1 1'	1		8:35	S	1								/	X	X	X	
3	T-1 2'	2		8:40	S	1								/	X	X	X	
4	T-1 3'	3		8:45	S	1								/	X	X	X	
5	T-1 4'	4		8:50	S	1								/	X	X	X	
6	T-1 6' refusal	6		9:00	S	1								/	X	X	X	
7	AH-1 0'	0		9:20	S	1								/	X	X	X	
8	AH-1 0.5 refusal	0.5		9:30	S	1								/	X	X	X	
9					S	1												
10					S	1												

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Stop Cl⁻ if ≤ 600 mg/kg

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Sheldon Hitchcock	2/23/18 1009	Sid Butler 2-23-18 1009	Sid Butler	2-23-18 1245	
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
4						
5						

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

CHAIN OF CUSTODY

Page 1 of 1

XENCO LABORATORIES
Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 577423

Client / Reporting Information

Company Name / Branch: COG Operating, LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: shitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com
Project Contact: Sheldon Hitchcock
Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Compadres Fed BTTY
Project Location:
Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illinois Ave.
Midland Tx, 79701
PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	None	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)	Field Comments
1	T-1 0'	0	2/22/18	8:30	S	1								/	X	X	X	
2	T-1 1'	1		8:35	S	1								/	X	X	X	
3	T-1 2'	2		8:40	S	1								/	X	X	X	
4	T-1 3'	3		8:45	S	1								/	X	X	X	
5	T-1 4'	4		8:50	S	1								/	X	X	X	
6	T-1 6' refusal	6		9:00	S	1								/	X	X	X	
7	AH-1 0'	0		9:20	S	1								/	X	X	X	
8	AH-1 0.5 refusal	0.5		9:30	S	1								/	X	X	X	
9					S	1												
10					S	1												

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☒ Contract TAT
- ☐ 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

Stop Cl⁻ if ≤ 600 mg/kg

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Sheldon Hitchcock	2/23/18 1000	Sid Butler 2-23-18 1000	Sid Butler	2-23-18 1445	CRAMER 2261874
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3	Relinquished by:	Date Time:	Received By:	Custody Seal #	Cooler Temp.	Thermo. Corr. Factor
4						
5						

Temp: 1.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.4

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns stan losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability wi be enforced unless previously negotiated under a fully executed client contract.

; and shall not assume any responsibility for any will be invoiced at $5 per sample. These terms will

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 02/26/2018 07:45:11 AM

Work Order #: 577423

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	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?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#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: Katie Lowe Date: 02/26/2018

Checklist reviewed by: Jessica Kramer Date: 02/26/2018

Jessica Kramer

Analytical Report 600690

for

Tetra Tech- Midland

Project Manager: Clair Gonzales

COG-Compadre Fee TB

212C-MD-01420

02-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

02-OCT-18

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

Reference: XENCO Report No(s): **600690**
COG-Compadre Fee TB
Project Address: Eddy County, New Mexico

Clair Gonzales:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 600690. 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. 600690 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

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 600690

Tetra Tech- Midland, Midland, TX

COG-Compadre Fee TB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH#1 (0-1')	S	09-25-18 00:00		600690-001
BH#1 (2'-3')	S	09-25-18 00:00		600690-002
BH#1 (4'-5")	S	09-25-18 00:00		600690-003
BH#1 (6'-7')	S	09-25-18 00:00		600690-004
BH#1 (9'-10')	S	09-25-18 00:00		600690-005
BH#1 (14'-15')	S	09-25-18 00:00		600690-006
BH#1 (19'-20')	S	09-25-18 00:00		600690-007
Background (0-1')	S	09-25-18 00:00		600690-008
Background (2'-3')	S	09-25-18 00:00		600690-009
Background (4'-5")	S	09-25-18 00:00		600690-010
Background (6'-7')	S	09-25-18 00:00		600690-011
Background (9'-10')	S	09-25-18 00:00		600690-012
Background (14'-15')	S	09-25-18 00:00		600690-013

Version: 1.%

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: COG-Compadre Fee TB

Project ID: *212C-MD-01420*
Work Order Number(s): *600690*

Report Date: *02-OCT-18*
Date Received: *09/28/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3064881 BTEX by EPA 8021B

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

Certificate of Analysis Summary 600690

Tetra Tech- Midland, Midland, TX

Project Name: COG-Compadre Fee TB

Project Id: 212C-MD-01420
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 02-OCT-18
Project Manager: Jessica Kramer

Analysis Requested		Lab Id:	600690-001		600690-002		600690-003		600690-004		600690-005		600690-006	
		Field Id:	BH#1 (0-1')		BH#1 (2'-3')		BH#1 (4'-5")		BH#1 (6'-7')		BH#1 (9'-10')		BH#1 (14'-15')	
		Depth:												
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00	
BTEX by EPA 8021B		Extracted:	Sep-30-18 10:00		Sep-30-18 10:00									
		Analyzed:	Oct-01-18 03:56		Oct-01-18 04:17									
		Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene			<0.00200	0.00200	<0.00199	0.00199								
Toluene			<0.00200	0.00200	<0.00199	0.00199								
Ethylbenzene			<0.00200	0.00200	<0.00199	0.00199								
m,p-Xylenes			<0.00401	0.00401	<0.00398	0.00398								
o-Xylene			<0.00200	0.00200	<0.00199	0.00199								
Total Xylenes			<0.00200	0.00200	<0.00199	0.00199								
Total BTEX			<0.00200	0.00200	<0.00199	0.00199								
Chloride by EPA 300		Extracted:	Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06	
		Analyzed:	Oct-01-18 18:03		Oct-01-18 18:14		Oct-01-18 18:09		Oct-01-18 18:31		Oct-01-18 18:37		Oct-01-18 18:54	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			173	5.03	577	4.99	855	24.8	931	25.1	856	25.0	802	25.1
TPH by SW8015 Mod		Extracted:	Sep-29-18 08:00		Sep-29-18 08:00									
		Analyzed:	Sep-30-18 01:27		Sep-30-18 01:46									
		Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)			<15.0	15.0	<14.9	14.9								
Diesel Range Organics (DRO)			<15.0	15.0	76.5	14.9								
Motor Oil Range Hydrocarbons (MRO)			<15.0	15.0	<14.9	14.9								
Total TPH			<15.0	15.0	76.5	14.9								

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 600690

Tetra Tech- Midland, Midland, TX

Project Name: COG-Compadre Fee TB

Project Id: 212C-MD-01420
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 02-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	600690-007		600690-008		600690-009		600690-010		600690-011		600690-012	
	Field Id:	BH#1 (19'-20')		Background (0-1')		Background (2'-3')		Background (4'-5")		Background (6'-7')		Background (9'-10')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00		Sep-25-18 00:00	
Chloride by EPA 300	***Extracted:***	Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06		Oct-01-18 14:06	
	Analyzed:	Oct-01-18 19:00		Oct-01-18 19:05		Oct-02-18 09:29		Oct-01-18 19:17		Oct-01-18 19:23		Oct-01-18 19:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		252	5.03	<5.01	5.01	<4.95	4.95	<5.00	5.00	155	4.99	157	4.97

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 600690

Tetra Tech- Midland, Midland, TX

Project Name: COG-Compadre Fee TB

Project Id: 212C-MD-01420
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Sep-28-18 11:17 am
Report Date: 02-OCT-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	600690-013					
	Field Id:	Background (14'-15')					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Sep-25-18 00:00					
Chloride by EPA 300	***Extracted:***	Oct-01-18 14:11					
	Analyzed:	Oct-01-18 20:02					
	Units/RL:	mg/kg	RL				
Chloride		57.7	4.97				

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: COG-Compadre Fee TB

Work Orders : 600690,

Project ID: 212C-MD-01420

Lab Batch #: 3064923 **Sample:** 600690-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/18 01:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.8	99.7	95	70-135	
o-Terphenyl	47.6	49.9	95	70-135	

Lab Batch #: 3064923 **Sample:** 600690-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/18 01:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.6	92	70-135	
o-Terphenyl	47.8	49.8	96	70-135	

Lab Batch #: 3064881 **Sample:** 600690-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/18 03:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3064881 **Sample:** 600690-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/01/18 04:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0274	0.0300	91	70-130	

Lab Batch #: 3064923 **Sample:** 7663252-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/29/18 17:31

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.6	100	97	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

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

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: COG-Compadre Fee TB

Work Orders : 600690,

Project ID: 212C-MD-01420

Lab Batch #: 3064881 **Sample:** 7663275-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/18 22:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

Lab Batch #: 3064923 **Sample:** 7663252-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/29/18 17:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

Lab Batch #: 3064881 **Sample:** 7663275-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/18 20:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0381	0.0300	127	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3064923 **Sample:** 7663252-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/29/18 18:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	50.0	50.0	100	70-135	

Lab Batch #: 3064881 **Sample:** 7663275-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/30/18 21:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0334	0.0300	111	70-130	
4-Bromofluorobenzene	0.0309	0.0300	103	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: COG-Compadre Fee TB

Work Orders : 600690,

Project ID: 212C-MD-01420

Lab Batch #: 3064923 **Sample:** 600660-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/29/18 18:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	99.8	125	70-135	
o-Terphenyl	49.9	49.9	100	70-135	

Lab Batch #: 3064881 **Sample:** 600662-012 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/18 21:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0349	0.0300	116	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

Lab Batch #: 3064923 **Sample:** 600660-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/29/18 19:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.7	120	70-135	
o-Terphenyl	51.3	49.9	103	70-135	

Lab Batch #: 3064881 **Sample:** 600662-012 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/30/18 21:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	70-130	
4-Bromofluorobenzene	0.0329	0.0300	110	70-130	

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

Version: 1.%

BS / BSD Recoveries

Project Name: COG-Compadre Fee TB

Work Order #: 600690 **Project ID:** 212C-MD-01420

Analyst: ALJ **Date Prepared:** 09/30/2018 **Date Analyzed:** 09/30/2018

Lab Batch ID: 3064881 **Sample:** 7663275-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00201	0.100	0.0971	97	0.100	0.0962	96	1	70-130	35	
Toluene	<0.00201	0.100	0.0903	90	0.100	0.0919	92	2	70-130	35	
Ethylbenzene	<0.00201	0.100	0.102	102	0.100	0.104	104	2	70-130	35	
m,p-Xylenes	<0.00402	0.201	0.197	98	0.200	0.198	99	1	70-130	35	
o-Xylene	<0.00201	0.100	0.101	101	0.100	0.101	101	0	70-130	35	

Analyst: CHE **Date Prepared:** 10/01/2018 **Date Analyzed:** 10/01/2018

Lab Batch ID: 3064978 **Sample:** 7663307-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	262	105	250	260	104	1	90-110	20	

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

Version: 1.%

BS / BSD Recoveries

Project Name: COG-Compadre Fee TB

Work Order #: 600690 **Project ID:** 212C-MD-01420

Analyst: CHE **Date Prepared:** 10/01/2018 **Date Analyzed:** 10/01/2018

Lab Batch ID: 3064982 **Sample:** 7663308-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	262	105	250	263	105	0	90-110	20	

Analyst: ARM **Date Prepared:** 09/29/2018 **Date Analyzed:** 09/29/2018

Lab Batch ID: 3064923 **Sample:** 7663252-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	954	95	1000	940	94	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	975	98	1000	969	97	1	70-135	20	

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

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: COG-Compadre Fee TB

Work Order # : 600690 **Project ID:** 212C-MD-01420

Lab Batch ID: 3064881 **QC- Sample ID:** 600662-012 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/30/2018 **Date Prepared:** 09/30/2018 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00201	0.100	0.0713	71	0.101	0.0839	83	16	70-130	35	
Toluene	<0.00201	0.100	0.0429	43	0.101	0.0508	50	17	70-130	35	X
Ethylbenzene	<0.00201	0.100	0.0520	52	0.101	0.0669	66	25	70-130	35	X
m,p-Xylenes	<0.00402	0.201	0.0838	42	0.202	0.110	54	27	70-130	35	X
o-Xylene	<0.00201	0.100	0.0615	62	0.101	0.0795	79	26	70-130	35	X

Lab Batch ID: 3064978 **QC- Sample ID:** 600673-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/01/2018 **Date Prepared:** 10/01/2018 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	42.0	249	302	104	249	304	105	1	90-110	20	

Lab Batch ID: 3064978 **QC- Sample ID:** 600690-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/01/2018 **Date Prepared:** 10/01/2018 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	577	248	811	94	248	805	92	1	90-110	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: COG-Compadre Fee TB

Work Order # : 600690 **Project ID:** 212C-MD-01420

Lab Batch ID: 3064982 **QC- Sample ID:** 600690-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/01/2018 **Date Prepared:** 10/01/2018 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	57.7	249	328	109	249	326	108	1	90-110	20	

Lab Batch ID: 3064982 **QC- Sample ID:** 600716-009 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/01/2018 **Date Prepared:** 10/01/2018 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	689	250	919	92	250	920	92	0	90-110	20	

Lab Batch ID: 3064923 **QC- Sample ID:** 600660-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/29/2018 **Date Prepared:** 09/29/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	898	90	997	926	93	3	70-135	20	
Diesel Range Organics (DRO)	145	998	1090	95	997	1130	99	4	70-135	20	

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

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

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

Analysis Request of Chain of Custody Record

600690

Page 1 of 2

Tetra Tech, Inc.

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

Client Name: COG
Site Manager: Clair Gonzales
Project Name: Compadre Fee TB
Project Location: (county, state) Eddy County, New Mexico
Project #: 212C-MD-01420
Invoice to: COG-Ike Tavarez
Receiving Laboratory: Xenco Midland TX
Sampler Signature: Mike Carmona
Comments: Run deeper samples if TPH exceeds 100 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg 3 DAY TURNAROUND

ANALYSIS REQUEST
(Circle or Specify Method No.)

SAMPLING YEAR: 2018

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	DATE	TIME	WATER	SOIL		HCL	HNO_3	ICE	None	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
	BH #1 (0-1')	9/25/2018			X				X		1	N	X		X												X				
	BH #1 (2'-3')	9/25/2018			X				X		1	N	X		X												X				
	BH #1 (4'-5')	9/25/2018			X				X		1	N															X				
	BH #1 (6'-7')	9/25/2018			X				X		1	N															X				
	BH #1 (9'-10')	9/25/2018			X				X		1	N															X				
	BH #1 (14'-15')	9/25/2018			X				X		1	N															X				
	BH #1 (19'-20')	9/25/2018			X				X		1	N															X				
	Background (0-1')	9/25/2018			X				X		1	N															X				
	Background (2'-3')	9/25/2018			X				X		1	N															X				
	Background (4'-5')	9/25/2018			X				X		1	N															X				

Relinquished by: [signature]	Date: 9/28/18	Time:	Received by: [signature]	Date: 9/28/18	Time: 1117
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY
Sample Temperature 3.1/0.0 KE

REMARKS:
☐ STANDARD
☒ RUSH: Same Day 24 hr 48 hr (72 hr)
☐ Rush Charges Authorized
☐ Special Report Limits or TRRP Report

(Circle) (HAND DELIVERED) FEDEX UPS Tracking #: ______

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Loc090

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Clair Gonzales
Project Name: Compadre Fee TB	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-01420
Invoice to: COG-Ike Tavarez	
Receiving Laboratory: Xenco Midland TX	**Sampler Signature:** Mike Carmona
Comments: 3day Turn Around	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2018 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)
	Background (6'-7')	9/25/2018			X				X			1	N
	Background (9'-10')	9/25/2018			X				X			1	N
	Background (14'-15')	9/25/2018			X				X			1	N

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

Final 1.000

Hold

Relinquished by:	Date: 9/28/18	Time:
Received by:	Date: 9/28/18	Time: 1107
Relinquished by:	Date:	Time:
Received by:	Date:	Time:
Relinquished by:	Date:	Time:
Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.1/0.0 hs

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day 24 hr 48 hr (72 hr)
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 09/28/2018 11:17:00 AM

Work Order #: 600690

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#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: 09/28/2018

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 09/28/2018

Jessica Kramer

APPENDIX D
Photographic Documentation

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	Compadres Fee Site Signage.	1
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery	9/25/2018

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View west, berm area of former tank. Residual surface staining visible. Tank laying on side in background of photo.	2
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery	9/25/2018

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View southwest, visible residual surface staining inside berm where former tank located.	3
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery	9/25/2018

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View west-northwest, visible residual surface staining within berm-area around former tank location.	4
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery	9/25/2018

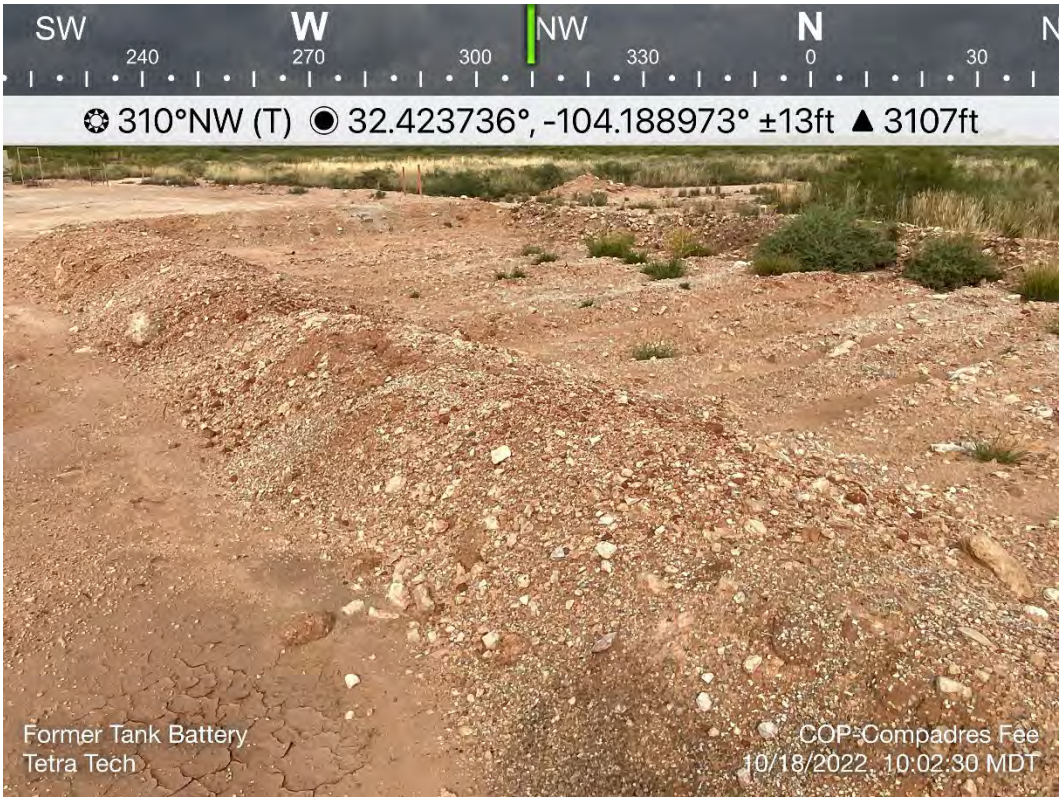
TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View northeast, drill rig entering through cut in berm to drill and sample at BH-1 location.	5
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery	9/25/2018

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View east-southeast, drilling of BH-1 and sampling.	6
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	9/25/2018

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View north, cut in berm for drill rig entry in foreground. Residual TPH staining along north side of berm-area.	7
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery	9/25/2018

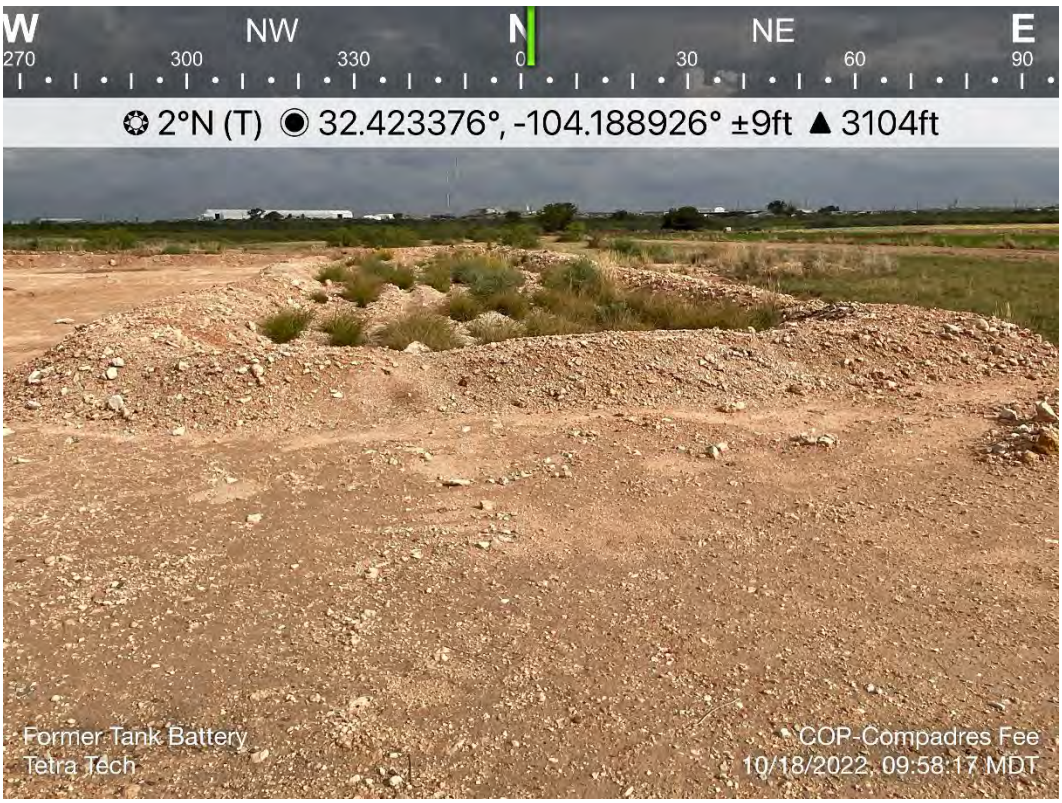
TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View east, background boring location. Support truck with backfill material in trailer.	8
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	9/25/2018

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View northeast. Former production equipment removed. Berm area.	9
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022

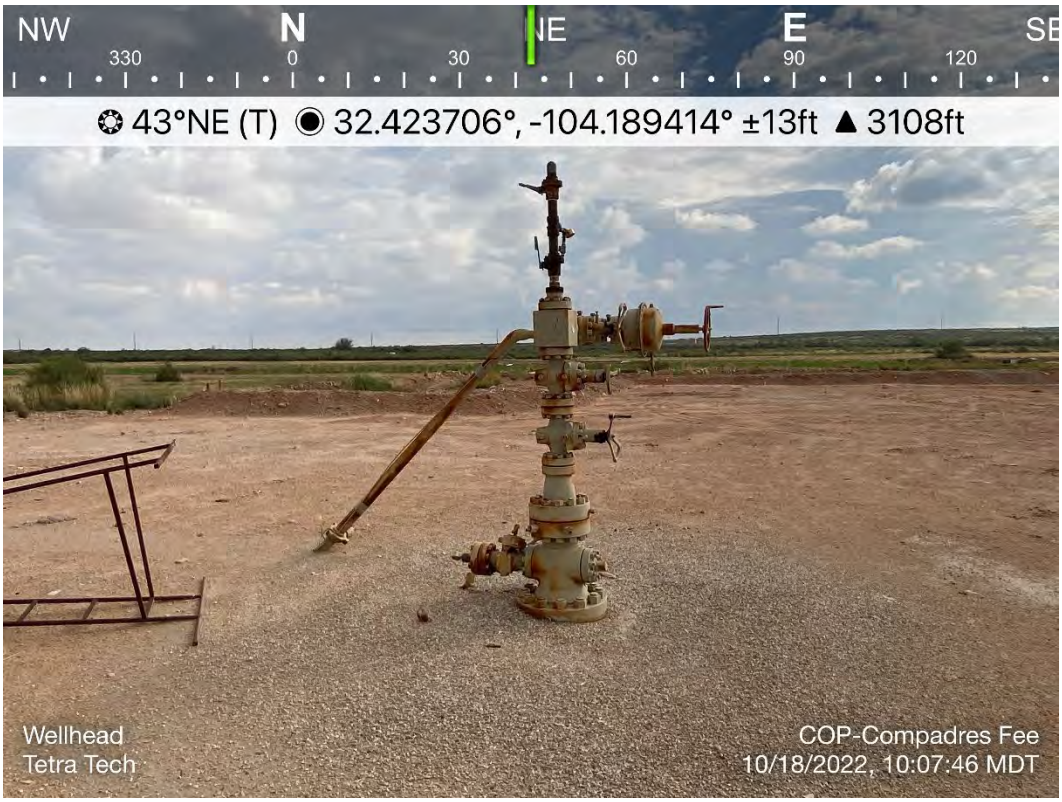


TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View northwest. Former release area, production equipment removed. No staining observed, vegetation present. Berm area.	10
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022

TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View east. Former release area, production equipment removed. No staining observed, vegetation present.	11
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022

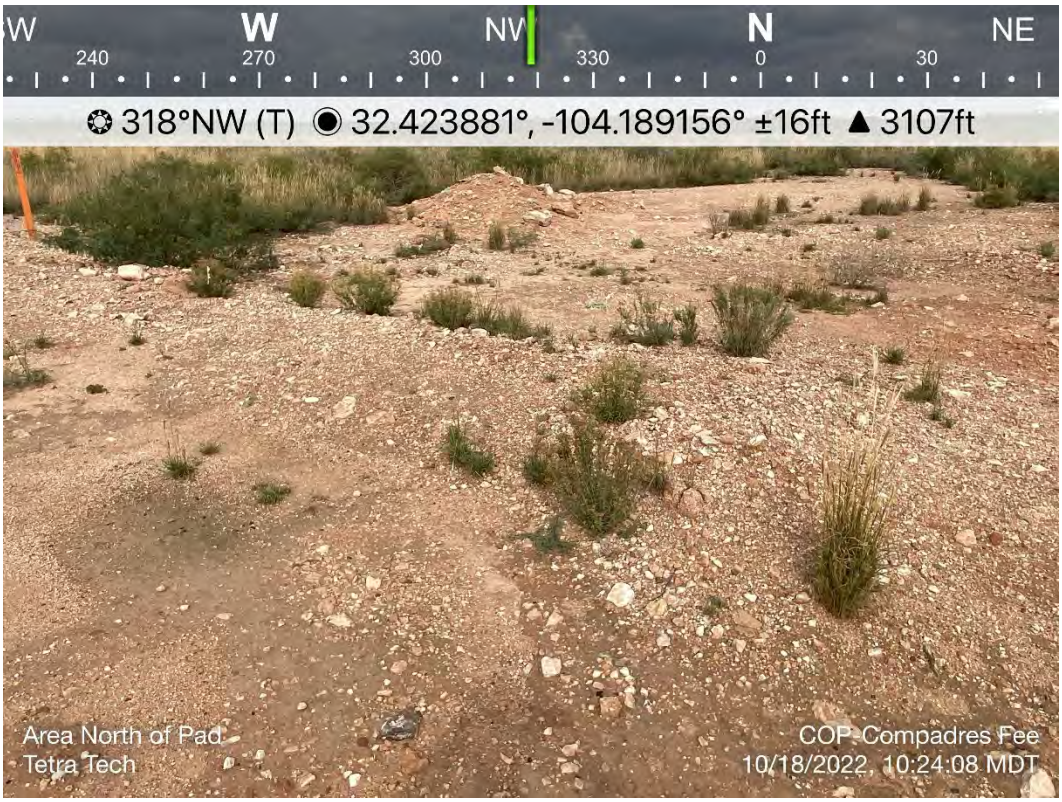


TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View north. Former tank battery southeast corner of lease pad. Vegetation observed.	12
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022

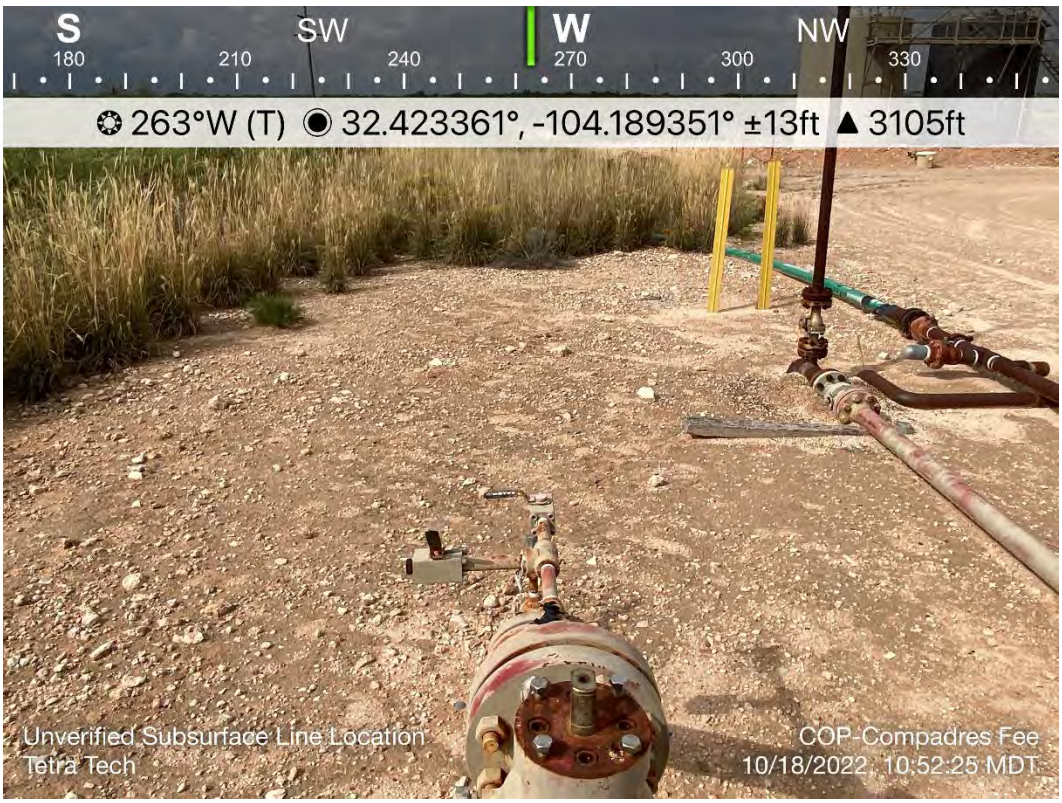


TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View northeast. Wellhead API 30-015-33246 – Twix Fee Com #001. View of former release area to the north.	13
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022

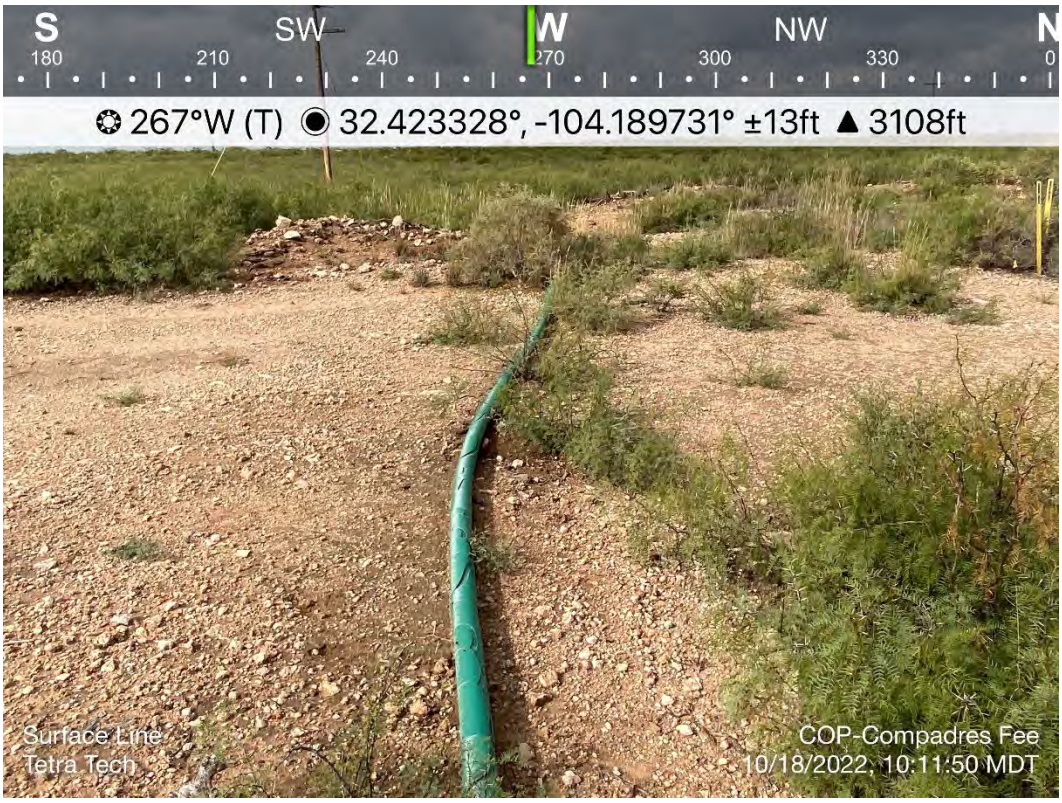
TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View southeast. Location of former equipment. View of wellhead.	14
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022



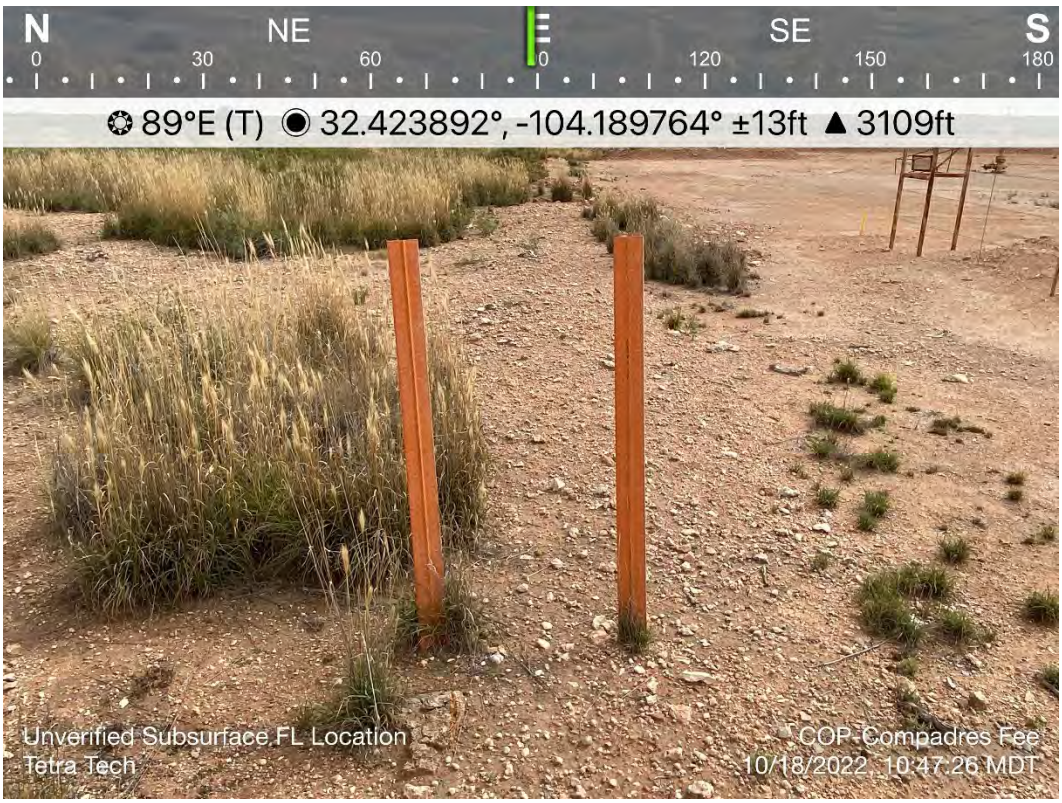
TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View northeast. View of former reserve pit, vegetation observed.	15
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View west. Subsurface flowline located south of lease pad.	16
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View east. View of subsurface flowline on the southwest corner of lease pad.	17
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02867	DESCRIPTION	View east. Subsurface utilities on northwest corner of lease pad.	18
	SITE NAME	ConocoPhillips Compadres Fee Tank Battery Release	10/18/2022

APPENDIX E
Soil Boring Logs

212C-MD-01420	TETRA TECH	**LOG OF BORING BH-1**	Page 1 of 1

Project Name: Compadres Fee Tank Battery

Borehole Location: Approx. GPS Coordinates: 32.423833°-104.189075° Surface Elevation: 3107 ft

Borehole Number: BH-1 | Borehole Diameter (in.): 4 | Date Started: 9/25/2018 | Date Finished: 9/25/2018

WATER LEVEL OBSERVATIONS

While Drilling ▽ ft Upon Completion of Drilling ▼ ft

Remarks: AIR ROTARY

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
			305									**-SM-** SAND: Brown, fine to medium grained, trace Gravel	2	
			510									**-SM-** SAND: Brown, fine to medium grained, with Gravel	4	
5			16600									**-SM-** SAND: Yellowish brown, trace rock fragments	6	
			16000									**-SM-** SILTY SAND: Pinkish brown, very fine to fine grained	9	
10			14000									**-SM-** SILTY SAND: Reddish Brown, very fine to fine grained	14	
15			19000									**-SM-** SILTY SAND: Reddish Brown, fine grained, with Chert nodules	19	
20			525									**-SM-** GRAVELLY SAND: Brown, fine to medium grained, damp	20	

Bottom of borehole at 20.0 feet.

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

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

Notes: Surface elevation is an estimated value from Google Earth data.

Field Staff: Mike Carmona | Drilling Equipment: Air Rotary | Subcontractor: Scarborough Drilling

212C-MD-01420	TETRA TECH	**LOG OF BORING Background**	Page 1 of 1

Project Name: Compadres Fee Tank Battery

Borehole Location: Approx. GPS Coordinates: 32.423849, -104.188751 | Surface Elevation: 3104 ft

Borehole Number: Background | Borehole Diameter (in.): 4 | Date Started: 9/25/2018 | Date Finished: 9/25/2018

WATER LEVEL OBSERVATIONS

While Drilling ▽ ft Upon Completion of Drilling ▼ ft

Remarks: AIR ROTARY

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
0			143									**-CL-** SANDY CLAY: Brown, fine to medium grained, trace Gravel	4	
			784											
5			600									**-SM-** SAND: Yellowish brown, trace Gravel	6	
			650									**-ML-** SANDY SILT: Pinkish tan, very fine to fine grained	9	
10			596									**-SM-** SAND: Reddish Brown, fine to medium grained, trace Chert fragments and gravel-sized Potassium Feldspar	14	
15			401									**-SM-** SAND: Reddish Brown, medium grained, with Gravel	17	
												-SM- GRAVELLY SAND: Brown, fine to medium grained, gravel composed primarily of chert clasts, damp		
20													20	

Bottom of borehole at 20.0 feet.

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

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

Notes: Surface elevation is an estimated value from Google Earth data.

Field Staff: Mike Carmona | Drilling Equipment: Air Rotary | Subcontractor: Scarborough Drilling

APPENDIX F
Regulatory Correspondence

Bratcher, Mike, EMNRD

From: Bratcher, Mike, EMNRD
Sent: Tuesday, May 15, 2018 1:23 PM
To: 'Sheldon Hitchcock'; Weaver, Crystal, EMNRD
Cc: Robert McNeill; Rebecca Haskell; Dakota Neel; Christopher Gray; DeAnn Grant
Subject: RE: (Work Plan) Campadres Fee Tank Battery (2RP-4608) 2/2/2018

RE: COG * Compadres FEE Tank Battery * **2RP-4608** * DOR: 2/2/18

Sheldon,

OCD notes the Initial Form C-141 was approved on 2/8/18. Your proposal for remediation of the above referenced release is approved with the following:

- Due to the large number of water wells that exist in relative close proximity to the site (the upper portion of T22S – R27E & the lower portion of T21S – R27E), the potential for ground water being relatively shallow (possibly less than 50'), hydrocarbon impact in the battery showing elevated levels with no delineation, OCD requests a boring be installed to a minimum of 50 feet bgs, to investigate the potential for shallow ground water at the site. In the event the boring is completely dry at 50', boring operations may cease and the boring plugged. If ground water is encountered at 50' or less, a sample is to be obtained per proper sampling procedures, and tested for contaminants. If there is a showing of potential ground water at 50', the boring is to be extended in a manner that will allow for determination of actual depth to ground water and potential impact. The preferred placement of the boring would be as close to the battery as possible on the west side, southern portion of the site (based on probable gradient). The placement may be modified if any available data indicates gradient to be in a different direction. At the time of this writing, OCD has not researched any gradient data.

Please advise once remedial activates have been scheduled, and, If you have any questions or concerns, please contact me.

Thank you,

Mike Bratcher
NMOCD District 2
811 South First Street
Artesia, NM 88210
575-748-1283 Ext 108

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Sheldon Hitchcock <SLHitchcock@concho.com>
Sent: Monday, April 9, 2018 4:59 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>
Cc: Robert McNeill <RMcNeill@concho.com>; Rebecca Haskell <RHaskell@concho.com>; Dakota Neel

<DNeel2@concho.com>; Christopher Gray <CGray@concho.com>; DeAnn Grant <agrant@concho.com>
Subject: (Work Plan) Campadres Fee Tank Battery (2RP-4608) 2/2/2018

Mr. Bratcher/Ms. Weaver,

Please find the attached work plan for your consideration. If you have any questions or concerns please let me know.

Thank you,

Sheldon L. Hitchcock
HSE Coordinator
COG Operating LLC
2407 Pecos Avenue | Artesia, NM 88210
Cell: 575-703-6475 | Office: 575-746-2010
slhitchcock@concho.com

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 161243

CONDITIONS

Operator:	OGRID:
COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	229137
	Action Number: 161243
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Proposed alternative sampling plan denied due to depth to groundwater being approximately 22 feet below surface and documented moisture detected in a sample collected at 15 feet below surface.	11/30/2022
amaxwell	OCD approves confirmation samples to be collected every 300 square feet for both the base of the excavation and side walls.	11/30/2022
amaxwell	Submit closure report to OCD permitting portal by March 1, 2023.	11/30/2022