TETRA TECH

May 19, 2022

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

Re: Release Characterization and Remediation Work Plan
ConocoPhillips
Warren Unit #137 Flowline Release
Unit Letter L, Section 27, Township 20 South, Range 38 East
Lea County, New Mexico
Incident ID NAPP2131930937

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (COP) to assess a release that occurred from the flowline associated with the Warren Unit #137 well (Associated API No. 30-025-33856). The release footprint is located in Public Land Survey System (PLSS) Unit Letter L, Section 27, Township 20 South, Range 38 East, Lea County, New Mexico (Site). The release site coordinates are 32.542233°, -103.143351°. The Site location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), the release was discovered on April 30, 2021. The release occurred as the result of a flowline leak affecting a total area of 400 square feet. Approximately 10 barrels (bbls) of crude oil and 10 bbls of produced water were released, of which approximately 0 bbls of fluids were recovered. The spill calculator, included with the C-141, indicates the release affected an area of approximately 400 square feet. The New Mexico Oil Conservation Division (NMOCD) received and approved the C-141 report form for the release on November 23, 2021. The NMOCD Incident ID for the release is NAPP2131930937.

REGULATORY CORRESPONDENCE

On March 2, 2022, Tetra Tech, on behalf of COP, requested the NMOCD grant a 60-day extension to complete the release characterization and associated reporting for Incident ID NAPP2131930937. The extension request was approved on March 3, 2022, by Robert Hamlet via email. The 60-day extension approval revised the deadline to May 1, 2022.

On April 29, 2022, Tetra Tech, on behalf of COP, requested the NMOCD grant an additional 60-day extension to complete additional assessment using alternative methods to address difficulties associated with Site conditions. The April 2022 extension request was denied on May 3, 2022, by Mr. Hamlet via email. Regulatory correspondence concerning the extension requests is included in Appendix B.

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.0029 New

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Mexico Administrative Code (NMAC). The Site is within a New Mexico oil and gas production area and is in an area of low karst potential.

According to the New Mexico Office of the State Engineer (NMOSE) reporting system, there is one water well within 1.55 miles (2,500 meters) of the Site with water level data. This well has a depth to groundwater of 65 feet below ground surface (bgs).

As the available water level information was from a well farther than ½ mile away from the Site and the data was more than 25 years old, the data from a temporary well installed by a licensed well drilling subcontractor installed on May 12, 2021 was utilized. This groundwater determination borehole (DTW-1) was drilled to 55 feet bgs and is located within ½ mile radius of the release location. The borehole location is indicated on Figure 3. The borehole was temporarily set and screened using 2-inch PVC well materials: 35 feet of blank casing and 20 feet of 0.010" slotted screen. The borehole was left for 72 hours and checked for the presence of groundwater. The borehole was dry upon drilling, and no water was present in the well after 72 hours. The well screen and casing were removed, and the borehole was plugged with 3/8-inch bentonite chips. The site characterization data, boring log, and temporary well diagram are presented in Appendix C.

REGULATORY FRAMEWORK

Based upon the release footprint location 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 and in accordance with Table I of 19.15.29.12 NMAC, the remediation RRALs for the Site are as follows:

Constituent	Remediation RRAL
Chloride	10,000 mg/kg
TPH	2,500 mg/kg
BTEX	50 mg/kg

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

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

INITIAL RESPONSE ACTIVITIES

In accordance with 19.15.29.8. B. (4) NMAC that states "the responsible party may commence remediation immediately after discovery of a release", COP elected to begin initial remedial response of the impacted area. A portion of the release footprint that runs along the Warren Unit #137 flowline was excavated to approximately 18 inches. Figure 4 depicts the release extent and the excavated area.

INITIAL SITE ASSESSMENT

Tetra Tech personnel were onsite to delineate and sample the release area on June 30, 2021. Soil samples were collected from six (6) sample locations (AH-1 through AH-6) within and around the release to evaluate the vertical and horizontal extent of the release. AH-1 and AH-2 were installed to 7 feet bgs to delineate the

vertical extent of impacted soil. AH-3 through AH-6 were installed to 1 foot bgs to delineate the horizontal extent of impacted soil.

A total of fourteen (14) samples were collected from the sample locations and transferred under chain of custody and analyzed within appropriate holding times by Cardinal Laboratories (Cardinal). The soil samples were analyzed for TPH via Method 8015 Modified, chloride via Method SM4500Cl-B, and BTEX via Method 8021B. The boring locations are shown on Figure 4.

SUMMARY OF INITIAL SAMPLING RESULTS

Results from the June 2021 soil sampling event are summarized in Table 1. Analytical results associated with borings AH-1 through AH-6 were below Site RRALs and Reclamation Requirements for chlorides in soils. Analytical results associated with AH-1 and AH-2 exceeded Site RRALs and/or Reclamation Requirements for BTEX and/or TPH in soils to a depth of 7 feet bgs. Analytical results associated with AH-6 exceeded Reclamation Requirements for TPH in soils. All other analytical results from the June 2021 sampling were below Site RRALs and Reclamation Requirements.

After review of analytical results from the sampling event, delineation of the release footprint was not achieved during the June 2021 soil assessment activities. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix D.

ADDITIONAL SITE ASSESSMENT

Tetra Tech personnel returned to the Site to complete additional delineation of the release area, on March 31 and April 12, 2022. A total of two (2) soil borings (AH-1a and AH-7) were installed using a hand auger to better define the extent of impacted soil. AH-7 was installed outside the release footprint to provide horizontal delineation. Prior to the installation of AH-1a, the top 7 feet of soil withing the footprint was hydro-excavated to enable deeper soil intervals to be sampled. AH-1a was installed to depths from 7 to 13 feet bgs to better define the vertical extent of impacted soil. The boring locations and hydro-excavated area are shown on Figure 4. The waste manifests associated with material removed by hydro-excavation is included as Appendix E.

A total of seven (7) soil samples were collected from the sample locations and transferred under chain of custody and analyzed within appropriate holding times by Cardinal. The soil samples were analyzed for TPH via Method 8015 Modified, chloride via Method SM4500Cl-B, and BTEX via Method 8021B. Photographic documentation of site conditions during the additional site assessment activities is included in Appendix F.

SUMMARY OF ADDITIONAL SAMPLING RESULTS

Results from the March and April 2022 soil sampling event are summarized in Table 1. Analytical results associated with boring AH-1a exceeded Site RRALs and Reclamation requirements for BTEX and /or TPH in soils to a depth of 13 feet bgs. Analytical results associated with boring AH-7 were below Site RRALs and Reclamation Requirements. Copies of the laboratory analytical reports and chain-of-custody documentation are included in Appendix D.

Following the March and April 2022 assessment activities, the release is horizontally delineated. Due to the safety constraints of drilling around pressurized lines, depth limitations of a hand auger and sloughing of unconsolidated material downhole, soils could not be collected below 13 feet bgs during the aforementioned site assessment activities; therefore, vertical delineation of impacted soils was not obtained.

Given the density of pressurized lines in the release footprint, traditional rotary drilling methods are not feasible. As previously mentioned, Tetra Tech, on behalf of COP, requested an extension to address these issues; however, the extension was denied by NMOCD. Thus, as attempts to complete vertical delineation were denied, delineation will be completed during remediation.

REMEDIATION WORK PLAN

Based on the analytical results from the assessment, impacted material within the release extent are proposed to be removed as indcated in Figure 5. Impacted soils will be excavated using heavy equipment (backhoes and track hoes) to a maximum depth of 16 feet below the surrounding surface. The release area near AH-1/AH-1a will be excavated to a depth of 16 feet below pre-release grade. The area near the western, southern and eastern extents of the release footprint will be excavated to a depth of 2 feet below pre-release grade. The intermediate area, containing AH-2, will be excavated to a depth of 7 feet below pre-release grade. Heavy equipment will come no more than 4 ft from any pressurized lines. Impacted soils within the vicinity of the surface and subsurface lines which intersect the release footprint will be dug by hand or via hydro-excavation to the maximum extent practicable.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. In accordance with Subsection D of 19.15.29.12 NMAC, the responsible party will notify the appropriate division district office prior to conducting confirmation sampling. The estimated volume of material to be remediated is approximately 175 cubic yards.

CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D) NMAC, ConocoPhillips proposes the following confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 6. Three (3) confirmation floor samples and four (4) confirmation sidewall samples are proposed for verification of remedial activities. These confirmation sidewall and floor samples will be representative of no more than approximately 200 square feet of excavated area. The proposed excavation encompasses a surface area of approximately 600 square feet.

Confirmation samples will be sent to an accredited analytical laboratory for analysis of TPH (Method 8015 modified), BTEX (Method 8260B), and chloride (USEPA Method 300.0 or equivalent). Once results are received, the excavation will then be backfilled with clean material to surface grade.

REVEGETATION PLAN

The backfilled areas will be seeded in Spring 2022, or the first favorable growing season following backfilling, to aid in revegetation. Based on the soils at the site, the New Mexico State Land Office (NMSLO) Sandy (S) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (PLS) per acre. The seed mixture will be spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

Site inspections will be performed to assess the revegetation progress and evaluate the site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be contacted to determine an effective method for eradication. If the site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix G.

CONCLUSION

Remediation activities at the Site are proposed to begin within 90 days of NMOCD plan approval. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD.

If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 217-7254 or Christian at (512) 338-2861.

Sincerely,
Tetra Tech, Inc.

Ryan C. Dickerson
Project Manager

Christian M, Llull, P.G.
Program Manager

cc:
Ms. Jenni Fortunato, RMR – ConocoPhillips

List of Attachments

Figures:

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

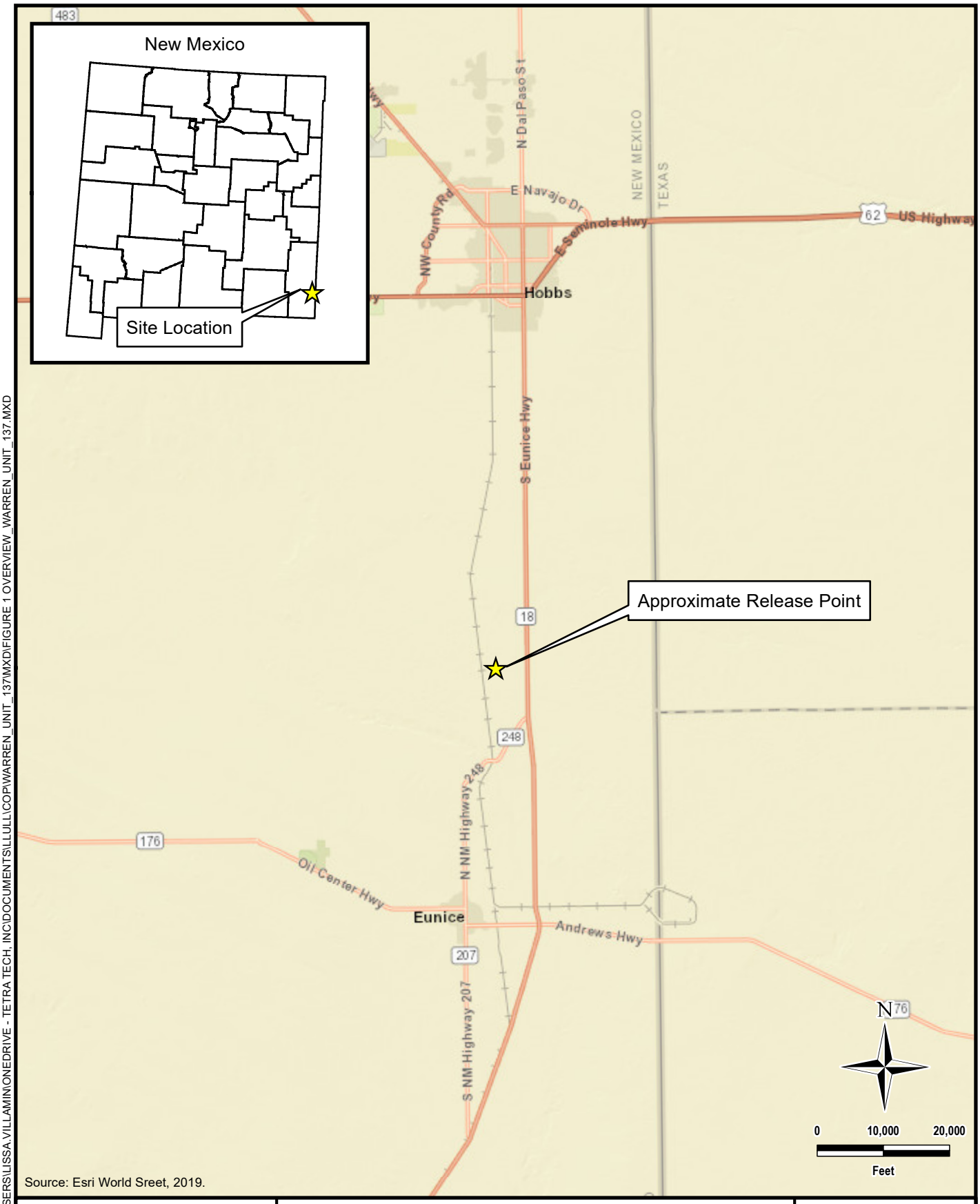
Tables:

- Table 1 – Summary of Analytical Results – Soil Assessment

Appendices:

- Appendix A – C-141 Form
- Appendix B – Regulatory Correspondence
- Appendix C – Site Characterization Data
- Appendix D – Laboratory Analytical Data
- Appendix E – Waste Manifest
- Appendix F – Photographic Documentation
- Appendix G – NMSLO Seed Mixture Details

FIGURES



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DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\WARREN_UNIT_137\MXD\FIGURE 1 OVERVIEW_WARREN_UNIT_137.MXD

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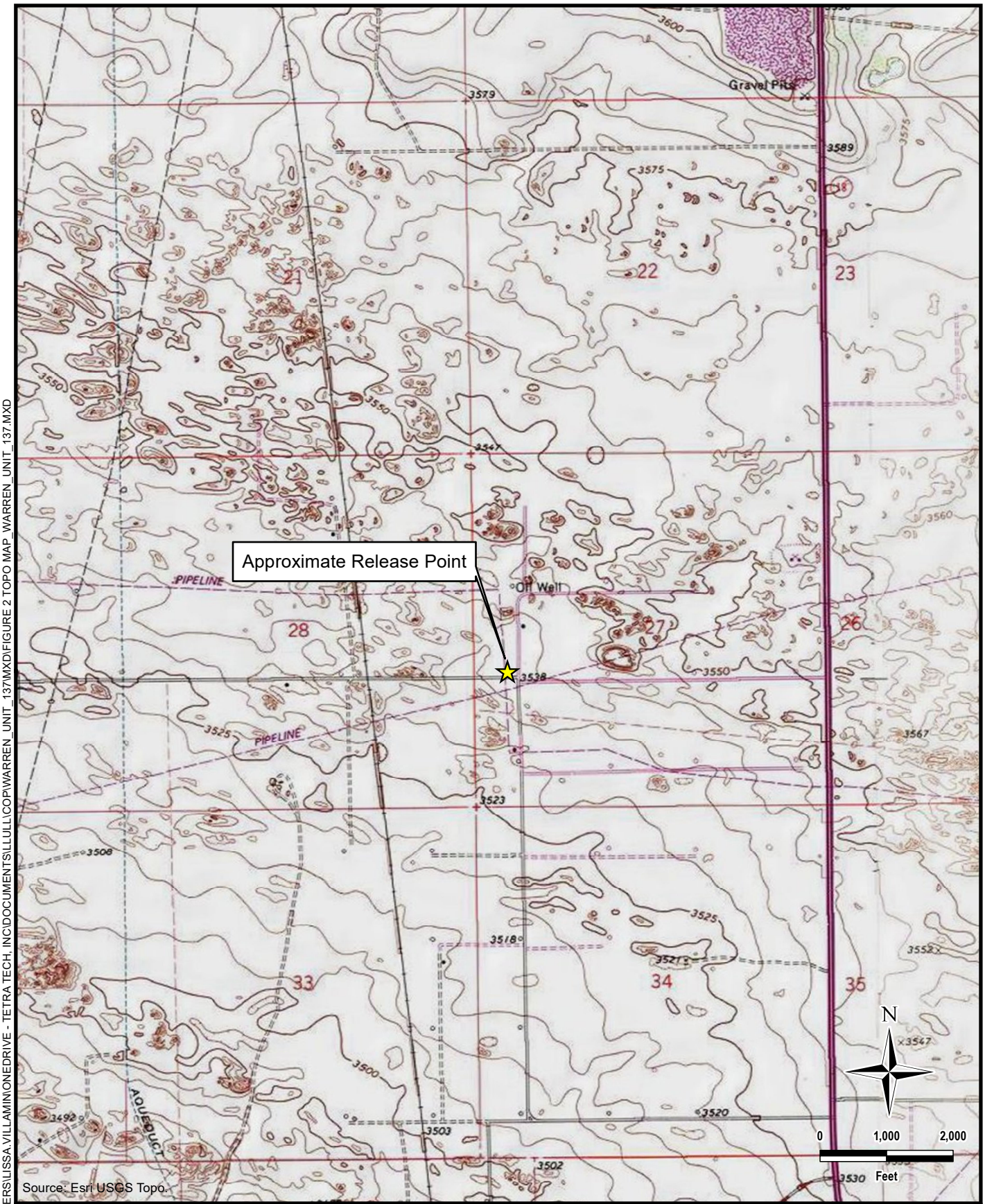
CONOCOPHILLIPS

NAPP2131930937
(32.542210°, -103.143314°)
LEE COUNTY, NEW MEXICO

WARREN UNIT #137 FLOWLINE RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-02704
DATE:	APRIL 06, 2022
DESIGNED BY:	LMV

Figure No.
1



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CONOCOPHILLIPS

NAPP2131930937
(32.542210°, -103.143314°)
LEE COUNTY, NEW MEXICO

WARREN UNIT #137 FLOWLINE RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02704
DATE:	APRIL 06, 2022
DESIGNED BY:	LMV

Figure No.
2

DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\WARREN_UNIT_137\MXD\FIGURE 3 SITE CHARACTERIZATION_WARREN_UNIT_137.MXD

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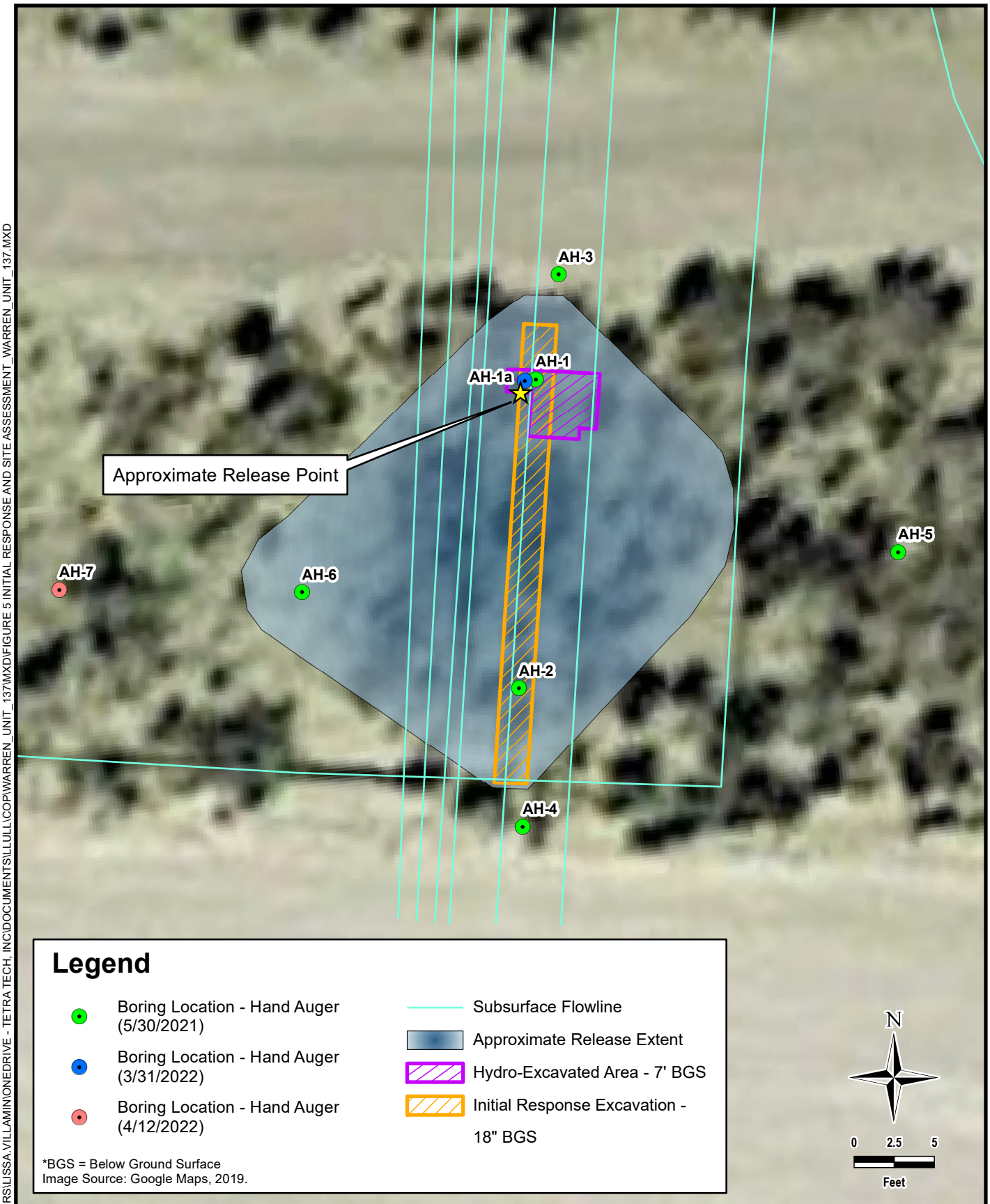
CONOCOPHILLIPS

NAPP2131930937
(32.542210°, -103.143314°)
LEE COUNTY, NEW MEXICO

WARREN UNIT #137 FLOWLINE RELEASE
SITE CHARACTERIZATION

PROJECT NO.:	212C-MD-02704
DATE:	APRIL 08, 2022
DESIGNED BY:	LMV

Figure No.
3



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\WARREN_UNIT_137\MXD\FIGURE 5 INITIAL RESPONSE AND SITE ASSESSMENT_WARREN_UNIT_137.MXD

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Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

CONOCOPHILLIPS

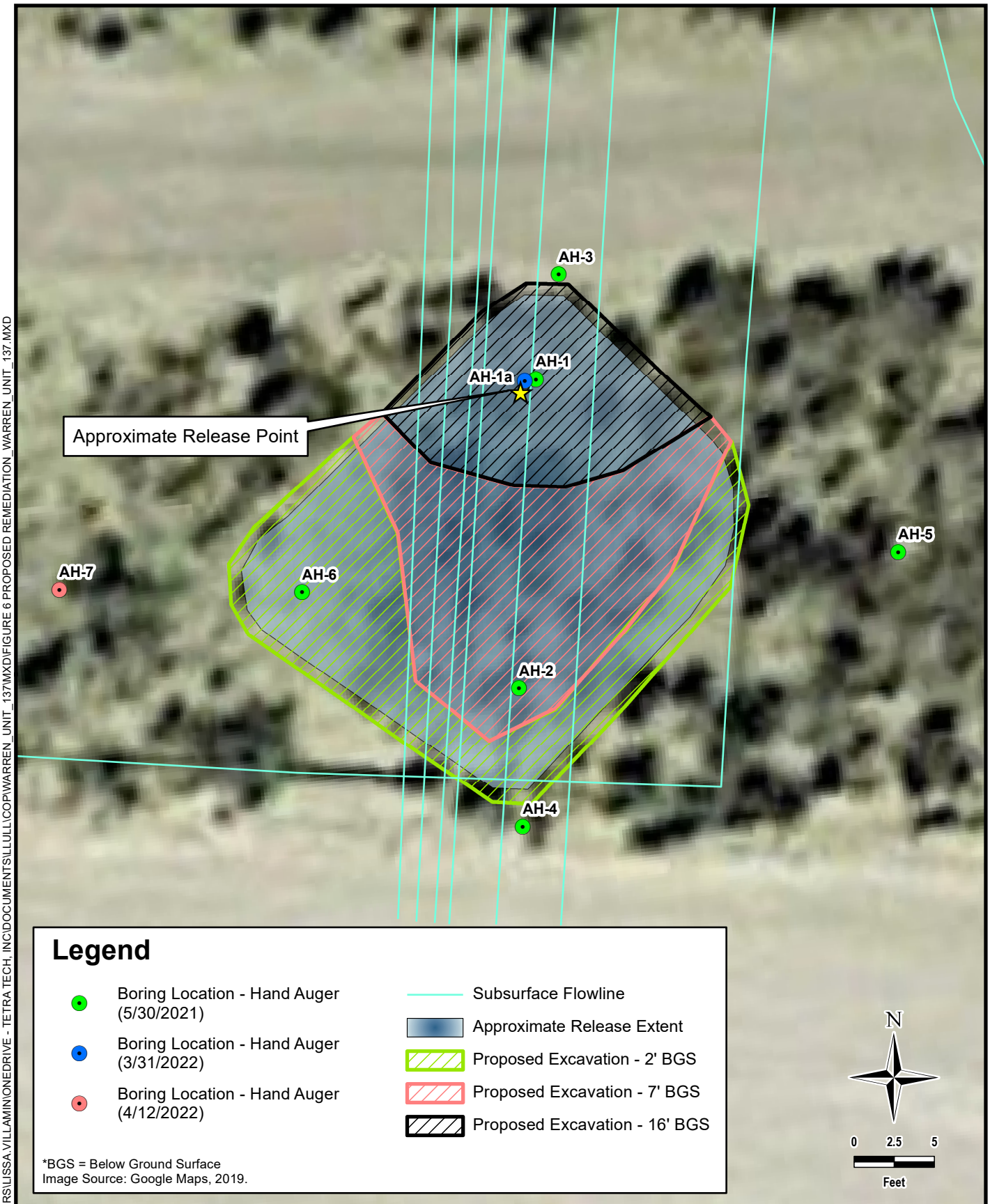
NAPP2131930937
(32.542210°, -103.143314°)
LEE COUNTY, NEW MEXICO

WARREN UNIT #137 FLOWLINE RELEASE
INITIAL RESPONSE AND SITE ASSESMENT

PROJECT NO.:	212C-MD-02704
DATE:	APRIL 27, 2022
DESIGNED BY:	LMV

Figure No.

4



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LULL\COP\WARREN_UNIT_137\MXD\FIGURE 6 PROPOSED REMEDIATION_WARREN_UNIT_137.MXD

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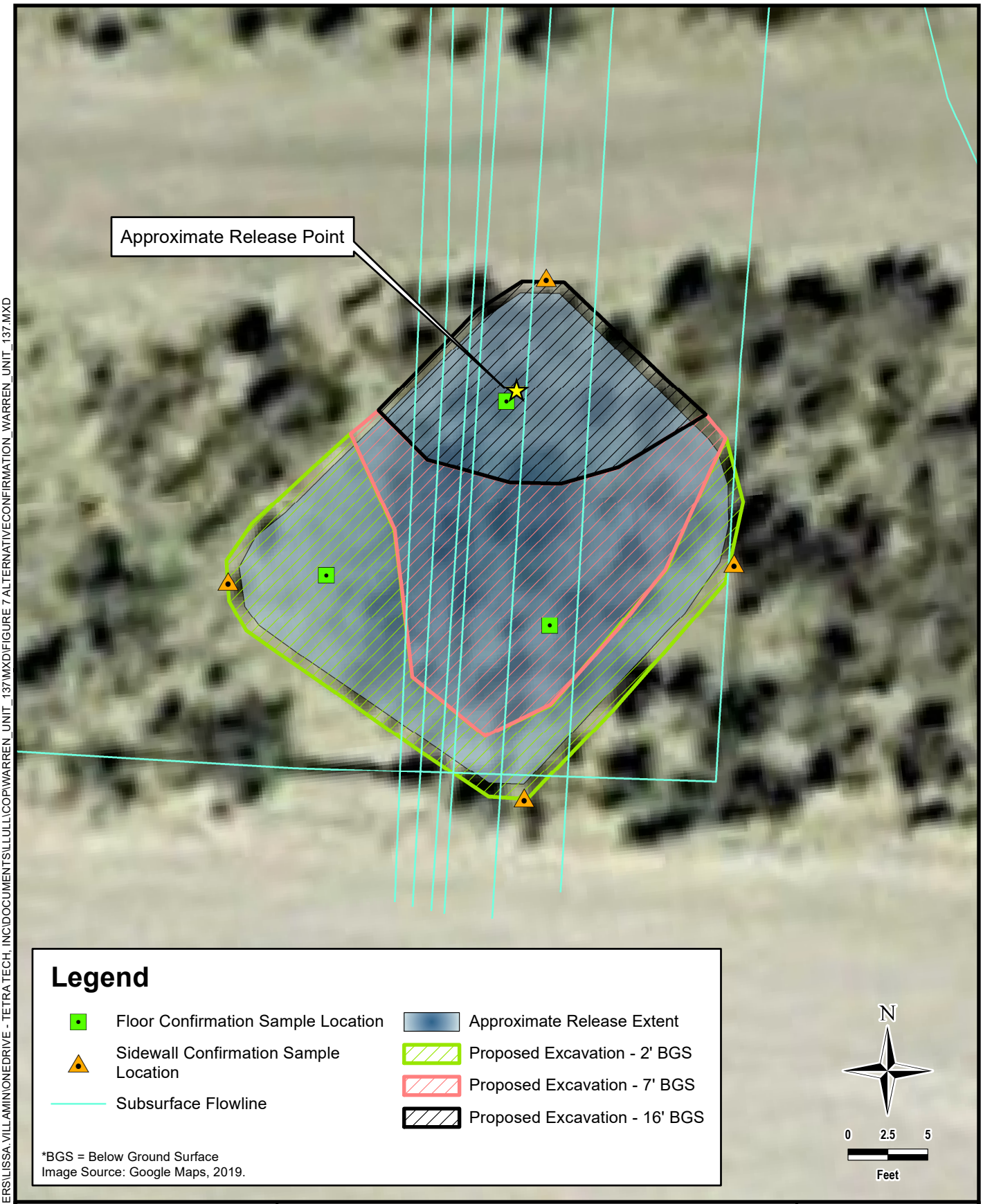
CONOCOPHILLIPS

NAPP2131930937
(32.542210°, -103.143314°)
LEE COUNTY, NEW MEXICO

WARREN UNIT #137 FLOWLINE RELEASE
PROPOSED REMEDIATION EXTENT

PROJECT NO.:	212C-MD-02704
DATE:	MAY 17, 2022
DESIGNED BY:	LMV

Figure No.
5



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LEE COUNTY, NEW MEXICO

WARREN UNIT #137 FLOWLINE RELEASE
ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.:	212C-MD-02704
DATE:	MAY 17, 2022
DESIGNED BY:	LMV

Figure No.
6

TABLE

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT- NAPP2131930937
CONOCOPHILLIPS
WARREN UNIT #137 FLOWLINE RELEASE
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]										TPH[3]							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
															C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{36}		(GRO+DRO+EXT DRO)
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
AH-1	6/30/2021	2-3	112		2.57		27.1		31.8		74.9		***136***		4,760		15,300		2,190		***22,250***
		3-4	176		4.23		47.1		44.2		113		***208***		4,870		12,500		2,020		***19,390***
		4-5	192		5.01		54.8		50.0		126		***236***		4,980		12,800		2,030		***19,810***
		5-6	256		7.55		67.4		58.0		144		***277***		5,220		11,900		1,940		***19,060***
		6-7	512		***15.6***		93.6		71.8		171		***352***		7,730		16,900		2,700		***27,330***
AH-1a	3/31/2022	7-8	368		0.661		9.00	QM-07	7.56		67.6	QM-07	***84.9***		1,820		6,770		1,010		***9,600***
		8-9	944		***13.1***		65.4		45.6		114		***238***		3,810		7,560		1,170		***12,540***
		9-10	1,680		***14.3***		65.0		43.8		108		***231***		1,340		2,150		179		***3,669***
		10-11	2,520		***13.6***		62.4		43.2		107		***227***		3,000		5,950		842		***9,792***
		11-12	2,200		***21.5***		87.7		54.0		134		***297***		4,400		8,290		1,290		***13,980***
		12-13	1,660		***19.5***		83.0		53.8		130		***286***		5,360		10,100		1,540		***17,000***
AH-2	6/30/2021	2-3	160		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		172		36.9		***209***
		3-4	128		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		397		83.7		***481***
		4-5	64.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		91.9		11.9		104
		5-6	208		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		291		74.5		366
		6-7	544		< 0.050		< 0.050		0.211		0.588		0.799		136		3,930		802		***4,868***
AH-3	6/30/2021	0-1	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		25.4		16.0		41.4
AH-4	6/30/2021	0-1	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-5	6/30/2021	0-1	< 16.0		< 0.050		0.111		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-6	6/30/2021	0-1	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		279		158		***437***
AH-7	4/12/2022	0-1	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

1 Method SM4500Cl-B

2 Method 8021B

3 Method 8015M

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements for soils above 4 ft. bgs.

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

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

APPENDIX A
C-141 Forms

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2131930937
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	ConocoPhillips	OGRID	
Contact Name	Kelsy Waggaman	Contact Telephone	(432) 688 - 9057
Contact email	Kelsy.Waggaman@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2131930937
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.542233 Longitude -103.143351
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Warren 137	Site Type	Flowline
Date Release Discovered	April 30, 2021	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
L	27	20S	38E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* _____)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 10	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 10	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a flowline leak due to corrosion.
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2131930937
District RP	
Facility ID	
Application ID	

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

Initial Response

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

- ■ The source of the release has been stopped.
- ■ The impacted area has been secured to protect human health and the environment.
- ■ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ■ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 11/15/2021

email: Brittany.Esparza@ConocoPhillips.com Telephone: (432) 221-0398

OCD Only

Received by: Ramona Marcus Date: 11/29/2021

L48 Spill Volume Estimate Form

Facility Type/Component:	FLOWLINE
Asset Area:	FLOWLINE/PASTURE
Release Discovery Date & Time:	4/30/2021
Release Type:	Oil Mixture
Provide any known details about the event:	FLOWLINE LEAK

NAPP2131930937

Spill Calculation - On Pad Surface Pool Spill

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas (in.)	No. of boundaries of "shore" in each area	Estimated *Pool* Area (sq. ft.)	Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	20.0	20.0	10.00	3	400.000	0.278	19.778	0.014	20.052	50.00%	10.026	10.026
Rectangle B					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle C					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
Rectangle J					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!
								Total Volume Release:	20.052		10.026	10.026

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

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 63507
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	11/29/2021

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui Date: _____

APPENDIX B
Regulatory Correspondence

Poole, Nicholas

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Thursday, March 3, 2022 9:21 AM
To: Llull, Christian
Cc: Fortunato, Jenni; Poole, Nicholas; Bratcher, Mike, EMNRD; Hensley, Chad, EMNRD; Velez, Nelson, EMNRD; Nobui, Jennifer, EMNRD
Subject: (Extension Approval) - NAPP2131930937 (Warren Unit 137)

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

RE: Incident #**NAPP2131930937**

Christian,

Your request for an extension to **May 1st, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Llull, Christian <Christian.Llull@tetratech.com>
Sent: Wednesday, March 2, 2022 3:20 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Fortunato, Jenni <Jenni.Fortunato@conocophillips.com>; Poole, Nicholas <NICHOLAS.POOLE@tetratech.com>
Subject: [EXTERNAL] Extension Request - NAPP2131930937 (Warren Unit 137)

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

To whom it may concern:

On behalf of ConocoPhillips, Tetra Tech is requesting a 60-day extension (until May 1, 2022) to complete the release characterization and associated reporting for the Warren Unit 137 Release incident (**NAPP2131930937**).

Please let me know if you have any questions or concerns.

Christian

Christian Llull, P.G. | Program Manager
Direct **+1 (512) 338-2861** | Business **+1 (512) 338-1667** | Fax **+1 (512) 338-1331** | christian.llull@tetratech.com

Tetra Tech | *Leading with Science®* | OGA
8911 N. Capital of Texas Highway | Bldg. 2, Suite 2310 | Austin, TX 78759 | tetratech.com

Poole, Nicholas

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Tuesday, May 3, 2022 8:20 AM
To: Llull, Christian
Cc: Fortunato, Jenni; Poole, Nicholas; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Extension Denied) Warren Unit 137 (NAPP2131930937)

RE: Incident #**NAPP2131930937**

Christian,

An extension for this release has already been granted. This release occurred over a year ago and the OCD has not received any type of Site Assessment/Characterization/Remediation Plan on the release. Your request for another extension is **denied**. Include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Llull, Christian <Christian.Llull@tetratech.com>
Sent: Friday, April 29, 2022 11:16 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Fortunato, Jenni <Jenni.Fortunato@conocophillips.com>; Poole, Nicholas <NICHOLAS.POOLE@tetratech.com>
Subject: [EXTERNAL] (Extension Request #2) Warren Unit 137 (NAPP2131930937)

Mr. Hamlet,

OCD previously granted an extension for incident NAPP2131930937 via email on March 3, 2022. Thus, the release characterization and associated reporting for the subject line release is currently due on **May 1, 2022**.

We are providing more data for an additional extension request. Justification for this request, including figures and analytical data showing the project progress of ConocoPhilips is described below.

EXTENSION REQUEST #2

ConocoPhillips is requesting a two-month extension of the current deadline of May 1, 2022 (**to June 30, 2022**) in order to complete delineation and associated remediation work plan for the subject line release (Incident Number NAPP2131930937).

The release extent footprint lies in close proximity of 7 known subsurface flowlines running north and south (see attached figure). Due to the numerous flowlines in and around the release site, access with a conventional drilling rig was not advisable. In March, 2022, on behalf of COP, a hydro-vac was used to expose the lines near the release point and create a benched open hole excavation to 7 ft bgs. Tetra Tech personnel completed one hand auger boring (AH-1A) to approximately 13 ft bgs using hand auger. The boring was completed to attempt to vertically delineate the impacted soil at previously sampled location AH-1.

During drilling, a loose unconsolidated sand unit was encountered. This loose sand unit sloughed in the open excavation, and (given worker safety requirements) did not allow for sampling deeper than 13 ft. The release assessment and delineation activities must continue in order to meet the requirements of NMAC 19.15.29.11.
Based on the most recent laboratory analytical results, additional assessment is required at the site. Please see attached table of laboratory analytical results.

- The analytical data associated with AH-1 (closest to the release point) indicates TPH and/or BTEX impact exceeding the RRAL in the upper 7'.
- The analytical data associated with AH-1A (adjacent to AH-1) indicates TPH and/or BTEX impact exceeding the RRAL in the 7'-13' bgs intervals sampled.

Thus, additional assessment using alternative methods is required in the vicinity of AH-1 & AH-1A. COP intends to complete additional assessment in the next 30 days, and provide the additional data to OCD.
Once the data is collected and evaluated, a release characterization and remediation work plan will be submitted to OCD.

Please let me know if you have any additional questions, (M) 512-565-0190.
Thank you for your time.

Christian Llull, P.G. | Program Manager
Direct **+1 (512) 338-2861** | Business **+1 (512) 338-1667** | Fax **+1 (512) 338-1331** | christian.llull@tetratech.com

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8911 N. Capital of Texas Highway | Bldg. 2, Suite 2310 | Austin, TX 78759 | tetratech.com

APPENDIX C
Site Characterization Data

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

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 09918	L	LE		4	2	21	20S	38E	673954	3604063*	2041	135		
L 07980	L	LE		4	3	26	20S	38E	676412	3601687*	2095	130	65	65
L 13546 POD1	L	LE	4	4	3	34	20S	38E	675011	3600037	2128	88		

Average Depth to Water: **65 feet**

Minimum Depth: **65 feet**

Maximum Depth: **65 feet**

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 674349.95 **Northing (Y):** 3602059.83 **Radius:** 2500

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

212C-MD-02377 | TETRA TECH | **LOG OF BORING DTW-1** | Page 1 of 2

Project Name: Warren Unit 134

Borehole Location: GPS: 32.542309°, -103.144283° | Surface Elevation: 3548'

Borehole Number: **DTW-1** | Borehole Diameter (in.): 8" | Date Started: 5/12/2021 | Date Finished: 5/12/2021

WATER LEVEL OBSERVATIONS

While Drilling ▽ Dry | 24 Hours After Completion of Drilling ▽ Dry

Remarks:

DEPTH (ft)	OPERATION TYPES	SAMPLE	CHLORIDE CONCENTRATION (ppm) ExStik	VOC CONCENTRATION (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	WELL DIAGRAM
5												**-SP-** SAND: Light brown, dry, loose, non-cemented, with no staining, with no odor.	5	
10												**-SC-** CLAYEY SAND: Light brown to reddish brown, dry, loose, non-cemented, with no staining, with no odor.		
15												**-SP-** SAND: Tan, dry, loose, non-cemented, with no staining, with no odor.	15	
20												**-SP-** SAND: Light tan, dry, loose, non-cemented, with no staining, with no odor.	20	
25												**-SP-** SAND: Reddish-brown, dry, loose, non-cemented, with no staining, with no odor.	25	
30													30	4" Schedule 40 PVC Casing

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

Operation Types: Hollow Stem Auger, Continuous Flight Auger, Mud Rotary, Auger, Air Rotary, Direct Push, Drive Casing

Notes:
Surface elevations are estimated from Google Earth data.

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

212C-MD-02377	TETRA TECH	**LOG OF BORING DTW-1**	Page 2 of 2

Project Name: Warren Unit 134

Borehole Location: GPS: 32.542309°, -103.144283° | Surface Elevation: 3548'

Borehole Number: **DTW-1** | Borehole Diameter (in.): 8" | Date Started: 5/12/2021 | Date Finished: 5/12/2021

WATER LEVEL OBSERVATIONS

While Drilling ▽ Dry 24 Hours After Completion of Drilling ▼ Dry

Remarks:

DEPTH (ft)	OPERATION TYPES	SAMPLE	CHLORIDE CONCENTRATION (ppm) ExStik	VOC CONCENTRATION (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	WELL DIAGRAM
35												**-SM-** SILTY SAND: Reddish-brown, dry, loose, non-cemented, with no staining, with no odor.		
40														
45														0.010" Slotted Screen
50														
55													55	

Bottom of borehole at 55.0 feet.

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

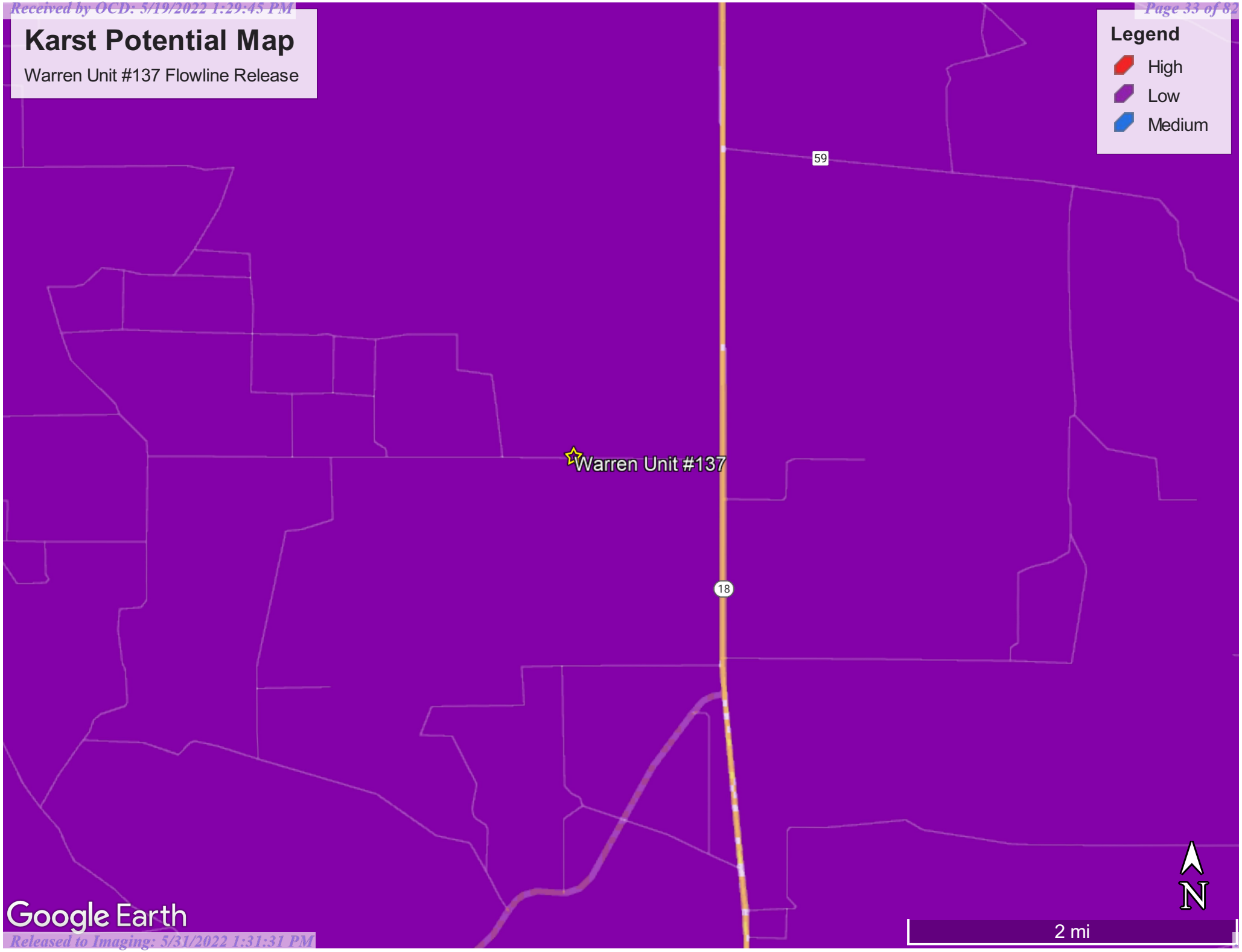
Operation Types: Auger, Hollow Stem Auger, Air Rotary, Continuous Flight Auger, Direct Push, Mud Rotary, Drive Casing

Notes:
Surface elevations are estimated from Google Earth data.

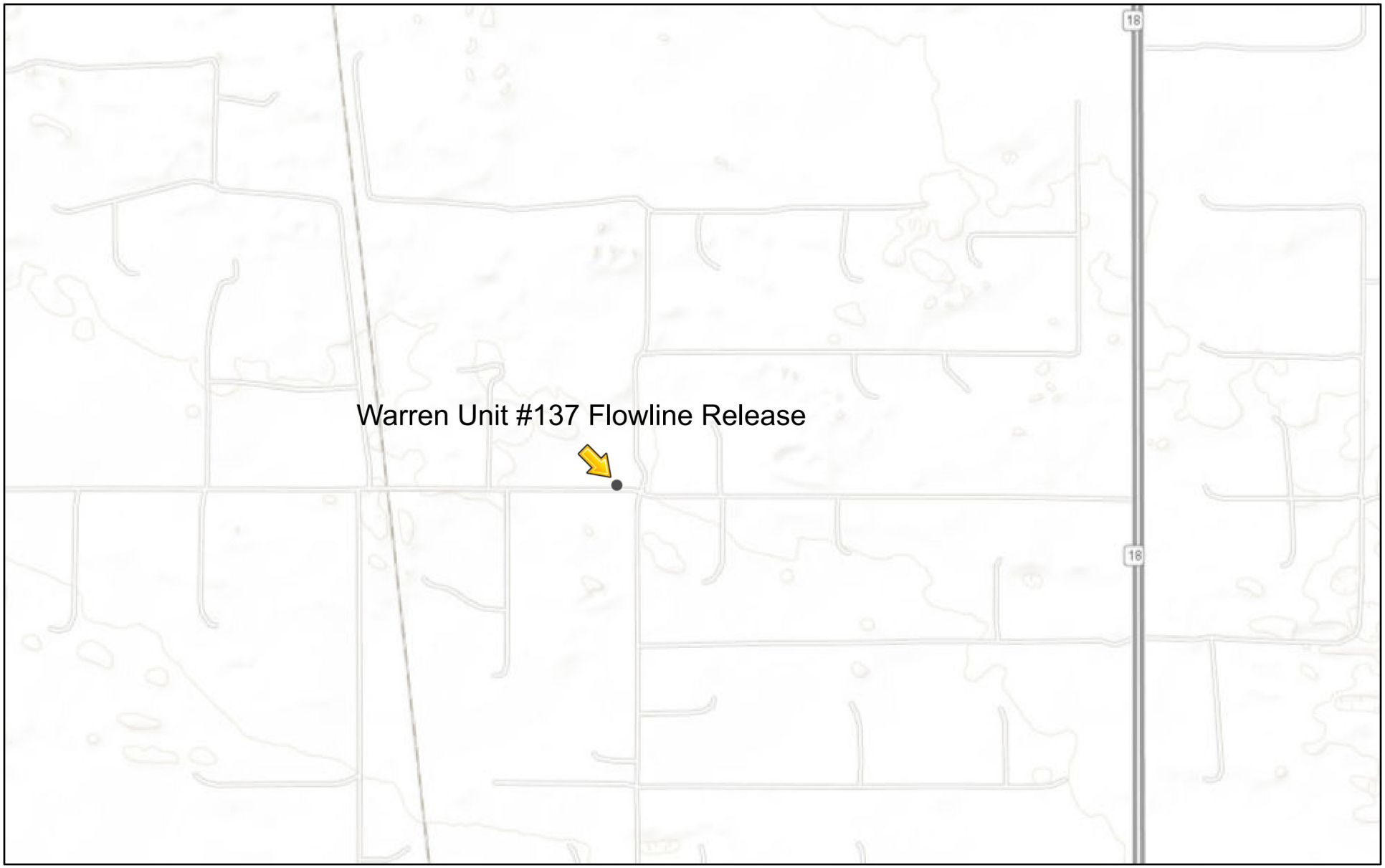
Logger: Adrian Garcia | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

Karst Potential Map

Warren Unit #137 Flowline Release



Warren Unit #137 Flowline Release Water Bodies



5/18/2022, 10:21:21 AM

Override 1

OSE Streams

1:18,056

0 500 1,000 2,000 ft

0 212.5 425 850 m

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

New Mexico Oil Conservation Division

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

APPENDIX D
Laboratory Analytical Data

CARDINAL Laboratories

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

July 06, 2021

JOE TYLER

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: WARREN 137 (104)

Enclosed are the results of analyses for samples received by the laboratory on 06/30/21 13:47.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 (2'-3') (H211698-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**2.57**	0.200	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	**27.1**	0.200	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	**31.8**	0.200	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	**74.9**	0.600	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	**136**	1.20	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *258 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**4760**	100	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**15300**	100	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**2190**	100	07/06/2021	ND					

Surrogate: 1-Chlorooctane *963 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *764 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 (3'-4') (H211698-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**4.23**	1.00	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	**47.1**	1.00	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	**44.2**	1.00	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	**113**	3.00	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	**208**	6.00	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *155 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**4870**	100	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**12500**	100	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**2020**	100	07/06/2021	ND					

Surrogate: 1-Chlorooctane *850 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *632 %* *38.9-142*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 (4'-5') (H211698-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**5.01**	1.00	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	**54.8**	1.00	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	**50.0**	1.00	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	**126**	3.00	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	**236**	6.00	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *155 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**4980**	100	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**12800**	100	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**2030**	100	07/06/2021	ND					

Surrogate: 1-Chlorooctane *858 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *617 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 (5'-6') (H211698-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**7.55**	1.00	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	**67.4**	1.00	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	**58.0**	1.00	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	**144**	3.00	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	**277**	6.00	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *157 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**5220**	100	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**11900**	100	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**1940**	100	07/06/2021	ND					

Surrogate: 1-Chlorooctane *830 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *577 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 (6'-7') (H211698-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**15.6**	1.00	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	**93.6**	1.00	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	**71.8**	1.00	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	**171**	3.00	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	**352**	6.00	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *158 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**7730**	100	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**16900**	100	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**2700**	100	07/06/2021	ND					

Surrogate: 1-Chlorooctane *966 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *598 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 2 (2'-3') (H211698-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	<0.050	0.050	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	<0.050	0.050	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	<0.150	0.150	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	<0.300	0.300	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**172**	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**36.9**	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *85.0 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *97.0 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 2 (3'-4') (H211698-07)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	<0.050	0.050	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	<0.050	0.050	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	<0.150	0.150	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	<0.300	0.300	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *111 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**397**	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**83.7**	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *85.6 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *108 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 2 (4'-5') (H211698-08)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	<0.050	0.050	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	<0.050	0.050	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	<0.150	0.150	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	<0.300	0.300	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**91.9**	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**11.9**	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *90.7 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *114 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 2 (5'-6') (H211698-09)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	<0.050	0.050	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	<0.050	0.050	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	<0.150	0.150	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	<0.300	0.300	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**291**	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**74.5**	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *89.1 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *107 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 2 (6'-7') (H211698-10)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	<0.050	0.050	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	**0.211**	0.050	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	**0.588**	0.150	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	**0.799**	0.300	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *132 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	07/01/2021	ND	432	108	400	3.64	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**136**	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**3930**	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**802**	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *115 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *231 %* *38.9-142*

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Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 3 (0-1') (H211698-11)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2021	ND	1.91	95.5	2.00	7.67	
Toluene*	<0.050	0.050	06/30/2021	ND	1.86	93.0	2.00	7.24	
Ethylbenzene*	<0.050	0.050	06/30/2021	ND	1.78	89.1	2.00	7.97	
Total Xylenes*	<0.150	0.150	06/30/2021	ND	5.41	90.2	6.00	7.59	
Total BTEX	<0.300	0.300	06/30/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**25.4**	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**16.0**	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *87.8 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *96.0 %* *38.9-142*

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Analytical Results For:

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Fax To: (432) 682-3946

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 4 (0-1') (H211698-12)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2021	ND	2.02	101	2.00	0.299	
Toluene*	<0.050	0.050	07/01/2021	ND	2.12	106	2.00	2.58	
Ethylbenzene*	<0.050	0.050	07/01/2021	ND	2.09	104	2.00	3.46	
Total Xylenes*	<0.150	0.150	07/01/2021	ND	6.22	104	6.00	3.07	
Total BTEX	<0.300	0.300	07/01/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	<10.0	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	<10.0	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *87.6 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *91.8 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 5 (0-1') (H211698-13)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2021	ND	2.02	101	2.00	0.299	
Toluene*	**0.111**	0.050	07/01/2021	ND	2.12	106	2.00	2.58	
Ethylbenzene*	<0.050	0.050	07/01/2021	ND	2.09	104	2.00	3.46	
Total Xylenes*	<0.150	0.150	07/01/2021	ND	6.22	104	6.00	3.07	
Total BTEX	<0.300	0.300	07/01/2021	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	<10.0	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	<10.0	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *88.3 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *93.0 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/30/2021	Sampling Date:	06/30/2021
Reported:	07/06/2021	Sampling Type:	Soil
Project Name:	WARREN 137 (104)	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02531	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 6 (0-1') (H211698-14)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/01/2021	ND	2.02	101	2.00	0.299	
Toluene*	<0.050	0.050	07/01/2021	ND	2.12	106	2.00	2.58	
Ethylbenzene*	<0.050	0.050	07/01/2021	ND	2.09	104	2.00	3.46	
Total Xylenes*	<0.150	0.150	07/01/2021	ND	6.22	104	6.00	3.07	
Total BTEX	<0.300	0.300	07/01/2021	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/01/2021	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/06/2021	ND	206	103	200	9.50	
DRO >C10-C28*	**279**	10.0	07/06/2021	ND	222	111	200	13.7	
EXT DRO >C28-C36	**158**	10.0	07/06/2021	ND					

Surrogate: 1-Chlorooctane *80.0 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *117 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04	The RPD for the BS/BSD was outside of historical limits.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: ConocoPhillips

Site Manager: Joe Tyler

Project Name: Warren 137 (104)

Project Location: (county, state) Lea County, NM

Project #: 212C-MD-02531

Invoice to: ConocoPhillips, Attention: Brent Swimmer

Receiving Laboratory: Cardinal Laboratories

Sampler Signature: Cotton Bickerstaff

Comments: Email to brent.w.swimmer@conocophillips.com and Joe.Tyler@tetratech.com

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	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	Asbestos			Hold
H211698																																
1	AH-1 (2'-3')	6/30/21			X			X	1	N	X		X											X								
2	AH-1 (3'-4')	6/30/21			X			X	1	N	X		X											X								
3	AH-1 (4'-5')	6/30/21			X			X	1	N	X		X											X								
4	AH-1 (5'-6')	6/30/21			X			X	1	N	X		X											X								
5	AH-1 (6'-7')	6/30/21			X			X	1	N	X		X											X								
6	AH-2 (2'-3')	6/30/21	@		X			X	1	N	X		X											X								
7	AH-2 (3'-4')	6/30/21			X			X	1	N	X		X											X								
8	AH-2 (4'-5')	6/30/21			X			X	1	N	X		X											X								
9	AH-2 (5'-6')	6/30/21			X			X	1	N	X		X											X								
10	AH-2 (6'-7')	6/30/21			X			X	1	N	X		X											X								

Relinquished by: Cotton Bickerstaff Date: 6/30/21 Time:

Received by: Tamara Oldaker 6-30-21 1347 Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 5.5° #113 TO.

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Tetra Tech. Inc.

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

Client Name: ConocoPhillips

Site Manager: Joe Tyler

Project Name: Warren 137 (104)

Project Location: (county, state) Lea County, NM

Project #: 212C-MD-02531

Invoice to: ConocoPhillips, Attention: Brent Swimmer

Receiving Laboratory: Cardinal Laboratories

Sampler Signature: Colton Bickerstaff

Comments: Email to brent.w.swimmer@conocophillips.com and Joe.Taylor@tetratech.com

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	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	Asbestos			Hold
H211698																																
11	AH-3 (0-1')	6/30/21			X			X	1	N	X		X												X							
12	AH-4 (0-1')	6/30/21			X			X	1	N	X		X												X							
13	AH-5 (0-1')	6/30/21			X			X	1	N	X		X												X							
14	AH-6 (0-1')	6/30/21			X			X	1	N	X		X												X							

Relinquished by: Colton Bickerstaff Date: 6/30/21 Time:

Received by: Tamara Oldaker 6-30-21 Date: Time: 1347

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 5.5°

#113 T°.

REMARKS:

☐ 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

CARDINAL Laboratories

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

April 05, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: WARREN UNIT #137 FL RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 03/31/22 12:35.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/31/2022	Sampling Date:	03/31/2022
Reported:	04/05/2022	Sampling Type:	Soil
Project Name:	WARREN UNIT #137 FL RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02704	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 A (7'-8') (H221291-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.661**	0.200	04/03/2022	ND	2.13	106	2.00	2.36	
Toluene*	**9.00**	0.200	04/03/2022	ND	2.12	106	2.00	1.96	QM-07
Ethylbenzene*	**7.56**	0.200	04/03/2022	ND	2.10	105	2.00	1.79	
Total Xylenes*	**67.6**	0.600	04/03/2022	ND	6.51	108	6.00	1.65	QM-07
Total BTEX	**84.9**	1.20	04/03/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *233 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	04/04/2022	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**1820**	100	04/02/2022	ND	189	94.6	200	3.12	
DRO >C10-C28*	**6770**	100	04/02/2022	ND	186	92.9	200	3.68	
EXT DRO >C28-C36	**1010**	100	04/02/2022	ND					

Surrogate: 1-Chlorooctane *251 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *377 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/31/2022	Sampling Date:	03/31/2022
Reported:	04/05/2022	Sampling Type:	Soil
Project Name:	WARREN UNIT #137 FL RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02704	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 A (8'-9') (H221291-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**13.1**	0.500	04/03/2022	ND	2.13	106	2.00	2.36	
Toluene*	**65.4**	0.500	04/03/2022	ND	2.12	106	2.00	1.96	
Ethylbenzene*	**45.6**	0.500	04/03/2022	ND	2.10	105	2.00	1.79	
Total Xylenes*	**114**	1.50	04/03/2022	ND	6.51	108	6.00	1.65	
Total BTEX	**238**	3.00	04/03/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *161 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**944**	16.0	04/04/2022	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**3810**	100	04/02/2022	ND	189	94.6	200	3.12	
DRO >C10-C28*	**7560**	100	04/02/2022	ND	186	92.9	200	3.68	
EXT DRO >C28-C36	**1170**	100	04/02/2022	ND					

Surrogate: 1-Chlorooctane *359 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *323 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/31/2022	Sampling Date:	03/31/2022
Reported:	04/05/2022	Sampling Type:	Soil
Project Name:	WARREN UNIT #137 FL RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02704	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 A (9'-10') (H221291-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**14.3**	0.500	04/03/2022	ND	2.13	106	2.00	2.36	
Toluene*	**65.0**	0.500	04/03/2022	ND	2.12	106	2.00	1.96	
Ethylbenzene*	**43.8**	0.500	04/03/2022	ND	2.10	105	2.00	1.79	
Total Xylenes*	**108**	1.50	04/03/2022	ND	6.51	108	6.00	1.65	
Total BTEX	**231**	3.00	04/03/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *154 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1680**	16.0	04/04/2022	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**1340**	100	04/02/2022	ND	189	94.6	200	3.12	
DRO >C10-C28*	**2150**	100	04/02/2022	ND	186	92.9	200	3.68	
EXT DRO >C28-C36	**179**	100	04/02/2022	ND					

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

Surrogate: 1-Chlorooctadecane *127 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/31/2022	Sampling Date:	03/31/2022
Reported:	04/05/2022	Sampling Type:	Soil
Project Name:	WARREN UNIT #137 FL RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02704	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 A (10'-11') (H221291-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**13.6**	0.500	04/03/2022	ND	2.13	106	2.00	2.36	
Toluene*	**62.4**	0.500	04/03/2022	ND	2.12	106	2.00	1.96	
Ethylbenzene*	**43.2**	0.500	04/03/2022	ND	2.10	105	2.00	1.79	
Total Xylenes*	**107**	1.50	04/03/2022	ND	6.51	108	6.00	1.65	
Total BTEX	**227**	3.00	04/03/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *153 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2520**	16.0	04/04/2022	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**3000**	100	04/02/2022	ND	189	94.6	200	3.12	
DRO >C10-C28*	**5950**	100	04/02/2022	ND	186	92.9	200	3.68	
EXT DRO >C28-C36	**842**	100	04/02/2022	ND					

Surrogate: 1-Chlorooctane *287 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *335 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/31/2022	Sampling Date:	03/31/2022
Reported:	04/05/2022	Sampling Type:	Soil
Project Name:	WARREN UNIT #137 FL RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02704	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 A (11'-12') (H221291-05)

BTEX 8021B mg/kg Analyzed By: MS\

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**21.5**	1.00	04/03/2022	ND	2.13	106	2.00	2.36	
Toluene*	**87.7**	1.00	04/03/2022	ND	2.12	106	2.00	1.96	
Ethylbenzene*	**54.0**	1.00	04/03/2022	ND	2.10	105	2.00	1.79	
Total Xylenes*	**134**	3.00	04/03/2022	ND	6.51	108	6.00	1.65	
Total BTEX	**297**	6.00	04/03/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *131 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2200**	16.0	04/04/2022	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**4400**	100	04/02/2022	ND	189	94.6	200	3.12	
DRO >C10-C28*	**8290**	100	04/02/2022	ND	186	92.9	200	3.68	
EXT DRO >C28-C36	**1290**	100	04/02/2022	ND					

Surrogate: 1-Chlorooctane *402 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *418 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/31/2022	Sampling Date:	03/31/2022
Reported:	04/05/2022	Sampling Type:	Soil
Project Name:	WARREN UNIT #137 FL RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02704	Sample Received By:	Tamara Oldaker
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 1 A (12'-13') (H221291-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**19.5**	0.500	04/02/2022	ND	2.14	107	2.00	0.656	
Toluene*	**83.0**	0.500	04/02/2022	ND	2.11	106	2.00	1.19	
Ethylbenzene*	**53.8**	0.500	04/02/2022	ND	2.11	105	2.00	0.326	
Total Xylenes*	**130**	1.50	04/02/2022	ND	6.51	108	6.00	0.262	
Total BTEX	**286**	3.00	04/02/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *157 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1660**	16.0	04/04/2022	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**5360**	100	04/02/2022	ND	189	94.6	200	3.12	
DRO >C10-C28*	**10100**	100	04/02/2022	ND	186	92.9	200	3.68	
EXT DRO >C28-C36	**1540**	100	04/02/2022	ND					

Surrogate: 1-Chlorooctane *485 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *405 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	ConocoPhillips
Project Manager:	Christian Llull
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	212C-MD-02704 Project Owner:
Project Name:	Warren Unit #137 FL Release
Project Location:	Lea County, NM
Sampler Name:	Colton Bickerstaff

BILL TO

P.O. #:	
Company:	Tetra Tech
Attn:	Christian Llull
Address:	by email
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH	BTEX	Chlorides
H221291																	
1	AH-1A (7'-8')	G	1			X					X		3/31/22		X	X	X
2	AH-1A (8'-9')																
3	AH-1A (9'-10')																
4	AH-1A (10'-11')																
5	AH-1A (11'-12')																
6	AH-1A (12'-13')																

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 3/31/22	Received By:	Verbal Result: ☐ Yes ☑ No Add'l Phone #:
Colton Bickerstaff	Time: 1235		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	ChristHan.Llull@tetratech.com
	Time:		REMARKS:
			may need moisure correction.

Delivered By: (Circle One)	Observed Temp. °C 0.4	Sample Condition Cool: ☑ Yes ☐ No	Intact: ☐ Yes ☑ No	CHECKED BY: (Initials) TO.	Turnaround Time: ☑ Standard ☐ Rush
Sampler - UPS - Bus - Other:	Corrected Temp. °C 0.1				Thermometer ID #113 Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

April 18, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: WARREN UNIT #137 FL RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 04/12/22 9:21.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	04/12/2022	Sampling Date:	04/12/2022
Reported:	04/18/2022	Sampling Type:	Soil
Project Name:	WARREN UNIT #137 FL RELEASE	Sampling Condition:	** (See Notes)
Project Number:	212C - MD - 02704	Sample Received By:	Shalyn Rodriguez
Project Location:	CONOCO PHILLIPS - LEA CO NM		

Sample ID: AH - 7 (0-1') (H221491-01)

BTEX 8021B mg/kg Analyzed By: MS\

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2022	ND	2.08	104	2.00	0.932	
Toluene*	<0.050	0.050	04/15/2022	ND	2.07	104	2.00	1.06	
Ethylbenzene*	<0.050	0.050	04/15/2022	ND	2.04	102	2.00	0.298	
Total Xylenes*	<0.150	0.150	04/15/2022	ND	6.31	105	6.00	0.503	
Total BTEX	<0.300	0.300	04/15/2022	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/14/2022	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/14/2022	ND	200	100	200	1.96	
DRO >C10-C28*	<10.0	10.0	04/14/2022	ND	188	93.8	200	1.85	
EXT DRO >C28-C36	<10.0	10.0	04/14/2022	ND					

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	ConocoPhillips
Project Manager:	Christian Llull
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	212C-MD-02704 Project Owner:
Project Name:	Warren Unit #137 PL Release
Project Location:	Lea County, NM
Sampler Name:	Colton Bickerstaff

BILL TO

P.O. #:	
Company:	Tetra Tech
Attn:	Christian Llull
Address:	by email
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH	BTEX	Chlorides
H221491-1	AH-7 CO-1'	G	1			X							4/12/22		X	X	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Colton Bickerstaff	Date: 4/12/22 Time: 0921	Received By: S Rodriguez	
Relinquished By:	Date: Time:	Received By:	

Verbal Result: ☐ Yes ☑ No Add'l Phone #:
All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
REMARKS:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 24.9° Corrected Temp. °C 24.4°	Sample Condition Cool: ☐ Yes ☑ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) SR	Turnaround Time: Standard ☑ Rush ☐ Thermometer ID #113 Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

APPENDIX E
Waste Manifest

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	CONOCOPHILLIPS	Ticket #:	700-1289307
Customer #:	CRI2190	Bid #:	O6UJ9A000HH0
Ordered by:	COLTON BLAKENSTAFF	Date:	3/31/2022
AFE #:		Generator:	CONOCOPHILLIPS
PO #:		Generator #:	
Manifest #:	8277	Well Ser. #:	33856
Manif. Date:	3/31/2022	Well Name:	WARREN UNIT
Hauler:	BLACK GOLD ENERGY SERVIC	Well #:	137
Driver	FELIX	Field:	
Truck #	106	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	LEA (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	12.00 yards

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

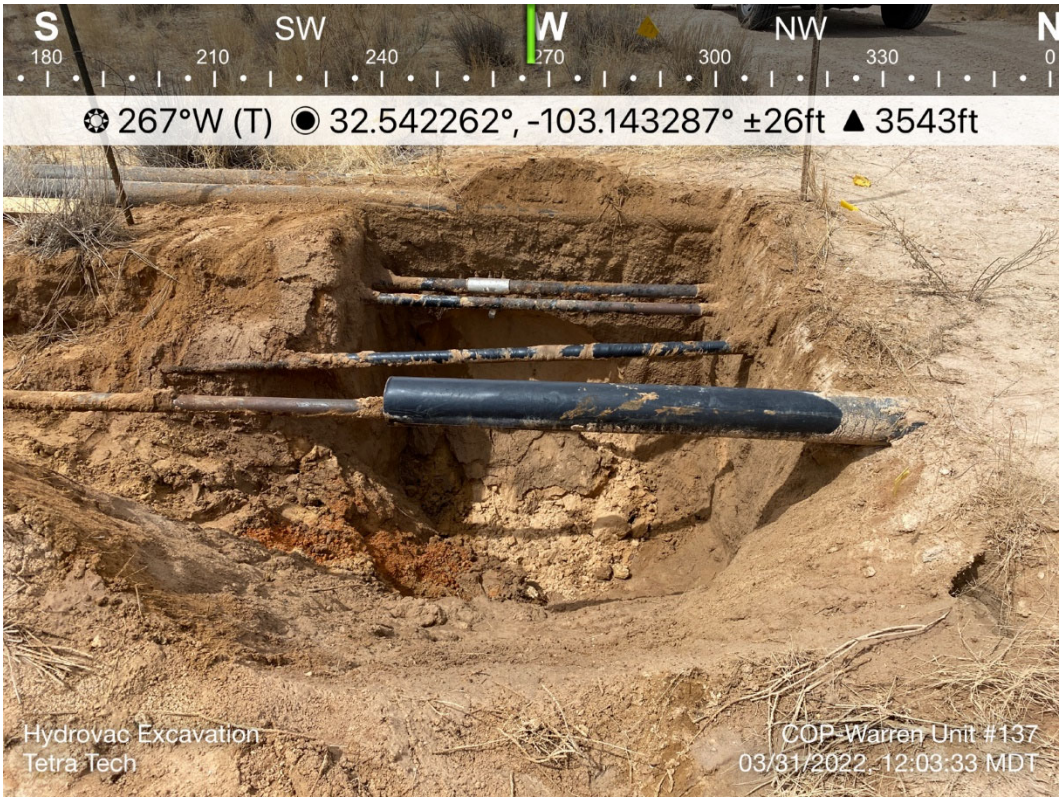
Customer Approval

THIS IS NOT AN INVOICE!

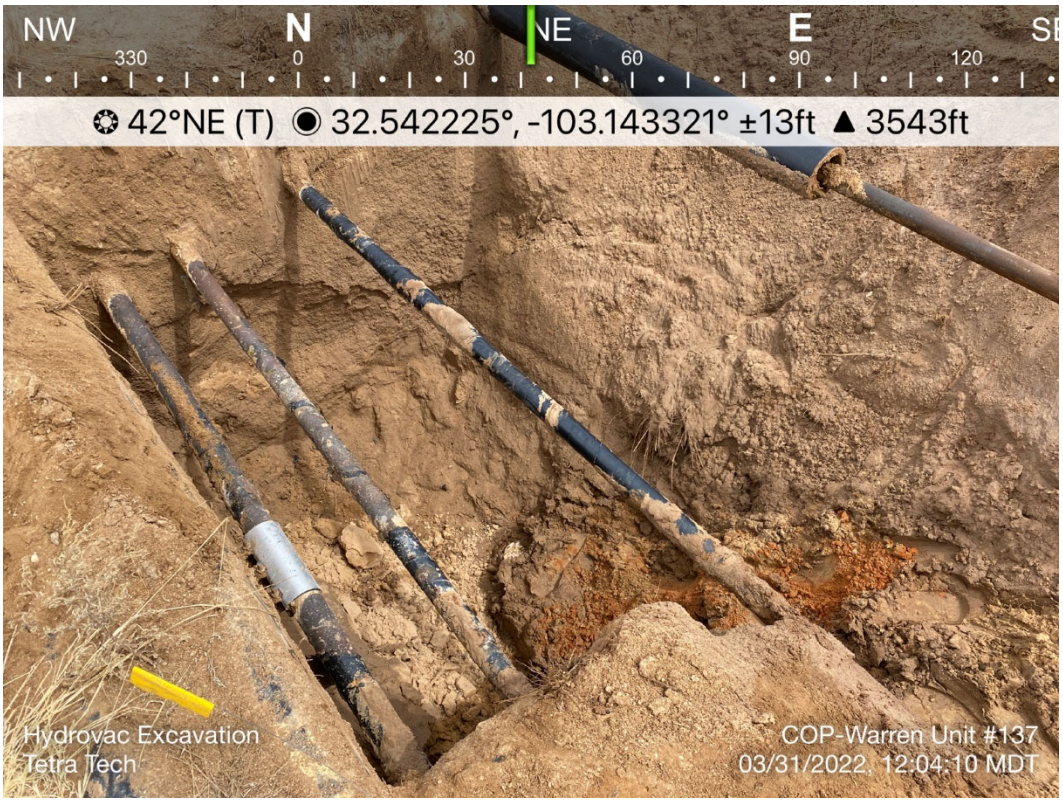
Approved By: _____ Date: _____

APPENDIX F
Photographic Documentation

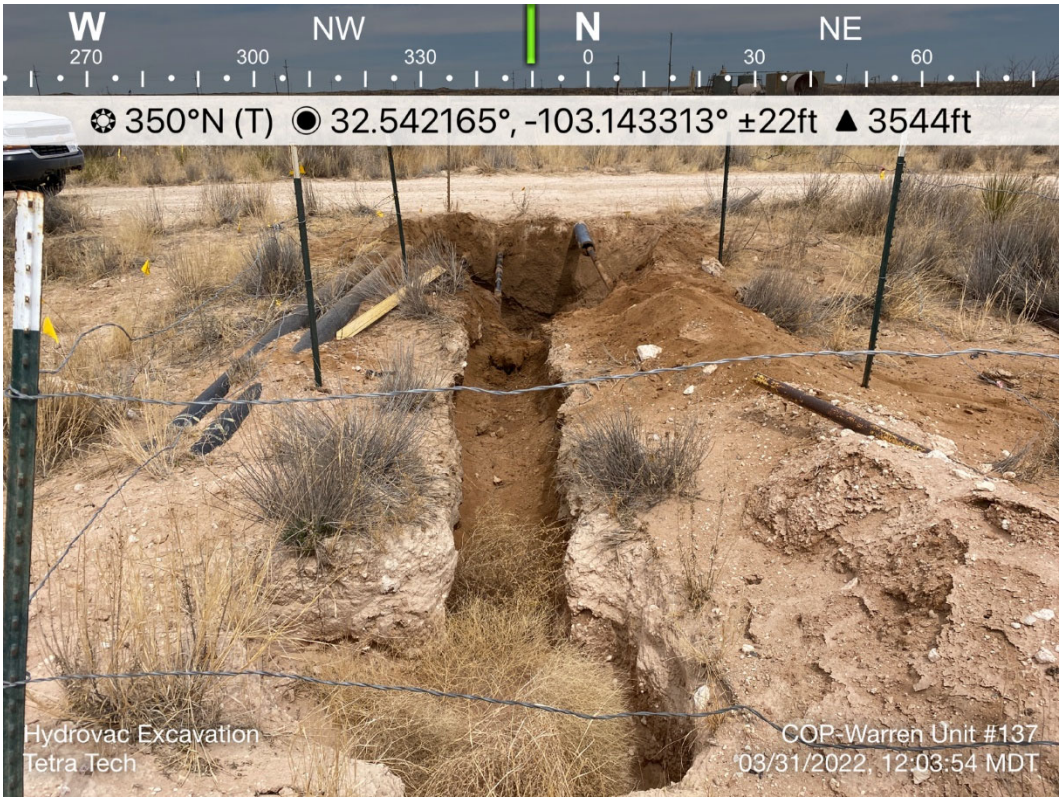
TETRA TECH, INC. PROJECT NO. 212C-MD-02704	DESCRIPTION	Hydrovac excavation of subsurface lines.	1
	SITE NAME	ConocoPhillips Warren Unit 137 Flowline Release	3/31/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02704	DESCRIPTION	Hydrovac excavation of subsurface lines.	2
	SITE NAME	ConocoPhillips Warren Unit 137 Flowline Release	3/31/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02704	DESCRIPTION	Hydrovac excavation of subsurface lines.	3
	SITE NAME	ConocoPhillips Warren Unit 137 Flowline Release	3/31/2022



TETRA TECH, INC. PROJECT NO. 212C-MD-02704	DESCRIPTION	Hydrovac excavation of subsurface lines and fenced area surrounding excavation.	4
	SITE NAME	ConocoPhillips Warren Unit 137 Flowline Release	3/31/2022

APPENDIX G
NMSLO Seed Mixture Details

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

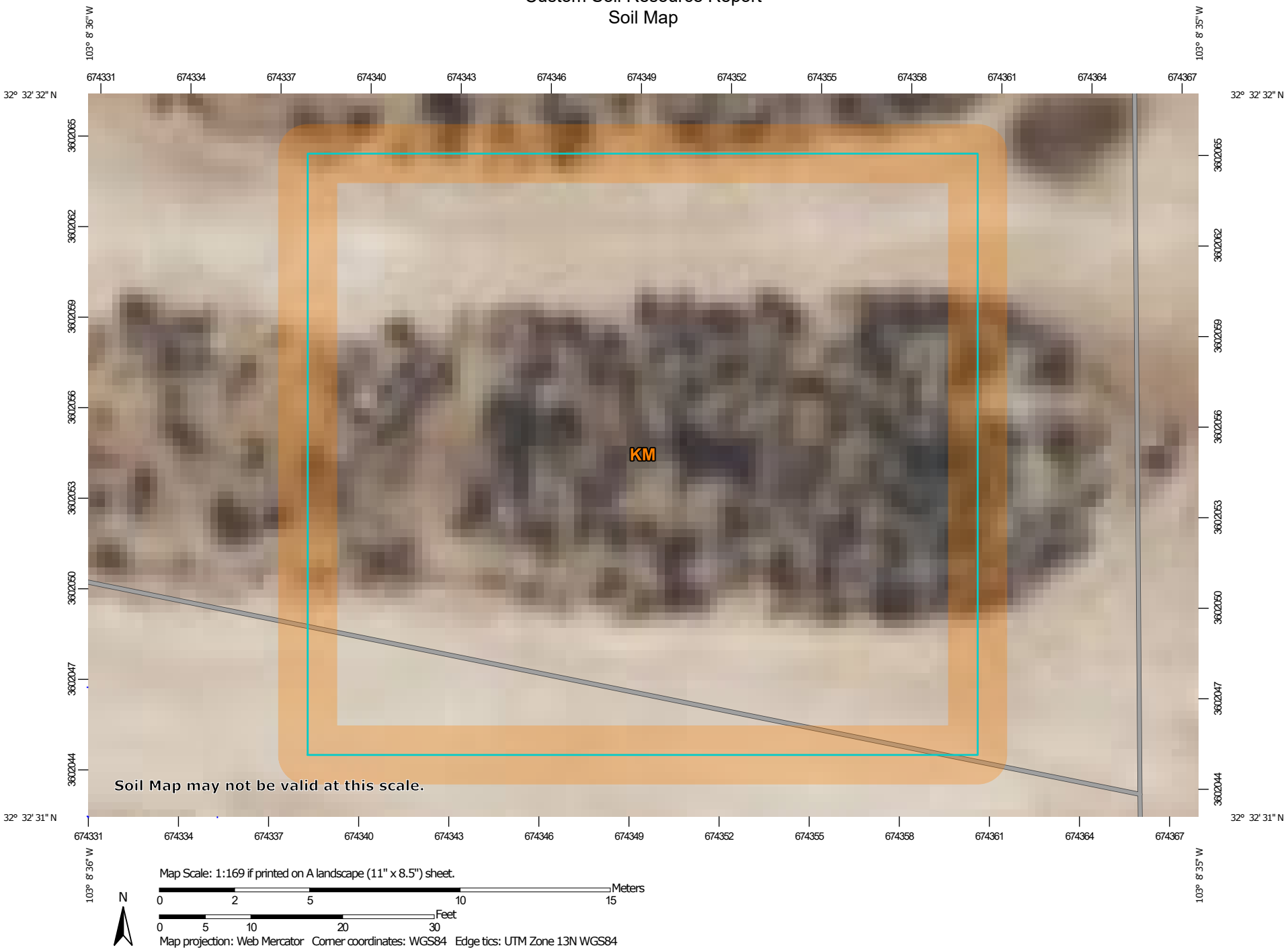
Custom Soil Resource Report for Lea County, New Mexico

April 4, 2022

Soil Map

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

Custom Soil Resource Report
Soil Map



Custom Soil Resource Report

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

Date(s) aerial images were photographed: Jan 18, 2020—Feb 17, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit soils and Dune land, 0 to 12 percent slopes	0.1	100.0%
Totals for Area of Interest		**0.1**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Lea County, New Mexico

KM—Kermit soils and Dune land, 0 to 12 percent slopes

Map Unit Setting

National map unit symbol: dmpx
Elevation: 3,000 to 4,400 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Kermit

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex
Parent material: Calcareous sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sand
C - 8 to 60 inches: fine sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XC022NM - Sandhills
Hydric soil rating: No

Description of Dune Land

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex
Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 6 inches: fine sand
C - 6 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Pyote

Percent of map unit: 3 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Palomas

Percent of map unit: 3 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Wink

Percent of map unit: 2 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Maljamar

Percent of map unit: 2 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

NMSLO Seed Mix Sandy (S)

SANDY (S) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sand bluestem	**Elida, VNS, So.**	**2.0**	**F**
Little bluestem	**Cimarron, Pastura**	**3.0**	**F**
Black grama	**VNS, Southern**	**1.0**	**D**
Sand dropseed	**VNS, Southern**	**4.0**	**S**
Plains bristlegrass	**VNS, Southern**	**2.0**	**D**
Forbs:			
Firewheel (Gaillardia)	**VNS, Southern**	**1.0**	**D**
Annual Sunflower	**VNS, Southern**	**1.0**	**D**
Shrubs:			
Fourwing Saltbush	**VNS, Southern**	**1.0**	**F**
	Total PLS/acre	**16.0**	

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

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 108774

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 108774
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved with Conditions. As stated in submitted Remediation Plan, please complete vertical delineation by AH-1/1A.	5/31/2022