TETRA TECH

January 11, 2022

District Supervisor
Oil Conservation Division, District 1
1625 N. French Dr
Hobbs, NM 88240

Re: Release Characterization and Remediation Work Plan
ConocoPhillips
MCA 470 Flowline Release
Unit Letter H, Section 33, Township 17 South, Range 32 East
Lea County, New Mexico
Incident ID NRM1935447155

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a release that occurred from a flowline associated with the Maljamar Cooperative Agreement (MCA) Unit #470 well, located in Public Land Survey System (PLSS) Unit Letter H, Section 33, Township 17 South, Range 32 East, in Lea County, New Mexico (Site). The release site coordinates are 32.793141°, -103.768660°. The Site location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), on October 26, 2019 a flowline leak was discovered by a multi-skilled operator (MSO) and traced back to the MCA #470 (API No. 30-025-39765). The leak resulted in a release of 6 barrels (bbls) of crude oil, of which 0 bbls were recovered. Immediate action was taken by ConocoPhillips to stop the release and secure the area in order to prevent any further contamination to the environment or potential hazards to humans. The C-141 describes the affected area as off-pad, tracing the broken line back to the MCA 470 site. The NMOCD was notified of the release on November 4, 2019, and subsequently assigned the Site Incident ID NRM1935447155.

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. The site is in an area with low karst potential.

According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are four water wells within ½ mile (800 meters) of the Site. The one well with available data was drilled in 2020 and has a depth to groundwater of 108 feet below ground surface (bgs). The site characterization is included in Appendix B.

REGULATORY FRAMEWORK

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

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

petroleum hydrocarbons (TPH), and chlorides in soil. Based on the depth to groundwater at the Site, the RRALs for the Site are as follows:

CONSTITUENT	RRAL
Chloride	20,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
GRO+DRO	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

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

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

INITIAL SITE VISIT

On November 10, 2021, Tetra Tech personnel were onsite to visually assess the release area. The release extent was identified in the field based on information provided in the C-141, used in conjunction with a visual investigation of the flowline associated with the MCA 470. Photographic documentation from the visual site assessment are included in Appendix D.

INITIAL SITE ASSESSMENT

In order achieve horizontal and vertical delineation of the release footprint, Tetra Tech personnel were onsite to conduct soil sampling on November 17, 2021. A total of seven (7) borings (AH-1 through AH-7) were installed using a hand auger. Three (3) 2-ft borings (AH-5, AH-6, and AH-7) were installed within the release extent to attempt to achieve vertical delineation. Three (3) 2-ft borings (AH-1, AH-3, and AH-4), as well as one (1) 3-ft boring (AH-2), were installed along the perimeter of the release to achieve horizontal delineation. The boring locations chosen for the horizontal delineation were based upon visual cues such as stressed vegetation. Care was taken to install borings for horizontal delineation outside of the observed release footprint. Soils at the project site are comprised of Silty Sand (SM) with varying amounts of gravel, are dry, brown in color, and overlie an impermeable cemented layer of sand, which also causes refusal when attempting to advance boreholes with a hand auger.

A total of fifteen (15) samples were collected from the seven (7) borings and submitted to Cardinal Laboratories for Testing & Innovation in Midland, Texas to be analyzed for chlorides via EPA Method 300.0, TPH via EPA Method 8015M, and BTEX via EPA Method 8021B. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix C. Boring locations are shown in Figure 3. Photographic documentation of the site assessment is included in Appendix D.

SUMMARY OF INITIAL SAMPLING RESULTS

Results from the November 2021 soil assessment activities are summarized in Table 1. The assessment did not fully delineate the release. Analytical data indicates that there are elevated chloride concentrations at depths of two feet at AH-5 and elevated TPH levels in samples from AH-7. Analytical results associated with the interior borings (BH-1 and BH-4) did not exceed the delineation criteria for BTEX or TPH in the upper 2 ft. There were no detections of BTEX or TPH above their respective Site RRALs of 50 mg/kg and

2,500 mg/kg in any of the analyzed samples below 2 ft bgs. There were no results that exceeded the >4 ft bgs RRAL of 20,000 mg/kg for chlorides.

ADDITIONAL SITE ASSESSMENT

Further assessment was needed in order achieve horizontal and vertical delineation of the release footprint. Tetra Tech personnel returned to the site to conduct further soil sampling on December 1, 2021. A total of three (3) borings (AH-5A, AH-7A, and AH-8) were installed using a hand auger. All three (3) were installed to 2.5 feet, with AH-5A and AH-7A located within the release extent to attempt to achieve vertical delineation and AH-8 was installed achieve horizontal delineation to the east.

A total of five (5) samples were collected from the three (3) borings and submitted to Cardinal Laboratories for Testing & Innovation in Midland, Texas to be analyzed for chlorides via EPA Method 300.0, TPH via EPA Method 8015M, and BTEX via EPA Method 8021B. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix C. Boring locations are shown in Figure 3. Photographic documentation of the site assessment is included in Appendix D.

SUMMARY OF ADDITIONAL SAMPLING RESULTS

Results from the December 2021 soil assessment activities are included in Table 1, with previous November analytical results. Laboratory analytical results for samples from AH-5A and AH-8 were below reclamation requirement limits, according to 19.15.29 NMAC. Laboratory analytical results for samples from AH-7A exceeded reclamation requirement limits for chlorides and TPH. Horizontal delineation was achieved on the east side of the release extent by AH-8. Vertical delineation was not achieved through installation of AH-7A. There were no detections of BTEX or TPH above their respective Site RRALs of 50 mg/kg and 2,500 mg/kg in any of the additional samples that were analyzed. There were no results that exceeded the RRAL of 20,000 mg/kg for chlorides. Horizontal delineation was achieved at the release site.

REMEDIATION WORK PLAN

Based on the analytical results, ConocoPhillips proposes to remove the impacted material as depicted in Figure 4. Screening samples will be collected during the excavation process to determine if the remediation footprint for the site will be modified based on field conditions. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 4 ft below surface or until a representative sample from the walls and bottom of the excavation is below the RRAL. The area of the release extent that runs along the buried line within the release extent will be hand-dug to a depth of 4 ft or the maximum extent practicable.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation floor and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX and chloride. Once the sample results are received, NMOCD will be notified and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is 135 cubic yards.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 5. Five (5) confirmation floor samples and six (6) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses an area of approximately 1,250 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 500 square feet of excavated area. Confirmation samples will be sent to an accredited laboratory for analysis

of TPH, BTEX, and chlorides. Once results are received, NMOCD will be notified and the excavation will then be backfilled with clean material to surface grade.

SITE RECLAMATION AND RESTORATION PLAN

The backfilled areas will be seeded in Spring 2022 (first favorable growing season) 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 E.

CONCLUSION

ConocoPhillips proposes to complete remediation activities at the Site within 90 days of NMOCD approval of this submittal. 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) 338-2861.

Sincerely,
Tetra Tech, Inc.

Christian M. Llull, P.G.
Project Manager

cc:
Ms. Kelsy Waggaman, GPBU - ConocoPhillips

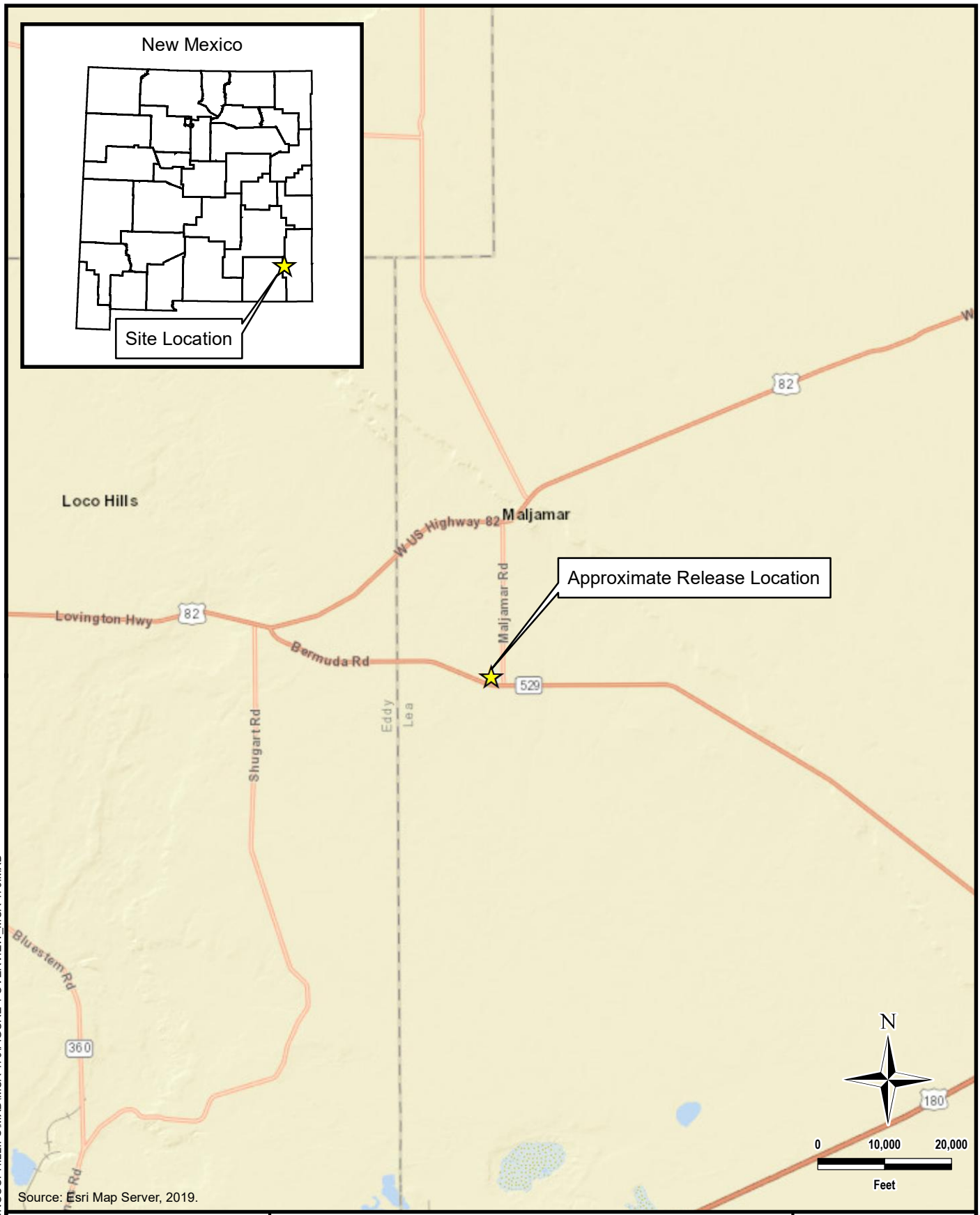
LIST OF ATTACHMENTS

Figures:

Tables:

Appendices:

FIGURES



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA 470\FIGURE 1 OVERVIEW_MCA 470.MXD

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CONOCOPHILLIPS

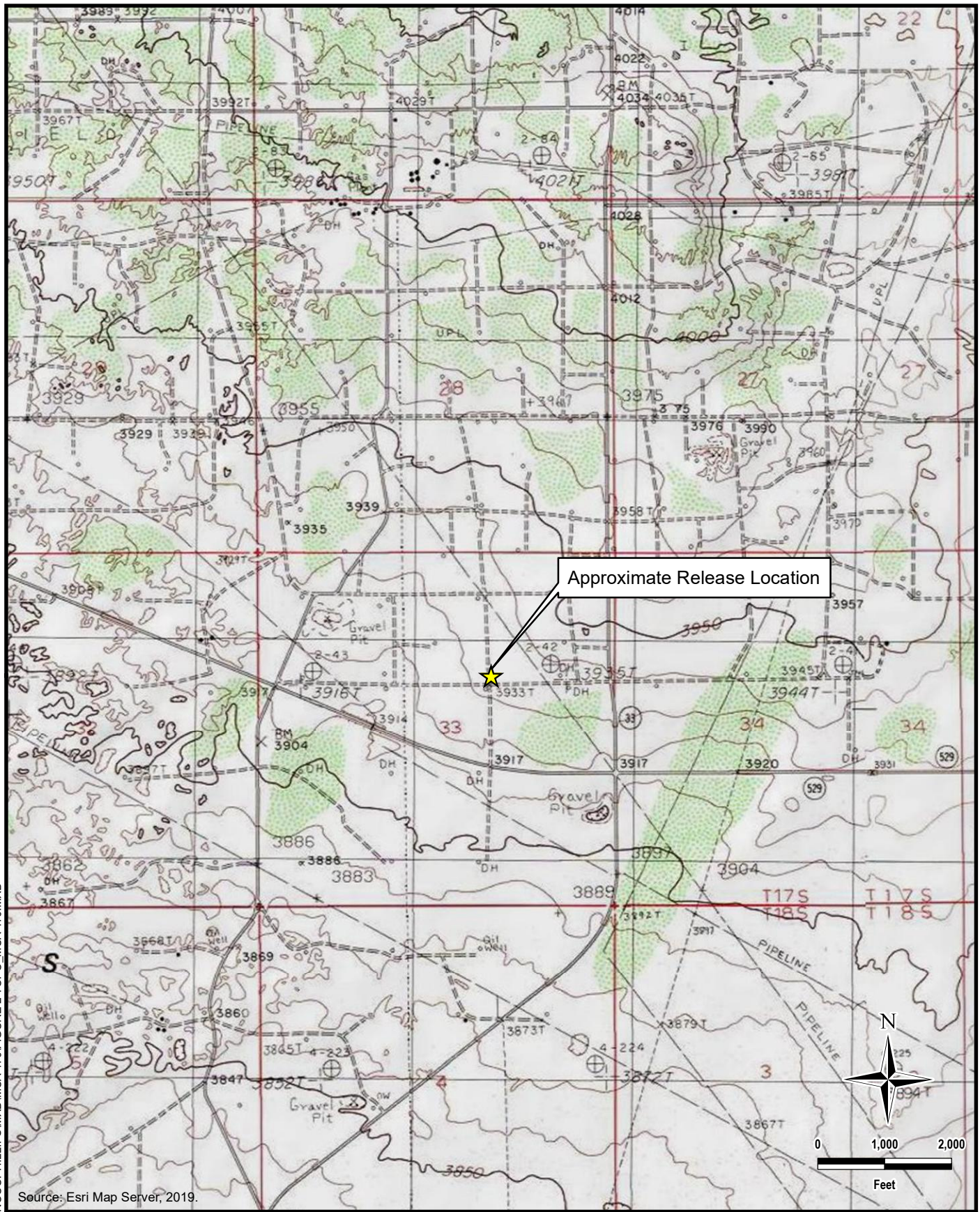
NRM1935447155
(32.793159°, -103.768615°)
LEA COUNTY, NEW MEXICO

MCA 470 FL RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-02617
DATE:	DECEMBER 07, 2021
DESIGNED BY:	AAM

Figure No.

1



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA 470\FIGURE 2 TOPO_MCA 470.MXD

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CONOCOPHILLIPS

NRM1935447155
(32.793159°, -103.768615°)
LEA COUNTY, NEW MEXICO

MCA 470 FL RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02617
DATE:	DECEMBER 07, 2021
DESIGNED BY:	AAM

Figure No.
2

DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA 470\FIGURE 3 RELEASE_MCA 470.MXD

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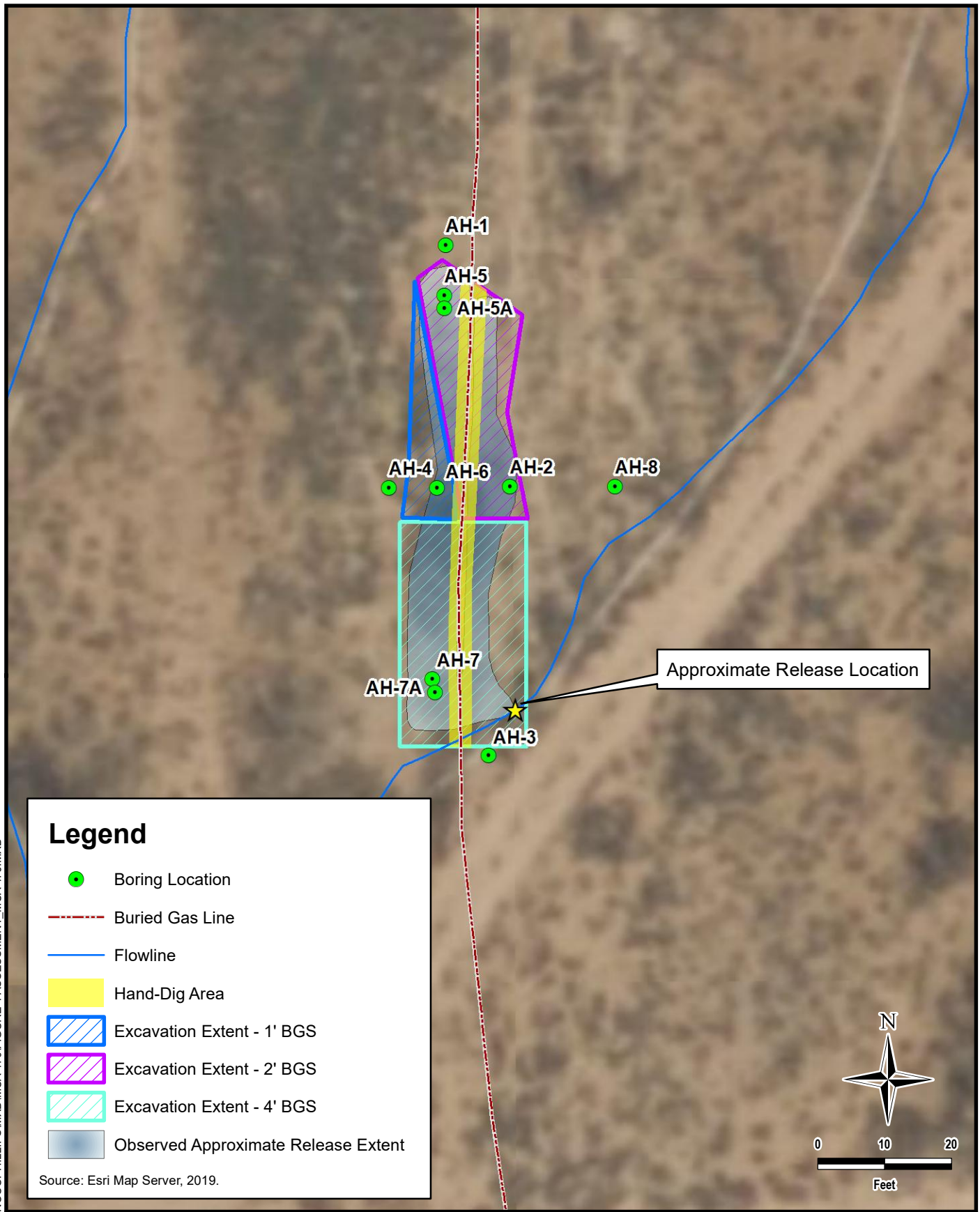
CONOCOPHILLIPS

NRM1935447155
(32.793159°, -103.768615°)
LEA COUNTY, NEW MEXICO

MCA 470 FL RELEASE
APPROXIMATE RELEASE EXTENT AND ASSESSMENT

PROJECT NO.:	212C-MD-02617
DATE:	DECEMBER 14, 2021
DESIGNED BY:	AAM

Figure No.
3



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA 470\FIGURE 4 ASSESSMENT_MCA 470.MXD

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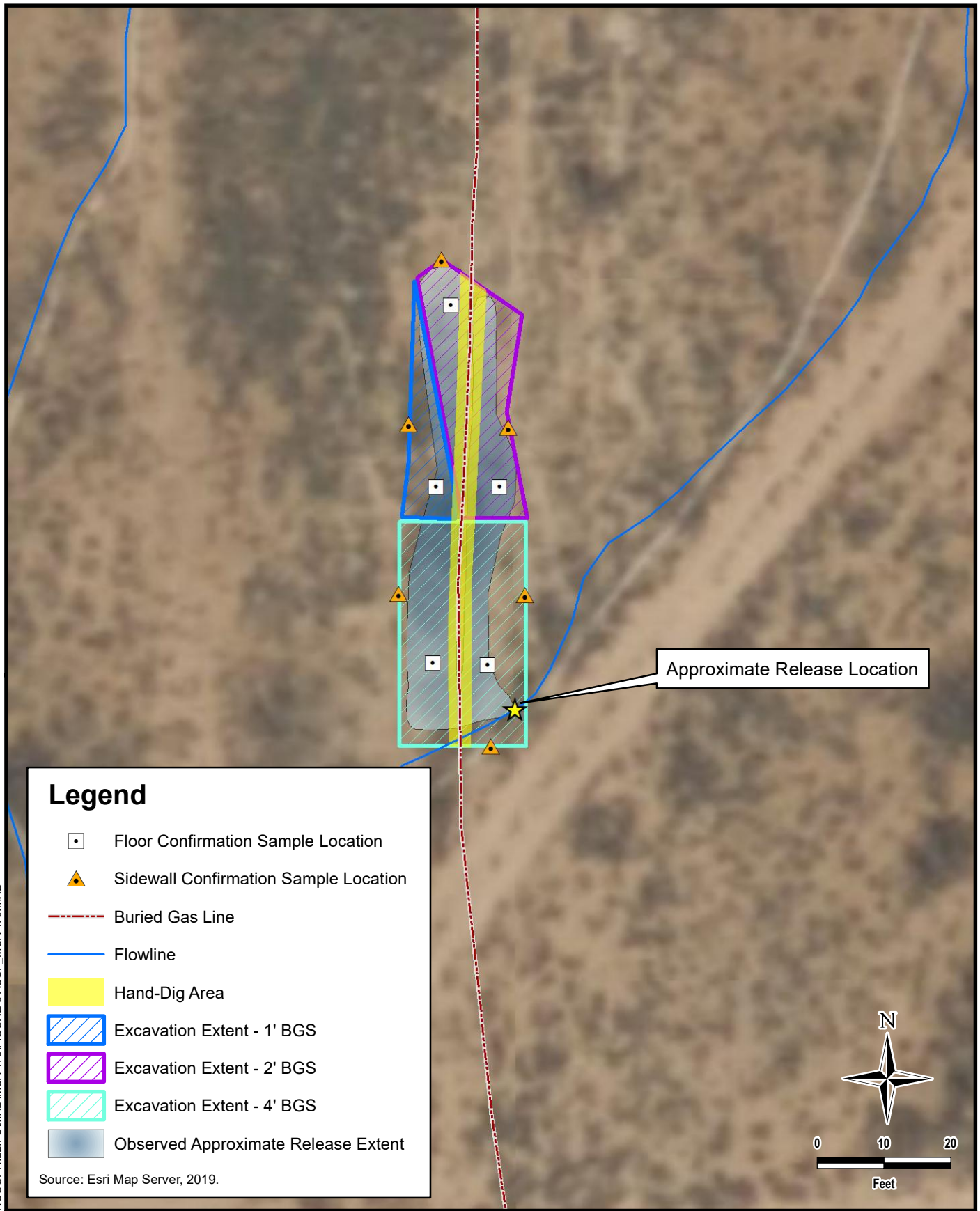
CONOCOPHILLIPS

NRM1935447155
(32.793159°, -103.768615°)
LEA COUNTY, NEW MEXICO

MCA 470 FL RELEASE
PROPOSED REMEDIATION EXTENT

PROJECT NO.:	212C-MD-02617
DATE:	DECEMBER 14, 2021
DESIGNED BY:	AAM

Figure No.
4



DOCUMENT PATH: D:\CONOCOPHILLIPS\MXD\MCA 470\FIGURE 5 ACSP_MCA 470.MXD

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CONOCOPHILLIPS

NRM1935447155
(32.793159°, -103.768615°)
LEA COUNTY, NEW MEXICO

MCA 470 FL RELEASE
ALTERNATIVE CONFIRMATION SAMPLING PLAN

PROJECT NO.:	212C-MD-02617
DATE:	DECEMBER 14, 2021
DESIGNED BY:	AAM

Figure No.
5

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT
CONOCOPHILLIPS
MCA 470 FLOWLINE RELEASE - NRM1935447155
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results	Chloride[1]		BTEX[2]										TPH[3]						
			Chloride			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
																C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{35}		(GRO+DRO+EXT DRO)
		ft. bgs	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
AH-1	11/17/2021	0-1	128	160		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		1-2	119	176		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-2	11/17/2021	0-1	461	***1280***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		1-2	725	***736***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		2-3	383	384		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-3	11/17/2021	0-1	35.1	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		1-2	36.8	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-4	11/17/2021	0-1	34.7	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		1-2	46.1	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-5	11/17/2021	0-1	70	***4320***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		29.0		< 10.0		29.0
		1-2	163	***608***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-5A	12/1/2021	2-2.5	180	80.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-6	11/17/2021	0-1	1,080	***2880***	QM-07	< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		1-2	88.4	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
AH-7	11/17/2021	0-1	801	***1800***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		493		310		***803***
		1-2	130	96.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		311		209		***520***
AH-7A	12/1/2021	2-2.5	795	***976***		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		377		424		***801***
AH-8	12/1/2021	0-1	60.8	48.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-
		2-2.5	141	176		< 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/or Reclamation Requirements.

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

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	NRM1935447155
District RP	
Facility ID	
Application ID	

Release Notification

BA85N-191104-C-1410

Responsible Party

Responsible Party ConocoPhillips Company	OGRID 217817
Contact Name Gustavo Fejervary	Contact Telephone 432/210-7037
Contact email g.fejervary@cop.com	Incident # *(assigned by OCD)*
Contact mailing address	5735 SW 7000 Andrews, TX 79714

Location of Release Source

Latitude 32.7932587 Longitude -103.7670975
(NAD 83 in decimal degrees to 5 decimal places)

Site Name MCA 470	Site Type flow line leak
Date Release Discovered 10/26/19	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
H	33	17S	32E	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) 6	Volume Recovered (bbls) 0
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) 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 MSO was checking his weekend route and found a flowline leak in the field. The line was traced back to the MCA 470. The leak resulted in a 6 bbl oil spill

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM1935447155
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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? LESS THAN 25 BBLS ((35'x25'x1.5")+(30'x30'x1.5"))X15.12% (Effective porosity off pad)=5.97 bbls
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:

Remediation process is ongoing.

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: Gustavo Fejervary Title: Environmental Coordinator

Signature: Date: 11/4/19

email: g.fejervary@cop.com Telephone: 432/210-7037

OCD Only

Received by: Ramona Marcus Date: 12/19/2019

State of New Mexico
Oil Conservation Division

Incident ID	NRM1935447155
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.

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM1935447155
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	NRM1935447155
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: _____ Date: _____

APPENDIX B

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
RA 12721 POD7	RA	LE	1	3	2	33	17S	32E	615064	3629198	291	130		
RA 12721 POD6	RA	LE	1	2	2	33	17S	32E	615530	3629431	466	130		
RA 12721 POD4	RA	LE	1	1	2	33	17S	32E	615055	3629589	613	140		
RA 12721 POD8	RA	LE	1	2	1	33	17S	32E	614640	3629463	790	130	108	22

Average Depth to Water: **108 feet**

Minimum Depth: **108 feet**

Maximum Depth: **108 feet**

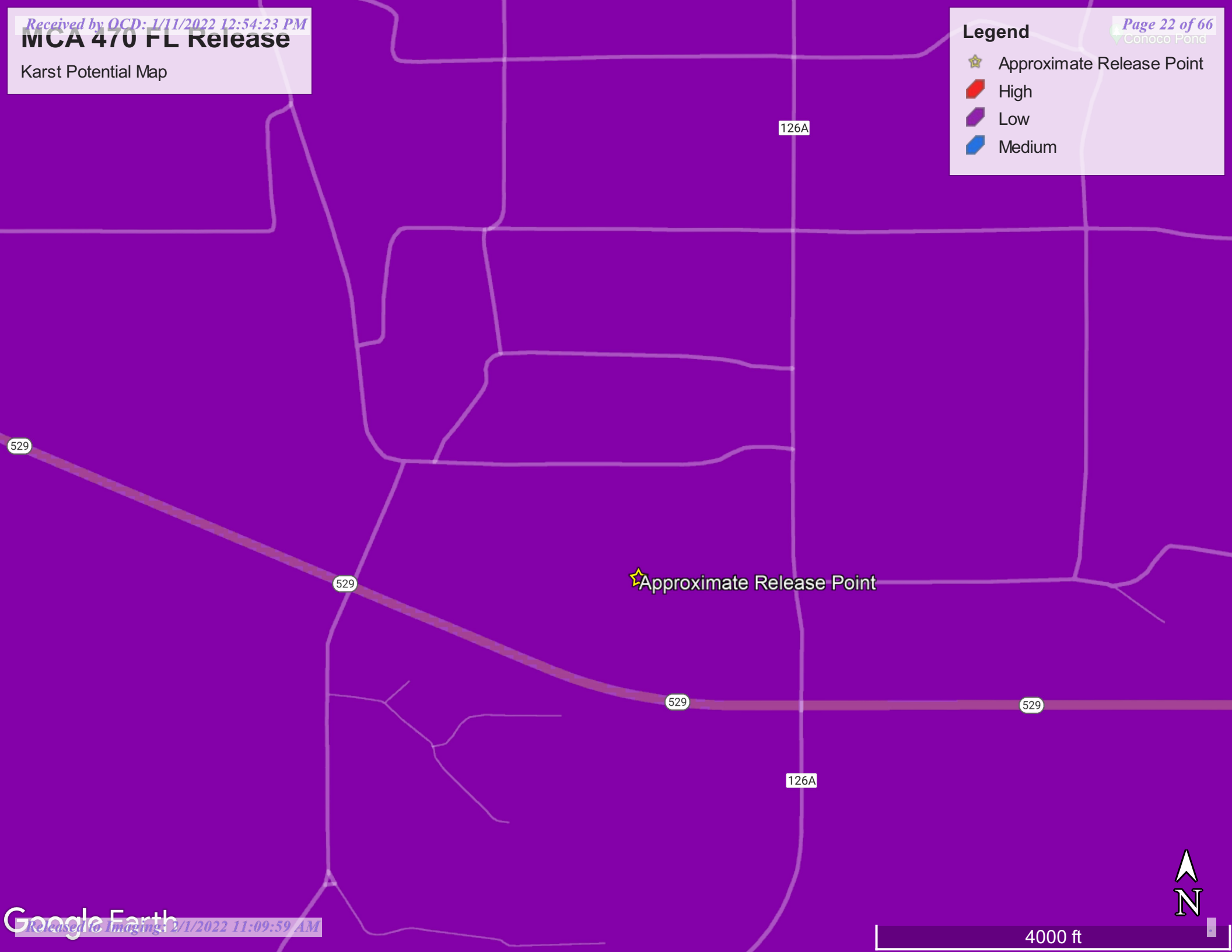
Record Count: 4

UTMNAD83 Radius Search (in meters):

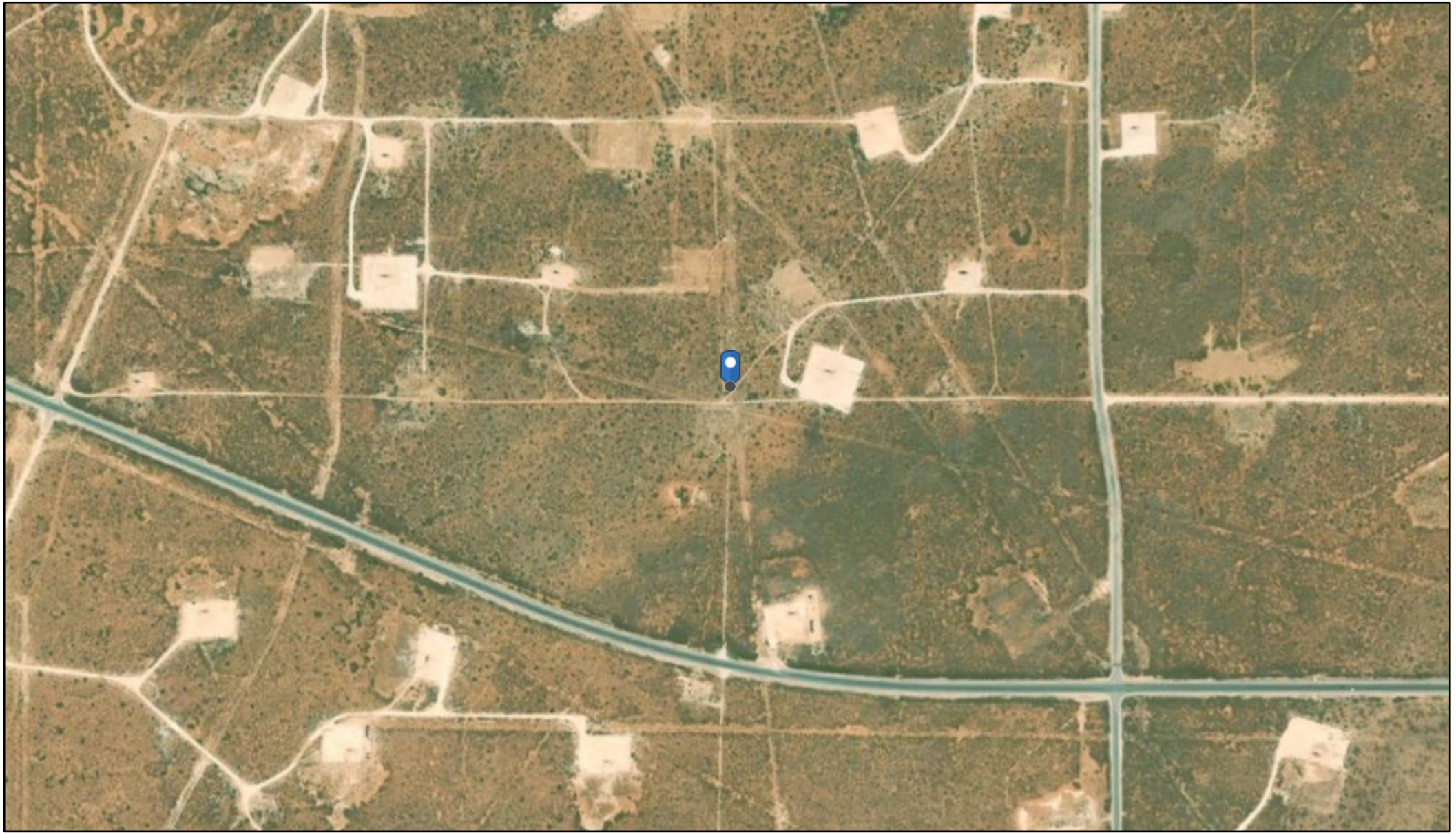
Easting (X): 615298.95 **Northing (Y):** 3629026.34 **Radius:** 800

MCA 470 FL Release

Karst Potential Map



OCD - Waterbodies Map



11/16/2021, 12:20:45 PM

OSE Water-bodies

PLJV Probable Playas

OSE Streams

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Esri, HERE, Garmin, iPC, Maxar

New Mexico Oil Conservation Division

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

APPENDIX C

CARDINAL Laboratories

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

November 22, 2021

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: MCA 470 FLOW LINE RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 11/17/21 15:28.

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,

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 1 (0-1') (H213300-01)

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	11/18/2021	ND	2.11	105	2.00	4.70	
Toluene*	<0.050	0.050	11/18/2021	ND	2.11	105	2.00	4.70	
Ethylbenzene*	<0.050	0.050	11/18/2021	ND	2.07	103	2.00	4.59	
Total Xylenes*	<0.150	0.150	11/18/2021	ND	6.31	105	6.00	5.62	
Total BTEX	<0.300	0.300	11/18/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.4 %* *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	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *95.6 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *94.8 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 1 (1'-2') (H213300-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/18/2021	ND	2.11	105	2.00	4.70	
Toluene*	<0.050	0.050	11/18/2021	ND	2.11	105	2.00	4.70	
Ethylbenzene*	<0.050	0.050	11/18/2021	ND	2.07	103	2.00	4.59	
Total Xylenes*	<0.150	0.150	11/18/2021	ND	6.31	105	6.00	5.62	
Total BTEX	<0.300	0.300	11/18/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.6 %* *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	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *92.1 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *90.2 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 2 (0-1') (H213300-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/18/2021	ND	2.11	105	2.00	4.70	
Toluene*	<0.050	0.050	11/18/2021	ND	2.11	105	2.00	4.70	
Ethylbenzene*	<0.050	0.050	11/18/2021	ND	2.07	103	2.00	4.59	
Total Xylenes*	<0.150	0.150	11/18/2021	ND	6.31	105	6.00	5.62	
Total BTEX	<0.300	0.300	11/18/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *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	**1280**	16.0	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *98.9 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *94.2 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 2 (1'-2') (H213300-04)

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	11/19/2021	ND	1.98	99.0	2.00	0.306	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.4	2.00	1.21	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.86	92.8	2.00	0.971	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.65	94.1	6.00	0.851	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.8 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**736**	16.0	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *89.7 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *84.9 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 2 (2'-3') (H213300-05)

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	11/19/2021	ND	1.98	99.0	2.00	0.306	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.4	2.00	1.21	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.86	92.8	2.00	0.971	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.65	94.1	6.00	0.851	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.2 %* *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	**384**	16.0	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *91.7 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *87.8 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 3 (0-1') (H213300-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.1 %* *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	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *93.7 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *89.6 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 3 (1'-2') (H213300-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.4 %* *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	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *84.4 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *80.7 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 4 (0-1') (H213300-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.9 %* *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	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *99.0 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *96.1 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 4 (1'-2') (H213300-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.4 %* *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	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *99.0 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *98.6 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 5 (0-1') (H213300-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.3 %* *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	**4320**	16.0	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	**29.0**	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *99.6 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *96.5 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 5 (1'-2') (H213300-11)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.0 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	11/18/2021	ND	416	104	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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *104 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *102 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 6 (0-1') (H213300-12)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.9 %* *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	**2880**	16.0	11/18/2021	ND	416	104	400	0.00	QM-07

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	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *103 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *102 %* *38.9-142*

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Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 6 (1'-2') (H213300-13)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.6 %* *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	11/18/2021	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/19/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	<10.0	10.0	11/19/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	11/19/2021	ND					

Surrogate: 1-Chlorooctane *108 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *104 %* *38.9-142*

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Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 7 (0-1') (H213300-14)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.2 %* *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	**1800**	16.0	11/18/2021	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	**493**	10.0	11/22/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	**310**	10.0	11/22/2021	ND					

Surrogate: 1-Chlorooctane *72.2 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *81.7 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	11/17/2021	Sampling Date:	11/17/2021
Reported:	11/22/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Jodi Henson
Project Location:	COP - LEA CO NM		

Sample ID: AH - 7 (1'-2') (H213300-15)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/19/2021	ND	1.87	93.4	2.00	1.21	
Toluene*	<0.050	0.050	11/19/2021	ND	1.89	94.3	2.00	2.48	
Ethylbenzene*	<0.050	0.050	11/19/2021	ND	1.85	92.6	2.00	2.73	
Total Xylenes*	<0.150	0.150	11/19/2021	ND	5.61	93.5	6.00	3.00	
Total BTEX	<0.300	0.300	11/19/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.5 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	11/18/2021	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2021	ND	196	97.9	200	5.50	
DRO >C10-C28*	**311**	10.0	11/22/2021	ND	205	102	200	5.13	
EXT DRO >C28-C36	**209**	10.0	11/22/2021	ND					

Surrogate: 1-Chlorooctane *66.5 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *71.9 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Page : 1 of 2

Tetra Tech, Inc.

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

Client Name: ConocoPhillips (COP)
Site Manager: Christian Llull
Project Name: MCA 470 Flowline Release
Contact Info: Email: Christian.Llull@tetratech.com Phone: 512-565-0190
Project Location: (County, State) Lea County, NM
Project #: 212C-MD-02617
Invoice to: (CB) ~~Accounts Payable, 901 West Wall Street, Suite 100 Midland, Texas 79701~~ Tetra Tech, Attention: Christian Llull
Receiving Laboratory: Cardinal Labs
Sampler Signature: Colton Bickerstaff
Comments: Send results, invoice to Christian.Llull@tetratech.com

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2021 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	# CONTAINERS	FILTERED (Y/N)
H213300												
1	AH-1 (0-1')	11/17/21	14:35		X				X		1	N
2	AH-1 (1'-2')	11/17/21	14:35		X				X		1	N
3	AH-2 (0-1')	11/17/21	14:40		X				X		1	N
4	AH-2 (1'-2')	11/17/21	14:40		X				X		1	N
5	AH-2 (2'-3')	11/17/21	14:40		X				X		1	N
6	AH-3 (0-1')	11/17/21	14:45		X				X		1	N
7	AH-3 (1'-2')	11/17/21	14:45		X				X		1	N
8	AH-4 (0'-1')	11/17/21	14:50		X				X		1	N
9	AH-4 (1'-2')	11/17/21	14:50		X				X		1	N
10	AH-5 (0'-1')	11/17/21	14:55		X				X		1	N

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					

Relinquished by: Colton Bickerstaff Date: 11/17/21 Time:
Received by: Jodi Henson Date: 11/17/21 Time: 15:28
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:

ORIGINAL COPY

LAB USE ONLY

Sample Temperature
1.1°C
-0.5°C
0.6°C #113

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: ConocoPhillips (COP)
Site Manager: Christian Llull
Project Name: MCA 470 Flowline Release
Contact Info: Email: Christian.Llull@tetratech.com Phone: 512-565-0190
Project Location: (County, State) Lea County, NM
Project #: 212C-MD-02617
Invoice to: (CB) ~~Accounts Payable 901 West Wall Street, Suite 100 Midland, Texas 79701~~ Tetra Tech, Attention: Christian Llull
Receiving Laboratory: Cardinal Labs
Sampler Signature: Colton Bickerstaff
Comments: Send results, invoice to Christian.Llull@tetratech.com

H213300

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD NONE	# CONTAINERS	FILTERED (Y/N)
11	AH-5 (1'-2')	11/17/21	14:55		X			X		1	N
12	AH-6 (0-1')	11/17/21	15:00		X			X		1	N
13	AH-6 (1'-2')	11/17/21	15:00		X			X		1	N
14	AH-7 (0-1')	11/17/21	15:05		X			X		1	N
15	AH-7 (1'-2')	11/17/21	15:05		X			X		1	N

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride 300.0	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R	HOLD
X		X												X					
X		X												X					
X		X												X					
X		X												X					
X		X												X					

Relinquished by: Colton Bickerstaff Date: 11/17/21 Time:
Received by: Jodi Henson Date: 11/17/21 Time: 15:28

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

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

ORIGINAL COPY

LAB USE ONLY #113
Sample Temperature 1.1°C -.5 correction 0.6°C

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

CARDINAL Laboratories

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

December 06, 2021

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: MCA 470 FLOW LINE RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 12/01/21 16:25.

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:	12/01/2021	Sampling Date:	12/01/2021
Reported:	12/06/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Tamara Oldaker
Project Location:	COP - LEA CO NM		

Sample ID: AH - 5 A (2-2.5') (H213441-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/02/2021	ND	1.99	99.4	2.00	2.74	
Toluene*	<0.050	0.050	12/02/2021	ND	2.03	102	2.00	0.378	
Ethylbenzene*	<0.050	0.050	12/02/2021	ND	2.00	100	2.00	1.00	
Total Xylenes*	<0.150	0.150	12/02/2021	ND	6.11	102	6.00	1.19	
Total BTEX	<0.300	0.300	12/02/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.1 %* *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	**80.0**	16.0	12/02/2021	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2021	ND	227	114	200	11.1	
DRO >C10-C28*	<10.0	10.0	12/02/2021	ND	229	115	200	9.98	
EXT DRO >C28-C36	<10.0	10.0	12/02/2021	ND					

Surrogate: 1-Chlorooctane *72.7 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *75.2 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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Fax To: (432) 682-3946

Received:	12/01/2021	Sampling Date:	12/01/2021
Reported:	12/06/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Tamara Oldaker
Project Location:	COP - LEA CO NM		

Sample ID: AH - 7 A (2-2.5') (H213441-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/02/2021	ND	1.99	99.4	2.00	2.74	
Toluene*	<0.050	0.050	12/02/2021	ND	2.03	102	2.00	0.378	
Ethylbenzene*	<0.050	0.050	12/02/2021	ND	2.00	100	2.00	1.00	
Total Xylenes*	<0.150	0.150	12/02/2021	ND	6.11	102	6.00	1.19	
Total BTEX	<0.300	0.300	12/02/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *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	**976**	16.0	12/02/2021	ND	400	100	400	0.00	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/04/2021	ND	221	110	200	7.12	
DRO >C10-C28*	**377**	10.0	12/04/2021	ND	221	111	200	1.58	
EXT DRO >C28-C36	**424**	10.0	12/04/2021	ND					

Surrogate: 1-Chlorooctane *122 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *171 %* *38.9-142*

Cardinal Laboratories *=Accredited Analyte

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Analytical Results For:

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CHRISTIAN LLULL
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MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	12/01/2021	Sampling Date:	12/01/2021
Reported:	12/06/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Tamara Oldaker
Project Location:	COP - LEA CO NM		

Sample ID: AH - 8 (0-1') (H213441-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/02/2021	ND	1.99	99.4	2.00	2.74	
Toluene*	<0.050	0.050	12/02/2021	ND	2.03	102	2.00	0.378	
Ethylbenzene*	<0.050	0.050	12/02/2021	ND	2.00	100	2.00	1.00	
Total Xylenes*	<0.150	0.150	12/02/2021	ND	6.11	102	6.00	1.19	
Total BTEX	<0.300	0.300	12/02/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	12/02/2021	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2021	ND	227	114	200	11.1	
DRO >C10-C28*	<10.0	10.0	12/02/2021	ND	229	115	200	9.98	
EXT DRO >C28-C36	<10.0	10.0	12/02/2021	ND					

Surrogate: 1-Chlorooctane *129 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *136 %* *38.9-142*

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Reported:	12/06/2021	Sampling Type:	Soil
Project Name:	MCA 470 FLOW LINE RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02617	Sample Received By:	Tamara Oldaker
Project Location:	COP - LEA CO NM		

Sample ID: AH - 8 (2-2.5') (H213441-04)

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	12/02/2021	ND	2.00	100	2.00	9.38	
Toluene*	<0.050	0.050	12/02/2021	ND	2.08	104	2.00	13.3	
Ethylbenzene*	<0.050	0.050	12/02/2021	ND	2.06	103	2.00	14.1	
Total Xylenes*	<0.150	0.150	12/02/2021	ND	6.30	105	6.00	13.4	
Total BTEX	<0.300	0.300	12/02/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.8 %* *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	**176**	16.0	12/02/2021	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2021	ND	227	114	200	11.1	
DRO >C10-C28*	<10.0	10.0	12/02/2021	ND	229	115	200	9.98	
EXT DRO >C28-C36	<10.0	10.0	12/02/2021	ND					

Surrogate: 1-Chlorooctane *105 %* *44.3-133*

Surrogate: 1-Chlorooctadecane *109 %* *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

Notes and Definitions

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.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

1/1

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Tetra Tech
Project Manager:	Christian Llull
Address:	
City:	State: Zip:
Phone #:	512-565-0190 (CH) Fax #:
Project #:	212C-MD-02617 Project Owner:
Project Name:	MCA 470 Flowline Release
Project Location:	Lea County, NM
Sampler Name:	Colton Bickerstaff

BILL TO

P.O. #:	
Company:	Tetra Tech
Attn:	Christian Llull
Address:	
City:	
State:	Zip:
Phone #:	512-565-0190
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	SAMPLING TIME	BTEX 8021B	TPH 8015M	Chlorides 300.0
H213441																	
1	AH-5A (2'-2.5')	G	1			X					X		12/1/21		X	X	X
2	AH-7A (2'-2.5')	G	1			X					X		12/1/21		X	X	X
3	AH-8 (0-1')	G	1			X					X		12/1/21		X	X	X
4	AH-8 (2'-2.5')	G	1			X					X		12/1/21		X	X	X

Relinquished By:	Date: 12/1/21	Received By:	Verbal Result: ☐ Yes ☑ No Add'l Phone #:
Colton Bickerstaff	Time: 16:25	Tamara Oldaker	All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	Christian.Llull@tetratech.com
	Time:		REMARKS: Email invoice to Christian Llull

Delivered By: (Circle One)	Observed Temp. °C 2.5	Sample Condition Cool: ☑ Yes ☐ No	Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) T.O.	Turnaround Time: Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.0				Thermometer ID #113 Correction Factor -0.5°C

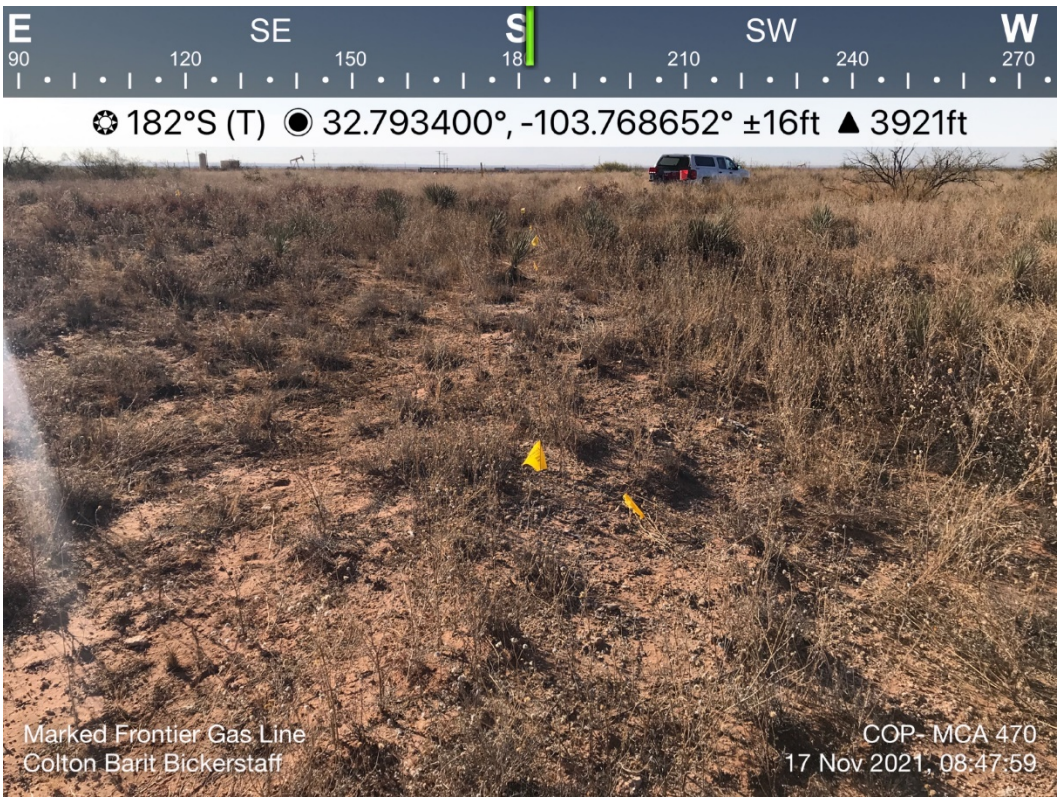
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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

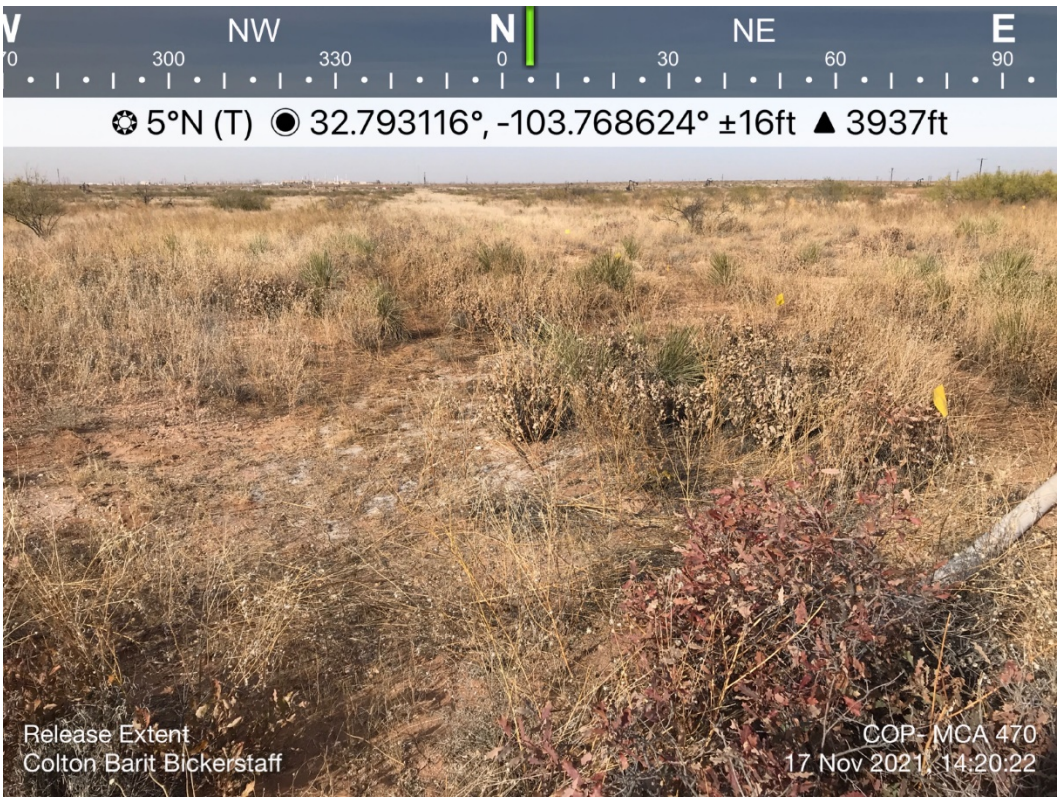
APPENDIX D

TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	One-call marked Frontier gas line.	1
	SITE NAME	ConocoPhillips MCA 470	11/17/2021



TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	One-call marked Frontier gas line.	2
	SITE NAME	ConocoPhillips MCA 470	11/17/2021

TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	Impacted release area with salt staining and TPH staining present.	3
	SITE NAME	ConocoPhillips MCA 470	11/17/2021



TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	Impacted release area.	4
	SITE NAME	ConocoPhillips MCA 470	11/17/2021

TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	Impacted release area, near the release point.	5
	SITE NAME	ConocoPhillips MCA 470	11/17/2021

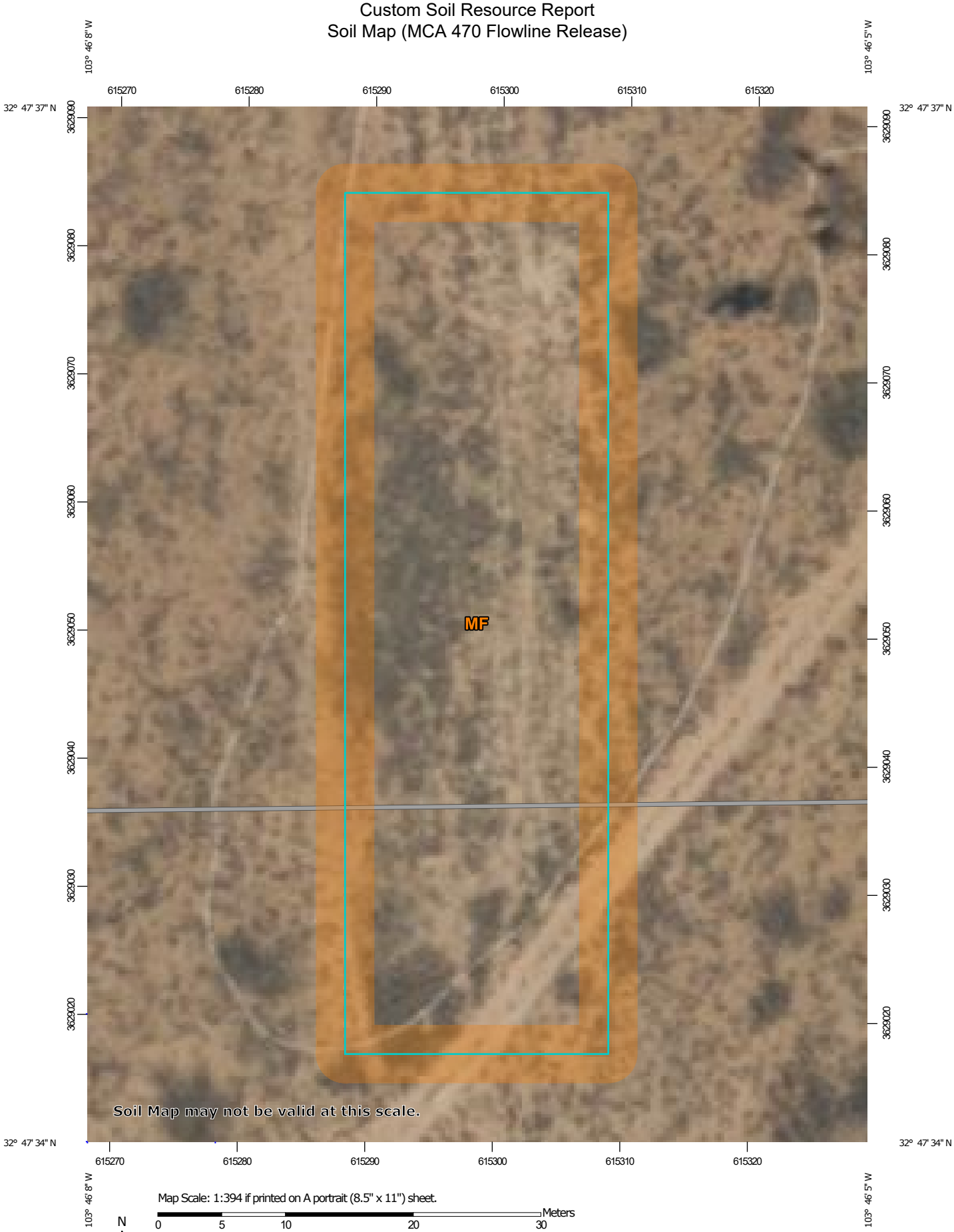
TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	Ruptured flowline	6
	SITE NAME	ConocoPhillips MCA 470	11/17/2021

TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	Ruptured flowline	7
	SITE NAME	ConocoPhillips MCA 470	11/17/2021

TETRA TECH, INC. PROJECT NO. 212C-MD-02617	DESCRIPTION	Ruptured flowline	8
	SITE NAME	ConocoPhillips MCA 470	11/17/2021

APPENDIX E

Custom Soil Resource Report
Soil Map (MCA 470 Flowline Release)



Map Scale: 1:394 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 15 30 60 90

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

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: Feb 7, 2020—May 12, 2020

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

Map Unit Legend (MCA 470 Flowline Release)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MF	Maljamar and Palomas fine sands, 0 to 3 percent slopes	0.3	100.0%
Totals for Area of Interest		**0.3**	**100.0%**

Map Unit Descriptions (MCA 470 Flowline Release)

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

MF—Maljamar and Palomas fine sands, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: dmqb
Elevation: 3,000 to 3,900 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: Farmland of statewide importance

Map Unit Composition

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

Description of Maljamar

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Palomas

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone

Typical profile

A - 0 to 16 inches: fine sand
Bt - 16 to 60 inches: sandy clay loam
Bk - 60 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 45 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: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 5 percent
Ecological site: R042XC022NM - Sandhills
Hydric soil rating: No

Wink

Percent of map unit: 5 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

References

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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.

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District III
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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 71705

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 71705
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	Closure report due 05/02/2022	2/1/2022