TETRA TECH

February 23, 2024

District Supervisor
Oil Conservation Division, District 2
811 S. First St.
Artesia, New Mexico 88210

Re: REVISED Release Characterization and Remediation Work Plan
ConocoPhillips
On behalf of Solaris Water Midstream, LLC
Pine Springs 2 State SWD #001 Release
Unit Letter K, Section 2, Township 26 South, Range 25 East
Eddy County, New Mexico
Incident ID NAB1817955890
2RP-4832

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a release at the Pine Springs 2 State salt water disposal (SWD) #001 (API # 30-015-42348). The release footprint is located in Public Land Survey System (PLSS) Unit Letter K, Section 2, Township 26 South, Range 25 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.071359°, -104.366918°, as shown on Figures 1 and 2. The Site is currently operated by Solaris Water Midstream, LLC (Solaris).

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the release was discovered on June 25, 2018. The release occurred as the result of an O-ring in the hammer union failing. Approximately 20 barrels (bbls) of produced water were released, of which 20 bbls were recovered. The NMOCD received the initial C-141 on June 27, 2018, and subsequently assigned the release the Remediation Permit (RP) number 2RP-4832 and the Incident ID NAB1817955890. The initial C-141 form is included in Appendix A.

The Pine Springs 2 State SWD #001 (2RP-4832/NAB1817955890) is included in an Agreed Compliance Order ("ACO") with the NMOCD, related to unresolved releases from COPC's predecessor-in-interest ("COG"). The ACO required COPC to submit characterization and/or remediation plans with proposed timeframes for the ongoing corrective actions or remediations identified to the NMOCD no later than March 31, 2022. As of March 11, 2022, COPC has submitted characterization and remediation plans for all of the properties identified and owned. All documentation was submitted in accordance with ACO terms. These documents have been submitted to the NMOCD via CentreStack, a Secure Access & File Sharing platform, at the direction of Mr. Bradford Billings, NMOCD. The Delineation Workplan previously completed by COG was included as a portion of the ACO.

The Pine Springs 2 State SWD #001 Release (NAB1817955890) footprint coincides with an additional release incident associated with the Pine Springs 2 State SWD #001 (NAB1735335003). A separate Release Characterization and Work Plan report will be submitted for the coincident release. As discussed,

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Solaris is currently the owner and operator at this facility. Rob Kirk, Vice President & General Manager, HSE & Compliance for Aris Water Solutions, has authorized COP to complete remedial work at the facility.

SITE CHARACTERIZATION

A Site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, continuously flowing watercourse, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of high karst potential.

The Site is within a New Mexico oil and gas production area. According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are no water wells within ½ mile (800 meters) of the Site. There is (1) water well within approximately 0.70 miles (1,125 meters) of the Site with a depth to groundwater of 23 feet below ground surface (bgs). Site characterization data is presented in Appendix B.

SLO REGULATORY COMPLIANCE

To comply with the requirements set by the New Mexico State Land Environmental Compliance Office (ECO), on May 18, 2023, Tetra Tech provided notice of intent to install additional soil borings to complete delineation of the release area. Permission was approved by Tami Knight on June 26, 2023 via email. A copy of the regulatory correspondence is included in Appendix C.

The initial Release Characterization and Remediation Work Plan which was rejected by the NMOCD on February 2, 2024 was submitted to the SLO for review on January 18, 2024. This revised report will be report will be submitted to the NMSLO ECO office for review as well.

LAND OWNERSHIP

According to the NMOCD Oil and Gas Map, the site is located on State Trust Lands managed by the New Mexico State Land Office (NMSLO). A review of the NMSLO Land Status Map was completed, and the site is within two active oil and gas leases VC01220004 and VB24120001. The active leases are listed under Tap Rock Resources, LLC. Tetra Tech contacted the NMSLO to confirm the need for a Right of Entry permit (RoE). Entities from within the ECO and Commercial Resources Division (CRD) both confirmed that there was no need for a RoE permit.

Prior correspondence with the CRD concerning assessment activities of a release, which occupied multiple lease parcels, resulted in the need for a RoE permit. Based on previous correspondence between the New Mexico Stand Land Office CRD and Tetra Tech, and out of an abundance of caution, ConocoPhillips obtained a Right of Entry for the Site.

COPC representatives contacted the CRD to obtain the permit. On October 23, 2023, Stephanie Garcia Richard executed the permit (No. RE-6734), beginning the period of 180 days for which the permit would be active. A copy of the right of entry permit can be found in Appendix C.

REGULATORY FRAMEWORK

Based upon the release footprint location (high karst) 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 high karst potential and in accordance with Table I of 19.15.29.12 NMAC, the proposed RRALs for the Site are as follows:

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

COG ASSESSMENT & PROPOSED WORKPLAN

Based on available documentation, Concho (COG) was on Site to perform assessment activities at the Site on September 17, 2018. Fourteen (14) locations were selected, with seven (7) locations (T-1 to T-7) within the approximate release footprint for vertical delineation and seven (7) locations (T-8 to T-14) around the exterior of the release footprint for horizontal delineation. Samples collected from within the release footprint were collected from a maximum depth of 8 feet bgs. Samples collected around the perimeter of the release footprint were collected from surface materials (0 feet bgs). Analytical results associated with samples collected as part of the COG assessment activities indicated all samples from locations within the approximate release footprint (T-1 to T-6), except T-7, had chloride contents above Site RRALs to a maximum depth of 5 feet bgs. Additionally, analytical lab results associated with locations T-10 and T-11, collected outside the approximate release extent, had elevated chloride levels above Site RRALs. COG sample locations are presented in Figure 3.

COG proposed the following activities to address the release:

- *"The areas of T-3 and T-4 and T-6 will be excavated to a depth of approximately 1.0' to 2.0' below surface.*
- *The areas of T-1, T-2 and T-5 will be excavated to an approximate depth of 4.0', 6.0' and 3.0' respectively*
- *In the perimeter areas of T-10 and T-11, all of the chlorides above the RAL will be removed from the area and sampled for confirmations.*
- *All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.*
- *The excavation will be clean backfilled material to grade."*

In addition to the above listed excavations, COG proposed to collect soil confirmation samples from excavated areas and submit the samples to an accredited laboratory for testing of chloride content. Floor samples would be collected as 5-point composite samples form an area of 50 feet by 50 feet, each composite sample representing 2,500 square feet. COG estimated 8 to 9 total composite floor samples would be collected, with additional samples being collected as needed. Sidewall composite samples would be collected every 200 square feet. Discrete soil samples would be collected from excavated areas if any laboratory analytical results indicated exceedances of Site RRALs. The Work Plan was submitted to the NMSLO on 11/12/2018, but it was not submitted through the OCD Online Fee Portal until 4/11/2023.

NMOCD REJECTION & EXTENSION REQUESTS

The Work Plan was rejected by the NMOCD on April 19, 2023. No record of the correspondence regarding the rejection of the Work Plan is available through the NMOCD Online Imaging Portal. However, the NMOCD Permitting website does provide the response given by the NMOCD regarding the COG Work Plan.

> *"Horizontal delineation is incomplete. T8 through T14 were not analyzed from BTEX or TPH and T10-T11 also were above the closure standard of 600 mg/kg for chloride. The area of T7 will need to be remediated as TPH levels were above the remediation standard o 100 mg/kg. The proposed excavation depths for T1, T2, T5, T10, and T11 are not adequate. The excavation depths will need to meet the closure criteria. Bottom hole confirmation samples representative of 2,500 square feet is not approvable. 2RP-4523*

closed. Refer to incident #NAB1735335003 in all future communication. Submit a complete report though the OCD Permitting website by 7/19/2023."

Two separate 90-day extension requests have since been submitted and approved by the NMOCD. The first, requested on July 27, 2023, was due to the NMSLO recent permitting requirements for water/soil boring exploration permits. The extension request was approved by Brittany Hall of the NMOCD via email on the on July 27, 2023, providing a new due date of October 16, 2023. A second extension request was submitted on October 23, 2023 due to NMSLO Right of Entry and Cultural Survey requirements, as well as delays for scheduling assessment activities. Brittany Hall of the NMOCD approved the extension request on October, 27 2023, providing a new due date of January 15, 2024. NMOCD correspondence is included in Appendix C.

SITE ASSESSMENT ACTIVITIES AND SUMMARY OF SAMPLING RESULTS

Based on the comments provided by the NMOCD in the rejection of the COG Work Plan, on November 7 and 8, 2023, Tetra Tech personnel were onsite to oversee the installation of a total of thirteen (13) borings utilizing an air rotary truck-mounted drilling rig, to a maximum depth of 15 feet bgs. Seven (7) boreholes were installed within the release extent (BH-1 through BH-7) ranging in depths between 3 and 7 feet bgs to vertically delineate the release. Six (6) boreholes (B-8 through B-13) were installed around the exterior of the release footprint, each to a depth of 1-foot bgs, to horizontally delineate the release. Borehole locations are presented in Figure 4. Photographic documentation from the Site assessment activities is presented in Appendix D.

A total of thirty-one (31) soil samples were collected from the thirteen (13) boreholes and submitted to Cardinal Laboratories in Hobbs, NM to be analyzed for chloride via EPA Method SM4500Cl-B, BTEX via EPA Method 8021B, and TPH via EPA Method 8015M. Copies of the laboratory analytical reports are included as Appendix E.

Analytical results associated with samples collected from all boreholes located within the release footprint, except BH-5, indicated elevated chloride levels above the Site RRALs of 600 mg/kg at sample intervals down to 3 feet bgs. All other analytical results associated with samples collected below 3 feet bgs on the interior of the release footprint and all analytical results associated with samples collected on the exterior of the footprint were below Site RRALs.

WORK PLAN (2024) & NMOCD REJECTION

An initial Work Plan was drafted based on the collected data and submitted to the NMOCD with PO Number THFTO-240115-C-1410 on January 15, 2024. As the release impact is fully delineated, and the release footprint is in areas immediately under or around production equipment, the report contained language regarding leaving impacted soils in place. On February 2, 2024, Ashley Maxwell of the NMOCD rejected the Initial Work Plan. The reason for the rejection is as follows:

- *Resubmit report as a work plan only. The area requested for deferral will need to subsequently submitted upon remediation of the areas outside of the requested deferred area.*

REVISED REMEDIATION WORK PLAN

Based on the NMOCD rejection, the Work Plan has been revised. ConocoPhillips proposes to remove the remaining impacted material as shown in Figure 5. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 3 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the reclamation requirements/RRALs. Heavy equipment will come no more than 4 ft from any surface or subsurface pressurized lines.

Sections of the lease pad within the release footprint contain production equipment, large permanent structures, and electrical and/or pressurized lines where remediation may warrant a major facility

deconstruction. Excavating near production equipment via aggressive excavation methods (i.e., backhoe/track hoe, excavators, hydraulic hammer, etc.) could result in a potentially hazardous condition, and/or property damage. If these aggressive activities would generate hazards and create safety risks, then those areas immediately under or around production equipment will be identified during the remedial action, and samples will be collected to determine the concentrations of the soil beneath that equipment.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. 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. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 2,500 cubic yards.

As mentioned, this REVISED Work Plan will be provided to the Environmental Compliance Office (ECO) for review and approval, Prior to beginning remedial activities, the NMSLO office will be notified via email in accordance with stipulated NMSLO guidelines.

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. Twenty (20) confirmation floor samples and thirty-five (35) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 22,250 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 400 square feet of excavated area. Confirmation samples will be sent to an accredited laboratory for analysis of chloride via EPA Method SM4500Cl-B or 300.0, BTEX via EPA Method 8021B, and TPH via EPA Method 8015M. Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade.

CONCLUSION

Based on the additional assessment activities, this REVISED Release Characterization and Remediation Work Plan encompasses the most up to date site conditions and collected data. 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 and NMSLO ECO.

The Work Plan for the subsequent Incident (NAB1735335003) at the Site will be submitted under separate cover, along with proper fee application. As the release footprints coincide and the remediation work plan of one incident encompasses the other, should this Work Plan gain NMOCD approval prior to the NAB1735335003 Work Plan, COPC requests the opportunity to remediate both release extents with the approval of this Work Plan.

Final remediation and reclamation of the remaining surficial impacts shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations. The final C-141 forms are enclosed in Appendix A. If you have any questions concerning the soil assessment activities at the Site, please call me at (509) 768-2191 or Christian at (512) 288-6281.

Sincerely,
Tetra Tech, Inc.

Sam R. Chama, G.I.T.
Project Manager

Christian M, Llull, P.G.
Program Manager

cc:
Mr. Ike Tavarez, RMR – ConocoPhillips
Ms. Tami Knight, NMSLO ECO

LIST OF ATTACHMENTS

Figures:

Figure 1 – Overview Map
Figure 2 – Topographic Map
Figure 3 – COG Approximate Release Extent and Site Assessment
Figure 4 – Tetra Tech Approximate Release Extent and Site Assessment
Figure 5 – Proposed Remediation Extent

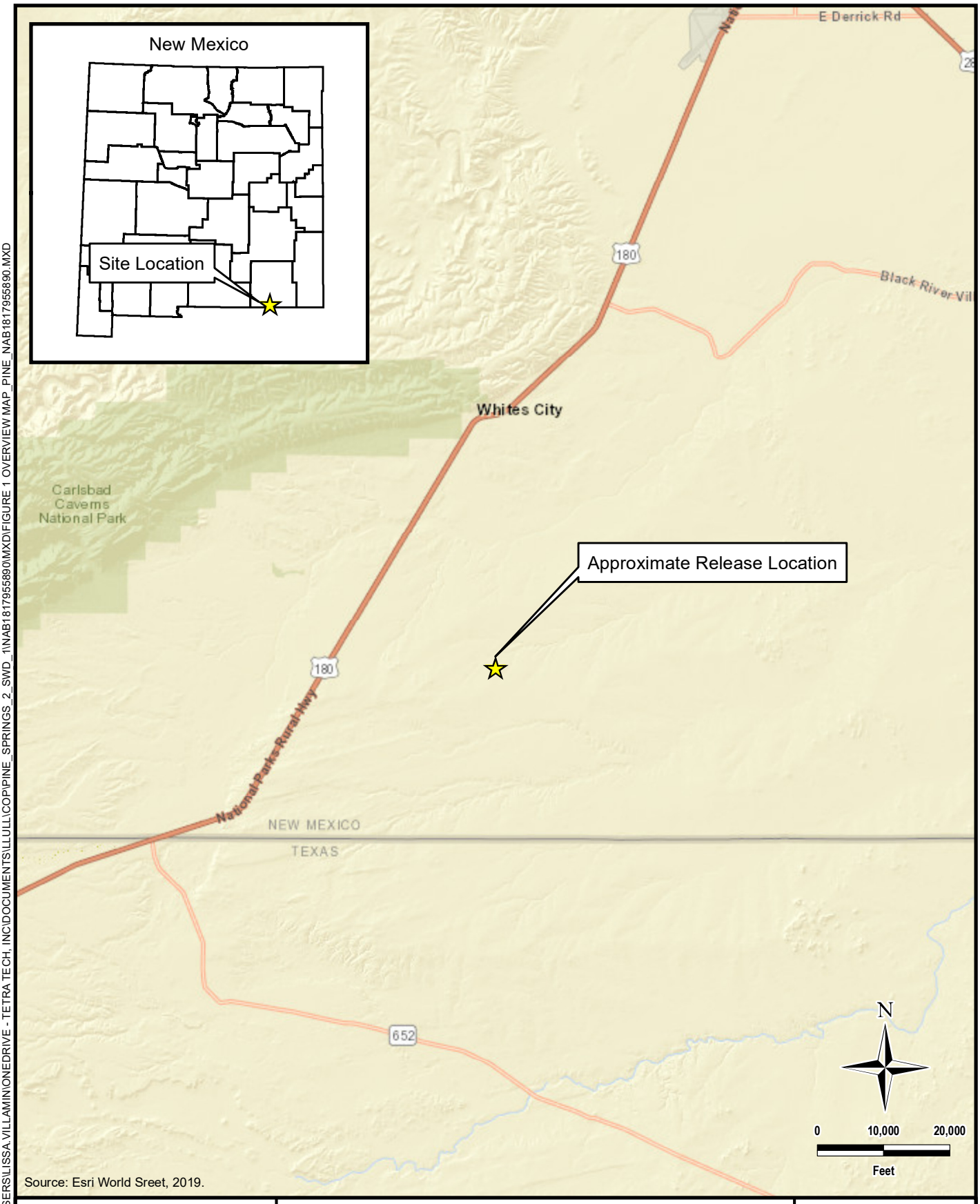
Tables:

Table 1 – Summary of Analytical Results – 2018 Soil Assessment
Table 2 – Summary of Analytical Results – 2023 Soil Assessment

Appendices:

Appendix A – C-141 Forms
Appendix B – Site Characterization Data
Appendix C – Regulatory Correspondence
Appendix D – Photographic Documentation
Appendix E – Laboratory Analytical Data

FIGURES



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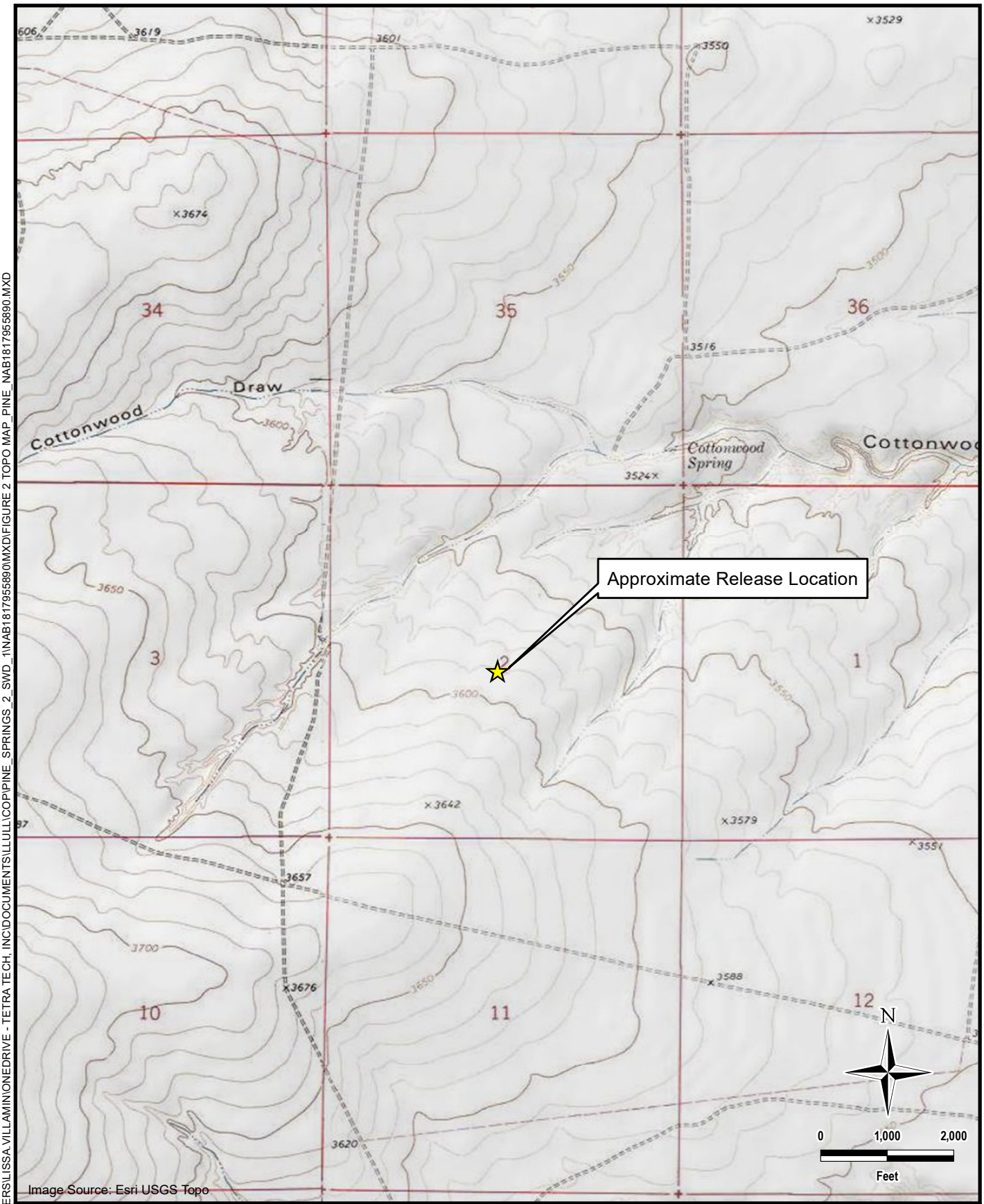
CONOCOPHILLIPS

NAB1817955890
(32.071359°, -104.366918°)
EDDY COUNTY, NEW MEXICO

PINE SPRINGS 2 STATE SWD #001 RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-02878
DATE:	NOVEMBER 16, 2023
DESIGNED BY:	LMV

Figure No.
1



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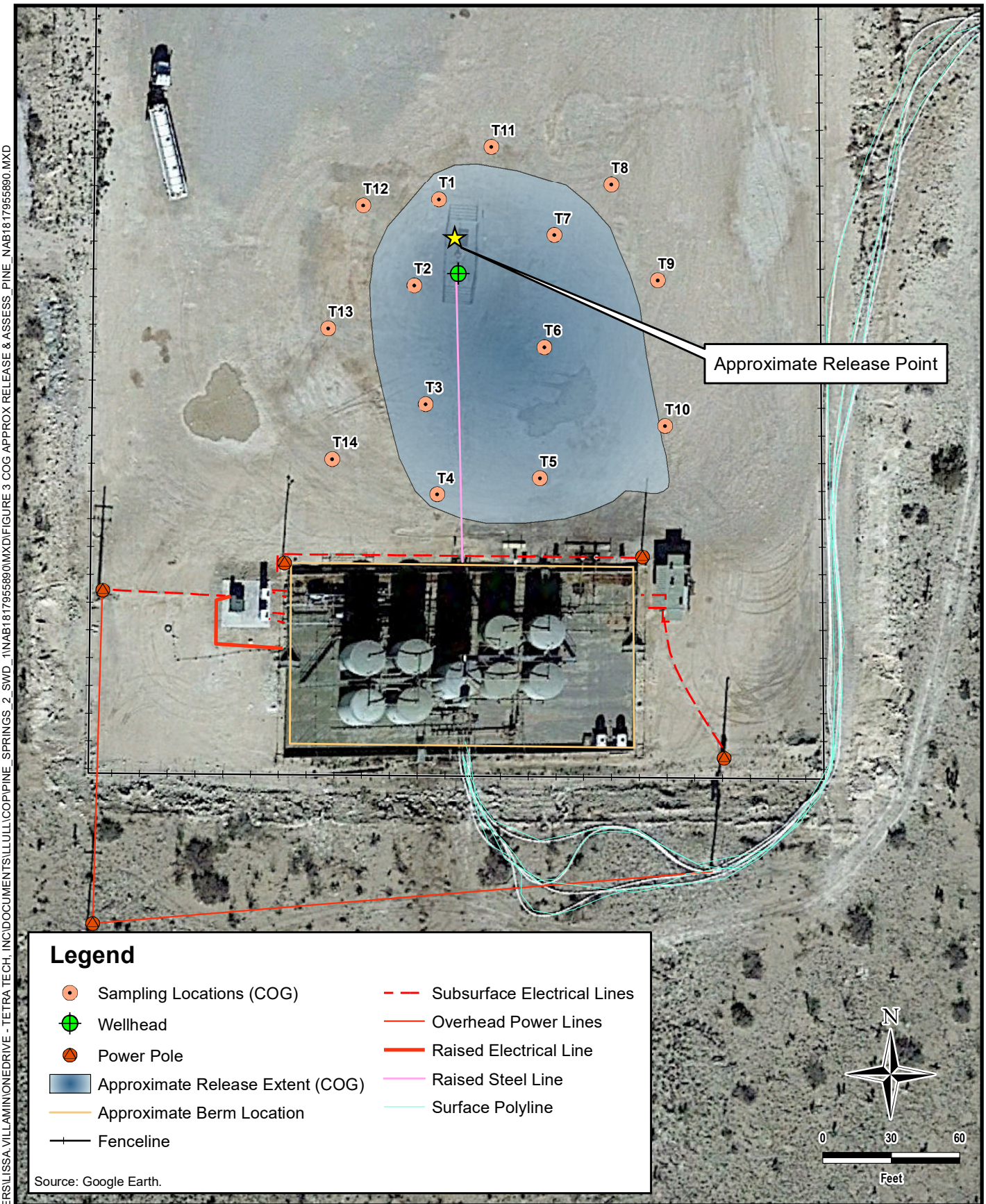
CONOCOPHILLIPS

NAB1817955890
(32.071359°, -104.366918°)
EDDY COUNTY, NEW MEXICO

PINE SPRINGS 2 STATE SWD #001 RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02878
DATE:	NOVEMBER 16, 2023
DESIGNED BY:	LMV

Figure No.
2



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CONOCOPHILLIPS

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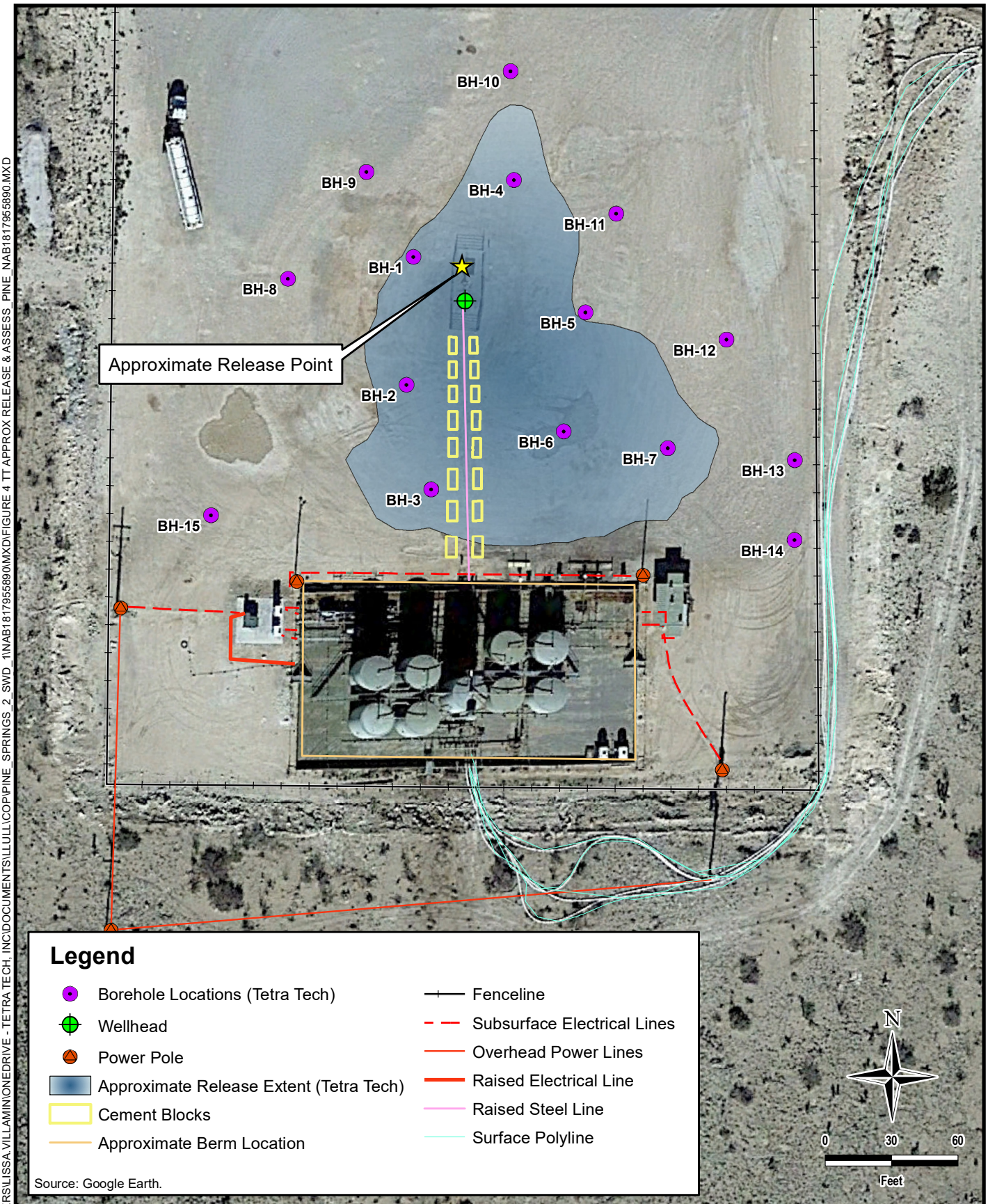
PINE SPRINGS 2 STATE SWD #001 RELEASE
COG APPROXIMATE RELEASE EXTENT AND SITE ASSESSMENT

PROJECT NO.:	212C-MD-02878
DATE:	NOVEMBER 20, 2023
DESIGNED BY:	LMV

Figure No.
3



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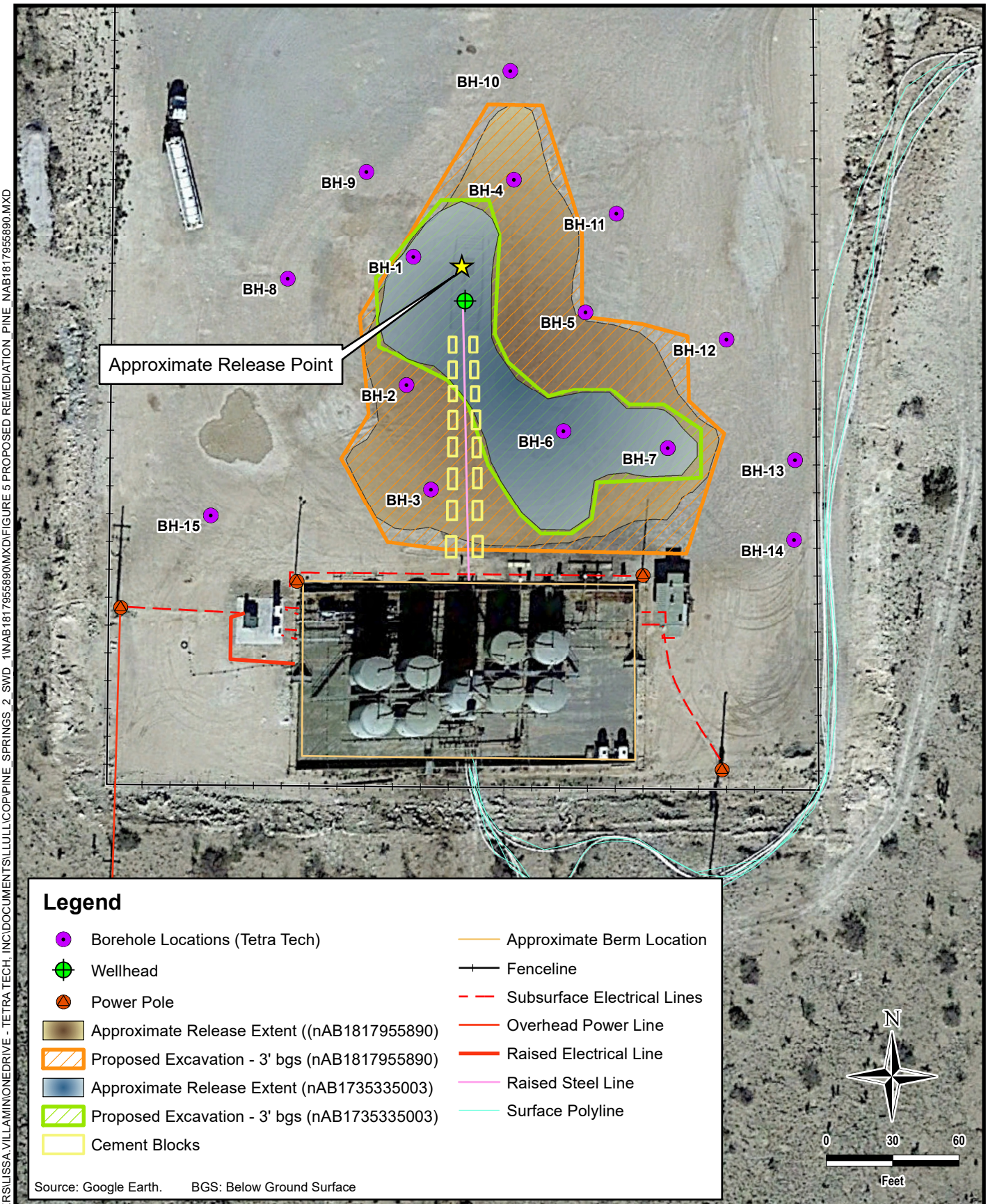
CONOCOPHILLIPS

NAB1817955890
(32.071359°, -104.366918°)
EDDY COUNTY, NEW MEXICO

PINE SPRINGS 2 STATE SWD #001 RELEASE
TETRA TECH APPROXIMATE RELEASE EXTENT AND SITE ASSESSMENT

PROJECT NO.:	212C-MD-02878
DATE:	DECEMBER 08, 2023
DESIGNED BY:	LMV

Figure No.
4



Legend

- Borehole Locations (Tetra Tech)
- Wellhead
- Power Pole
- Approximate Release Extent ((nAB1817955890)
- Proposed Excavation - 3' bgs (nAB1817955890)
- Approximate Release Extent (nAB1735335003)
- Proposed Excavation - 3' bgs (nAB1735335003)
- Cement Blocks
- Approximate Berm Location
- Fenceline
- Subsurface Electrical Lines
- Overhead Power Line
- Raised Electrical Line
- Raised Steel Line
- Surface Polyline

Source: Google Earth. BGS: Below Ground Surface

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PINE SPRINGS 2 STATE SWD #001 RELEASE
PROPOSED REMEDIATION EXTENT

PROJECT NO.:	212C-MD-02878
DATE:	FEBRUARY 08, 2024
DESIGNED BY:	LMV

Figure No.
5

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2018 SOIL REMEDIATION - NAB1817955890/2RP-4832
CONOCOPHILLIPS
PINE SPRINGS 2 STATE SWD #1 RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]												TPH[3]							
					Benzene		Toluene		Ethylbenzene		m,p-Xylenes		o-Xylene		Total Xylenes		Total BTEX		GRO		DRO		MRO		Total TPH	
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q
T1	9/17/2018	0	***1,950***		<0.00199		<0.00199		<0.00199		<0.00398		<0.00199		<0.00199		<0.00199		<15.0		<15.0		<15.0		<15.0	
		1	***1,260***		<0.00200		<0.00200		<0.00200		<0.00399		<0.00200		<0.00200		<0.00200		<15.0		<15.0		<15.0		<15.0	
		2	***1,800***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3	***2,400***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	440		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		5	***959***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		6	***626***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T2	9/17/2018	0	***1,000***		<0.00201		<0.00201		<0.00201		<0.00402		<0.00201		<0.00201		<0.00201		<15.0		<15.0		<15.0		<15.0	
		1	***3,680***		<0.00201		<0.00201		<0.00201		<0.00402		<0.00201		<0.00201		<0.00201		<15.0		<15.0		<15.0		<15.0	
		2	***874***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3	***765***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	415		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		5	***1,120***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		6	391		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		7	***986***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		8	286		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T3	9/17/2018	0	***2,860***		<0.00198		<0.00198		<0.00198		<0.00397		<0.00198		<0.00198		<0.00198		<15.0		15.2		<15.0		15.2	
		1	***3,620***		<0.00199		<0.00199		<0.00199		<0.00398		<0.00199		<0.00199		<0.00199		<15.0		<15.0		<15.0		<15.0	
		2	75.1		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3	182		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	30.8		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T4	9/17/2018	0	223		<0.00200		<0.00200		<0.00200		<0.00401		<0.00200		<0.00200		<0.00200		<15.0		<15.0		<15.0		<15.0	
		1	***1,020***		<0.00200		0.00221		<0.00200		<0.00399		<0.00200		<0.00200		0.00221		<14.9		<14.9		<14.9		<14.9	
		2	197		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3	<4.96		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	<4.96		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T5	9/17/2018	0	***10,700***		<0.00202		<0.00202		<0.00202		<0.00403		<0.00202		<0.00202		<0.00202		<15.0		***150***		51.0		***201***	
		1	***5,920***		<0.00200		<0.00200		<0.00200		<0.00401		<0.00200		<0.00200		<0.00200		<14.9		29.3		<14.9		29.3	
		2	***3,710***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3	526		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	***906***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T6	9/17/2018	0	***4,330***		<0.00201		<0.00201		<0.00201		<0.00402		<0.00201		<0.00201		<0.00201		<15.0		33.5		<15.0		33.5	
		1	560		<0.00199		<0.00199		<0.00199		<0.00398		<0.00199		<0.00199		<0.00199		<15.0		<15.0		<15.0		<15.0	
		2	87.2		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3	122		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	175		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T7	9/17/2018	0	141		<0.00200		<0.00200		<0.00200		<0.00399		<0.00200		<0.00200		<0.00200		<15.0		***132***		33.1		***165***	
		1	203		<0.00201		<0.00201		<0.00201		<0.00402		<0.00201		<0.00201		<0.00201		<15.0		<15.0		<15.0		<15.0	
		2	385		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		3	190		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		4	105		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		5	68.0		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		6	91.0		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
		7	145		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T8	9/17/2018	0	513		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T9	9/17/2018	0	502		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T10	9/17/2018	0	***2,330***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T11	9/17/2018	0	***1,250***		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T12	9/17/2018	0	473		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T13	9/17/2018	0	596		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
T14	9/17/2018	0	385		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

MRO Motor Oil range organics

NA Sample not analyzed for parameter

1 EPA Method 300.0

2 EPA Method 8021B

3 Method SW8015 Mod

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

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
2023 SOIL ASSESSMENT - NAB1817955890/2RP-4832
CONOCOPHILLIPS
PINE SPRINGS 2 STATE SWD #1 RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride[1]		BTEX[2]										TPH[3]						
			Chloride	Titration			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C_6 - C_{10}		DRO > C_{10} - C_{28}		EXT DRO > C_{28} - C_{36}		Total TPH (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
BH-1	11/8/2023	0-1'	-	-	***2,440***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		11.2		<10.0		11.2
		2-3'	-	-	***1,840***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4'	-	420	544		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		5-6'	-	400	272		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-7'	-	200	256		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-2	11/8/2023	0-1'	-	-	***1,620***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3'	-	-	***1,060***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4'	-	225	304		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-3	11/8/2023	0-1'	-	-	***608***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3'	-	-	528		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-4	11/7/2023	0-1'	-	-	***1,810***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3'	-	-	***912***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4'	-	420	512		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-5	11/8/2023	0-1'	-	-	80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3'	-	-	304		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-6	11/8/2023	0-1'	-	-	***1260***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3'	-	-	***608***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4'	-	320	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		5-6'	-	400	48		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-7'	-	200	32		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-7	11/8/2023	0-1'	-	-	***1200***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3'	-	-	***1120***		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4'	-	300	352		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-8	11/7/2023	0-1'	-	540	368		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-9	11/7/2023	0-1'	-	300	160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-10	11/7/2023	0-1'	-	275	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-11	11/8/2023	0-1'	-	375	288		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-12	11/8/2023	0-1'	-	400	240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-13	11/8/2023	0-1'	-	220	240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-14	11/8/2023	0-1'	-	200	288		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-15	11/8/2023	0-1'	-	400	272		<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.

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

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

JUN 27 2018
DISTRICT II-ARTESIA O.C.D.

Form C-141
Revised April 3, 2017

Submit to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1817955890

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating, LLC (OGRID #229137)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-683-7443
Facility Name: **Pine Springs 2 State SWD #001**	Facility Type: Well Head

Surface Owner: State	Mineral Owner: State	API No. 30-015-42348

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	02	26S	25E	2,500	South	2,500	West	Eddy

Latitude 32.071434 **Longitude** -104.3667831 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 25 bbl.	Volume Recovered 20 bbl.
Source of Release Hammer Union	Date and Hour of Occurrence June 25, 2018 2:12pm	Date and Hour of Discovery June 25, 2018 2:12pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – NMOCD Crystal Weaver – NMOCD Ryan Mann – SLO	
By Whom? Sheldon Hitchcock	Date and Hour June 25, 2018 3:29pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by the O-ring in the hammer union failing. The O-Ring has been replaced.

Describe Area Affected and Cleanup Action Taken.*

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

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

Signature: DeAnn Grant

Printed Name: DeAnn Grant

Title: HSE Administrative Assistant

E-mail Address: agrant@concho.com

Date: June 27, 2018 Phone: (432) 253-4513

OIL CONSERVATION DIVISION

Signed By Mike Bratcher

Approved by Environmental Specialist:

Approval Date: 6/27/18 Expiration Date: N/A

Conditions of Approval: See Attached

Attached ☒ 2RP-4832

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 6/27/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4832 has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 7/27/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

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

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

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

- Composite sampling is not generally allowed.

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

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

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

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

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

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

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

Bratcher, Mike, EMNRD

From: DeAnn Grant <agrant@concho.com>
Sent: Wednesday, June 27, 2018 1:16 PM
To: Bratcher, Mike, EMNRD; Mann, Ryan
Cc: Weaver, Crystal, EMNRD; Sheldon Hitchcock; Dakota Neel; Rebecca Haskell; DeAnn Grant
Subject: (C-141 Initial) Pine Springs 2 State SWD #001 (30-015-42348) 06-25-2018
Attachments: (C-141 Initial) Pine Springs 2 State SWD #001 (30-015-42348) 06-25-2018.pdf

Mr. Bratcher/Mr. Mann,

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

Thank you,

DeAnn Grant
HSE Administrative Assistant
agrant@concho.com
COG Operating LLC
600 W Illinois Avenue | Midland, TX 79701
Direct: 432-253-4513 | Main: 432.683.7443
CONCHO

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

APPENDIX B
Site Characterization Data

OCD Waterbodies Map

10/28/2022, 8:25:09 AM

OSE Streams

1:9,028

0 0.07 0.15 0.3 mi

0 0.15 0.3 0.6 km

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

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

OCD Karst Map

10/28/2022, 8:18:43 AM

Karst Occurrence Potential

High

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

BLM, OCD, New Mexico Tech, Esri, HERE, Garmin, GeoTechnologies, Inc., Maxar

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 Code	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03321	C	ED	4	1	1	11	26S	25E	559375	3547431	1152	150	23	127

Average Depth to Water: **23 feet**

Minimum Depth: **23 feet**

Maximum Depth: **23 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 559752.15 **Northing (Y):** 3548520.63 **Radius:** 1500

APPENDIX C
Regulatory Correspondence

Chama, Sam

From: Knight, Tami C. <tknight@slo.state.nm.us>
Sent: Monday, June 26, 2023 8:06 PM
To: Dickerson, Ryan
Cc: Llull, Christian; Chama, Sam
Subject: RE: Pine Springs 2 State SWD #001 - DOR 6/25/2018 - Incident ID nAB1817955890

Follow Up Flag: Follow up
Flag Status: Completed

Ryan,

ECO agrees with NMOCD's denial of the original workplan and agrees with Tetra Tech's additional proposed delineation work. However, we need the following questions addressed prior to any field work:

1. What are the sampling intervals for the proposed soil borings?
2. Please state the sampling methods and analytical methods for each soil sample collected.
3. Please address how the borings will be backfilled?

I have a question outside of the norm. Why does the site have to be delineated before you start the remediation excavation? Will OCD not approve delineation while excavating? You have a good idea of what needs to be removed already and we know once the excavation gets opened up that the excavation is likely to change especially since you are on high karst. I was just curious if you have ever received clarification from NMOCD on this matter. My assumption is because OCD rules say for remediation plans the site has to be delineated horizontally and vertically in its entirety.

Thank you

Tami Knight, CHMM
Environmental Specialist
SLO Surface ECO
Mobile: (505) 670-1638
tknight@slo.state.nm.us

From: Dickerson, Ryan <Ryan.Dickerson@tetratech.com>
Sent: Thursday, May 18, 2023 10:35 AM
To: SLO Spills <spills@slo.state.nm.us>
Cc: Llull, Christian <Christian.Llull@tetratech.com>; Chama, Sam <SAM.CHAMA@tetratech.com>; Knight, Tami C.

<tknight@slo.state.nm.us>
Subject: [EXTERNAL] Pine Springs 2 State SWD #001 - DOR 6/25/2018 - Incident ID nAB1817955890

Tami Knight,

Below are site details associated with Incident ID nAB1817955890 that occurred at the Pine Springs 2 State SWD #001 (API #30-015-42348).
This incident was subsequent to Incident ID nAB1735335003 and occurred on the same general area of the lease pad.

Incident ID nAB1817955890 Details:

- Release Location: 32.071359°, -104.366918°
- Site is located in Eddy County, NM.
- Land Ownership: State of NM
- The Site is in an area of high karst potential.
- According to the C-141, it appears the release was discovered on 6/25/2018.
    - The release consisted of 25 barrels of produced water, of which 20 barrels were recovered.
    - The release occurred due to an O-ring in the hammer union failing.
- The released fluids remained on the lease pad.
- COG conducted soil sampling of the release area in September 2018.
- Based on the sampling results, COG prepared and submitted a Remediation Work Plan (see attached) to the NMSLO on 11/12/2018 for the subject incident and a previous release (nAB1735335003) occurring in the same area.
- The Work Plan was submitted through the OCD Online Fee Portal on 4/11/2023.
- The Work Plan was rejected by the NMOCD on 4/19/2023 based on the following comments:
    - *"Horizontal delineation is incomplete. T8 through T14 were not analyzed from BTEX or TPH and T10-T11 also were above the closure standard of 600 mg/kg for chloride. The area of T7 will need to be remediated as TPH levels were above the remediation standard of 100 mg/kg. The proposed excavation depths for T1, T2, T5, T10, and T11 are not adequate. The excavation depths will need to meet the closure criteria. Bottom hole confirmation samples representative of 2,500 square feet is not approvable. 2RP-4832 closed. Refer to incident #NAB1817955890 in all future communication. Submit a complete report through the OCD Permitting website by 7/19/2023."*

Based on the NMOCD rejection of the Work Plan, Tetra Tech, on behalf of ConocoPhillips, proposes to install soil borings as shown in the attached .kmz file to complete delineation of the release area.

- BH-1 and BH-2 will be drilled to an approximate depth of 20 feet below ground surface.
- AH-1 through AH-8 will be installed to a depth of 1 foot below ground surface.

Based on the above site details and proposed boring locations, is Tetra Tech cleared to move forward with the release assessment?

Thanks,

Ryan

Ryan Dickerson | Project Geologist
Cell **+1 (512) 217-7254** | ryan.dickerson@tetratech.com

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

TETRA TECH

Chama, Sam

From: Velazquez, Amy <avelazquez@slo.state.nm.us>
Sent: Tuesday, August 15, 2023 10:23 AM
To: Chama, Sam; Crosby, Faith; Armijo, Melissa
Cc: Carroll, Ryan; SLO Spills
Subject: RE: Permit Inquiry - Pine Springs SWD

Good morning Sam,

Faith is correct regarding our current approach to the releases being contained within an active lease footprint. If there is any need whatsoever to conduct any activities or access any State Trust Lands outside of the actively leased area, you will need to apply for a right of entry permit for remediation with the ROW Division.

I am CC'ing our ECO division above (eco@slo.state.nm.us) as they are a great resource for remediation issues.

Please let us know if we can assist further.

Sincerely,
Amy

Amy Velazquez
Rights of Way Leasing Manager
Rights of Way Division
Office Phone: 505.827.5789
New Mexico State Land Office
Physical: 310 Old Santa Fe Trail
Santa Fe, NM 87501
Post Office Box:
P.O. Box 1148, Santa Fe, NM 87504-1148
avelazquez@slo.state.nm.us
nmstatelands.org

.....

From: Chama, Sam <SAM.CHAMA@tetratech.com>
Sent: Tuesday, August 15, 2023 9:13 AM
To: Crosby, Faith <fcrosby@slo.state.nm.us>; Velazquez, Amy <avelazquez@slo.state.nm.us>; Armijo, Melissa <marmijo@slo.state.nm.us>
Cc: Carroll, Ryan <RYAN.CARROLL@tetratech.com>
Subject: [EXTERNAL] Permit Inquiry - Pine Springs SWD

Hi Faith,

Thank you for speaking to me last week about the scenario we're encountering at the Pine Springs SWD Site.

nAB1735335003 Background

- Site is in Eddy County, NM.
- Land is owned by the State of NM
- Operator is SOLARIS WATER MIDSTREAM, LLC
- Release Location: 32.071066°, -104.366799°
- **2RP-4523 / nAB1735335003**
    - According to the C-141, it appears the release was discovered on 12/12/2017.
    - The release consisted of:
        - 6 barrels (bbls) of produced water, of which 0 bbls were recovered.
    - The release occurred due to a valve being left in the wrong position on the trucking load line.

nAB1817955890 Background

- Site is in Eddy County, NM.
- Land is owned by the State of NM
- Operator is SOLARIS WATER MIDSTREAM, LLC
- Release Location: 32.071359°, -104.366918°
- **2RP-4832 / nAB1817955890**
    - According to the C-141, it appears the release was discovered on 6/25/2018.
    - The release consisted of:
        - 25 barrels (bbls) of produced water, of which 20 bbls were recovered.

The permitting process has changed from what was understood initially. Both releases remained on pad, no part of the release extent entered the pastureland. You informed me that we did not need a permit from the NMSLO Water Bureau in order to conduct an assessment (auger sampling) at this site due to the releases being on pad and an active lease. Faith, can you confirm this in writing please?

@Armijo, Melissa and @Velazquez, Amy can you provide insight into whether we would require a right of entry from the NMSLO CRD in order to perform our assessment operations?

ConocoPhillips (COP) is not the lease holder, Solaris Midstream is the lease holder. If a permit is not required from the CRD, and because this is not a COP lease, would we be dealing directly with Solaris Midstream?

Thank you,
Sam Chama, G.I.T. | Staff Geologist
Mobile **+1 (509) 768-2191** | Business **+1 (512) 338-1667** | Fax **+1 (512) 338-1331** | sam.chama@tetratech.com
Tetra Tech | *Leading with Science®* | OGA
8911 N. Capital of Texas Highway | Bldg. 2, Suite 2310 | Austin, TX 78759 | tetratech.com

TETRA TECH

Stephanie Garcia Richard
COMMISSIONER

State of New Mexico
Commissioner of Public Lands
310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE
Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

October 23, 2023

COG Operating, LLC
2208 West Main Street
Artesia, NM 88210

Attn: Monti Sanders

Re: Right-of-Entry Permit No.: **RE-6734/Pine Springs 2 St SWD #1**

Dear Applicant:

Enclosed is the completed captioned Right-of-Entry permit. If any corrections are necessary, please let us know and we will retype or amend this permit as necessary.

Please see the attached conservation memorandum for conservation measures.

The New Mexico State Land Office requires you to notify any surface lessees that will be impacted by your project prior to construction.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact Amy Velazquez of my staff at (505) 827-5789.

Sincerely,

James S. Bordegaray
Director, Commercial Resources Division

JSB/alv

NEW MEXICO STATE LAND OFFICE
Commissioner of Public Lands
Stephanie Garcia Richard
New Mexico State Land Office Building
P.O. Box 1148, Santa Fe, NM 87504-1148

RIGHT OF ENTRY PERMIT
CONTRACT NO. RE – 6734

This Agreement is made and entered into between the COMMISSIONER OF PUBLIC LANDS (the "Commissioner") and

COG Operating LLC
2208 West Main Street
Artesia, NM 88210

("Permittee"). The parties agree as follows:

1. RIGHT OF ENTRY ("ROE")

The Commissioner grants to Permittee, and its authorized representatives, employees, and contractors, permission to use the state trust lands identified below (the "Premises"), and ingress and egress to the Premises, for the sole purposes of (1) surveying/conducting an environmental investigation due to a produced water release on or adjacent to the site of the **Pine Springs 2 St SWD #1 (Incident ID # 2RP-4523)** and (2) conducting surface reclamation activities, including removal of equipment and debris, and any required remediation per 19.15.29.12 NMAC.

The Premises are situated in the following location in **Eddy County**, New Mexico::

Section	Township	Range	Subdivision	County	Longitude/Latitude
02	26S	25E	NE4SW4	Eddy	32.071434,-104.3667831

2. TERM AND TERMINATION

Right of entry is granted for a term of **180 days,** commencing on the execution date of this document by the Commissioner of Public Lands.

3. FEES

$ 50.00 Application Fee
$ 500.00 Permit Fee
$ 550.00 Total Fee

4. CONDITIONS OF USE

A. The issuance of this ROE does not guarantee that any subsequent lease, permit, or any other instrument will be issued to Permittee for the Premises.

B. No blading or widening of any roads that provide access to the Premises is permitted under this ROE.

C. No sale of any material extracted from the Premises is allowed under this ROE.

D. Permittee shall observe all applicable federal, state, and local laws and regulations.

E. Permittee shall take all reasonable precautions to prevent and suppress forest, brush, and grass fires and prevent pollution of waters on or in the vicinity of the Premises.

F. Permittee shall not block or disrupt roads or trails commonly in use.

G. This ROE is subject to any and all easements and rights-of-way previously granted and now in force and effect.

H. Permittee shall be responsible for repair and restitution for damage to any Premises or improvements as a result of activities related to the ROE.

I. Prior to entering the Premises, Permittee must identify and contact any existing surface lessees. The grant of this ROE does not allow access across private lands.

J. Permittee may utilize this ROE upon its execution for inspection of the Premises and to conduct any necessary tests or inspections. Permittee may not conduct remediation or reclamation work until it has submitted a written plan for such work, and received State Land Office approval.

K. Personnel present on Premises: **ConocoPhillips personnel and contractors.**

L. Equipment and materials present on Premises: **Vehicles, heavy equipment, and associated materials.**

5. SITE CONDITIONS

A. No surface disturbance, other than soil tests, except as described in a reclamation plan submitted to and approved by the State Land Office.

B. Access to the Premises shall be over existing roads.

C. The natural environmental conditions that exist contemporaneously with this grant of ROE shall be preserved and protected. Permittee must follow all applicable environmental and cultural resource protection laws and regulations.

6. INDEMNITY

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

7. SURVIVAL OF TERMS

Permittee's obligations regarding indemnity, site conditions, and compliance with applicable standards and laws, shall survive the termination, cancellation or relinquishment of this Agreement, and any cause of action of the Commissioner to enforce any right, liability, claim, loss, damage or expense under those paragraphs shall not be deemed to accrue until the Commissioner's actual discovery of said right, liability, claim, loss, damage or expense.

8. NOTIFICATION

Permittee must notify the State Land Office immediately in the event Permittee or his representatives, employees, or contractors observe any spill, fire, or other emergency on the Premises, or if Permittee or his representatives, employees, or contractors experience any serious injury while on the Premises.

WITNESS the hands of PERMITTEE and COMMISSIONER on the day(s) and year entered below.

PERMITTEE SIGNATURE

DATE: 10/19/23

Ryan D. Owen

Attorney-in-fact, COG Operating LLC

PERMITTEE NAME AND TITLE (PRINT)

SEAL:

BY: _____

Stephanie Garcia Richard
Commissioner of Public Lands

DATE: 10/23/2023

Chama, Sam

Subject: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

Ryan,

The 90-day extension request for **nAB1817955890 and nAB1735335003** is approved**.** The new due date for both incidents will be October 16, 2023.

Please Include this e-mail correspondence in the remediation and/or closure report when submitting to the OCD Permitting website.

Thank you,
Brittany Hall ● Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.517.5333 | Brittany.Hall@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd/

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Thursday, July 27, 2023 10:59 AM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Subject: FW: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

From: Carroll, Ryan <RYAN.CARROLL@tetratech.com>
Sent: Thursday, July 27, 2023 9:40 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Llull, Christian <Christian.Llull@tetratech.com>
Subject: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

To Whom It May Concern,

On behalf of ConocoPhillips, Tetra Tech is requesting a 90-day extension (until October 16, 2023) to complete additional assessment activities and associated reporting for the Pine Springs State SWD #01 release sites (**nAB1817955890 and nAB1735335003**). The releases were discovered on December 17, 2017, and June 25, 2018, respectively. A Delineation Work Plan was submitted the New Mexico Oil Conservation Commission (NMOCD) on November 12, 2018, and the Work Plan was resubmitted on December 5, 2022. The NMOCD responded on April 14, 2023, and stated horizontal delineation is incomplete and to submit a complete report by July 19, 2023.

The release footprint is located on State Trust lands and is located on a Salt Water Disposal (SWD) Easement. The New Mexico State Land Office has recently begun enforcing application and permitting requirements per Rule 12 (19.2.12 NMAC) for Water/Soil Boring Exploration Permits. Any intrusive activities (i.e. # soil borings to be drilled, sampling to be

conducted, etc.) must be permitted through the Water Bureau, Oil, Gas, and Minerals Division, New Mexico State Land Office.

Tetra Tech and ConocoPhillips experienced a delay in scheduling assessment at the Pine Springs State SWD #01 Releases while in the process of complying with this rule. The allocation of resources required to complete the Water/Soil Boring Exploration permit process are demanding and require additional time for coordination with regulatory personnel. Tetra Tech and ConocoPhillips are prepared to initiate additional assessment activities at the site once we obtain the Soil Boring Exploration Permit. We need additional time for the permitting process in order to complete delineation activities and submit a revised Work Plan.

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

Thank you,

Ryan

Ryan Carroll | Senior Project Manager | Tetra Tech
Direct **(832) 251-5161** | Mobile **(617) 461-3533**

Chama, Sam

From: Carroll, Ryan
Sent: Monday, December 4, 2023 11:00 AM
To: Chama, Sam
Subject: FW: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Friday, October 27, 2023 8:41 AM
To: Carroll, Ryan <RYAN.CARROLL@tetratech.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>; Llull, Christian <Christian.Llull@tetratech.com>
Subject: RE: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

Good morning Ryan,

Thank you for the update.

The extension requests for incident numbers nAB1817955890 and nAB1735335003 are approved. The new due date is January 15, 2024.

Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,
Brittany Hall • Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.517.5333 | Brittany.Hall@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd/

From: Carroll, Ryan <RYAN.CARROLL@tetratech.com>
Sent: Friday, October 27, 2023 6:53 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>; Llull, Christian <Christian.Llull@tetratech.com>
Subject: RE: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

Hi Brittany,

The permit process has been initiated. I have confirmed that we have received the ROE permit, which is attached for reference.

Thanks, Ryan

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Wednesday, October 25, 2023 8:57 AM
To: Carroll, Ryan <RYAN.CARROLL@tetratech.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>; Llull, Christian <Christian.Llull@tetratech.com>
Subject: RE: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

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

Good morning Ryan,

The previous extension was requested and approved on July 27, 2023. Could you clarify if the permitting process has been initiated and ConocoPhillips/Tetra Tech are just waiting for the approvals from SLO?

Thank you,
Brittany Hall ● Environmental Specialist
Environmental Bureau Projects Group
EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87110
505.517.5333 | Brittany.Hall@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd/

From: Carroll, Ryan <RYAN.CARROLL@tetratech.com>
Sent: Monday, October 23, 2023 7:24 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Llull, Christian <Christian.Llull@tetratech.com>
Subject: [EXTERNAL] Extension Request - nAB1817955890 and nAB1735335003 (Pine Springs State SWD #01)

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 90-day extension (until January 15, 2024) to complete additional assessment activities and associated reporting for the Pine Springs State SWD #01 release sites (**nAB1817955890 and nAB1735335003**). The releases were discovered on December 17, 2017, and June 25, 2018, respectively. A Delineation Work Plan was submitted the New Mexico Oil Conservation Commission (NMOCD) on November 12, 2018, and the Work Plan was resubmitted on December 5, 2022. The NMOCD responded on April 14, 2023, and stated horizontal delineation is incomplete and to submit a complete report by July 19, 2023. An extension request was previously approved due to delay related to permitting, and the new due date was October 16, 2023.

The release footprint is located on State Trust lands and is located on a Salt Water Disposal (SWD) Easement. The New Mexico State Land Office has recently begun enforcing application and permitting requirements for Water/Soil Boring Exploration Permits, Right of Entry (ROE) and Cultural Surveys (per Rules 10, 12 and 24), and must be permitted through the Water Bureau, Oil, Gas, and Minerals Division and/or Commercial Resources Division of New Mexico State Land Office. For these releases, it is our understanding a ROE permit is required before we can initiate assessment activities.

Tetra Tech and ConocoPhillips experienced a delay in scheduling assessment at the Pine Springs State SWD #01 Releases as the ROE permit process is taking longer than anticipated. Tetra Tech and ConocoPhillips are prepared to initiate additional assessment activities at the site once we obtain the ROE Permit. We need additional time for the ROE permitting process in order to complete delineation activities and submit a revised Work Plan.

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

Thank you,
Ryan

Ryan Carroll | Senior Project Manager | Tetra Tech
Direct **(832) 251-5161** | Mobile **(617) 461-3533**

From: OCDOnline@state.nm.us
To: Llull, Christian
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 303605
Date: Friday, February 02, 2024 9:27:45 AM

To whom it may concern (c/o Christian Llull for COG OPERATING LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAB1817955890,
for the following reasons:

- **Resubmit report as a work plan only. The area requested for deferral will need to subsequently submitted upon remediation of the areas outside of the requested deferred area.**

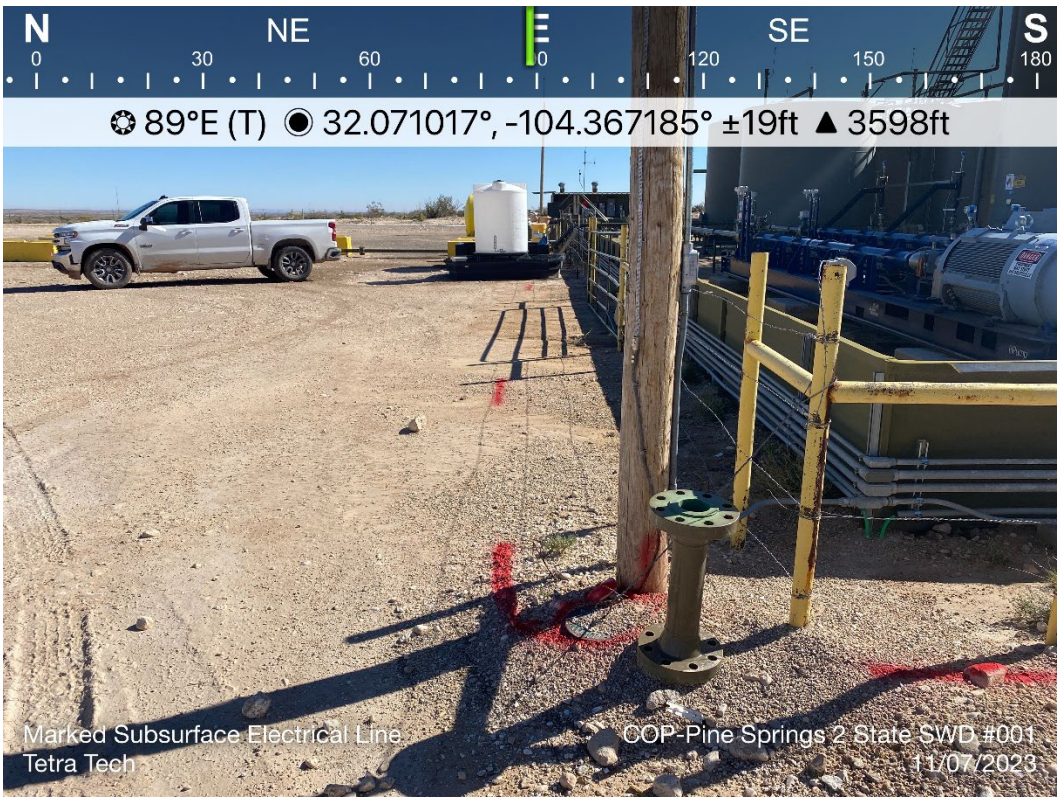
The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 303605.
Please review and make the required correction(s) prior to resubmitting.
If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,
Ashley Maxwell
Projects Environmental Specialist - A
505-635-5000
Ashley.Maxwell@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

APPENDIX D
Photographic Documentation

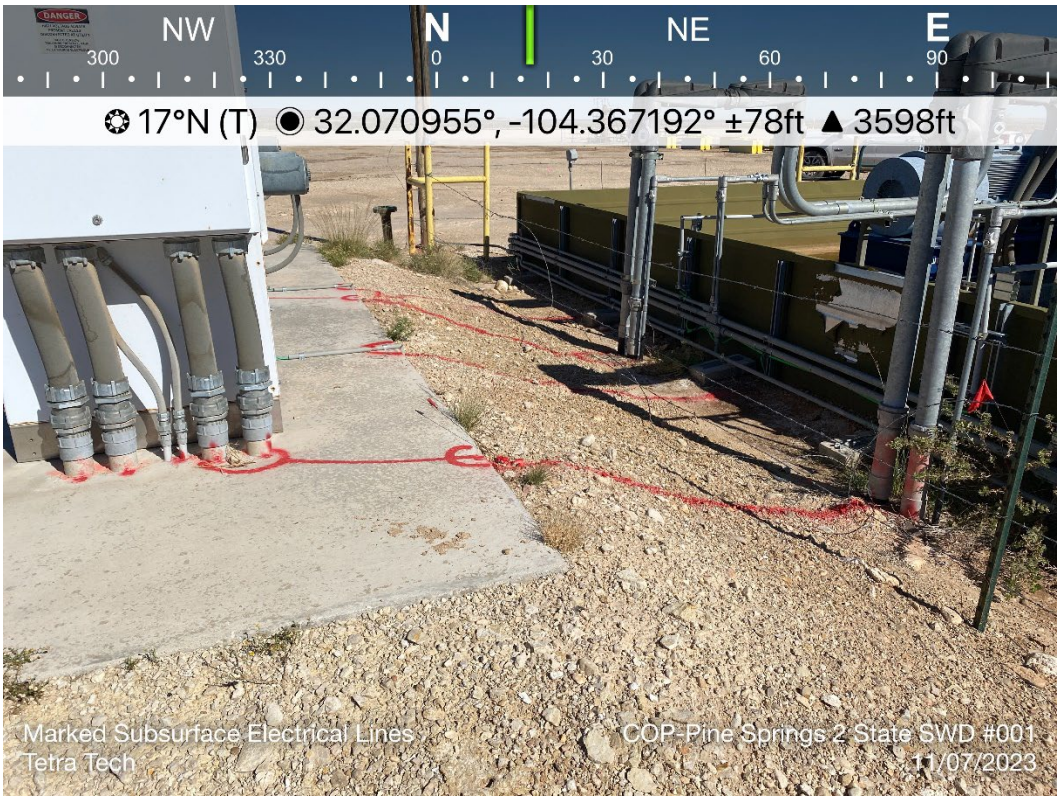
TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	Site signage.	1
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/8/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View east, northwest corner of battery facilities. Visible utility markings and base of electrical pole.	2
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023

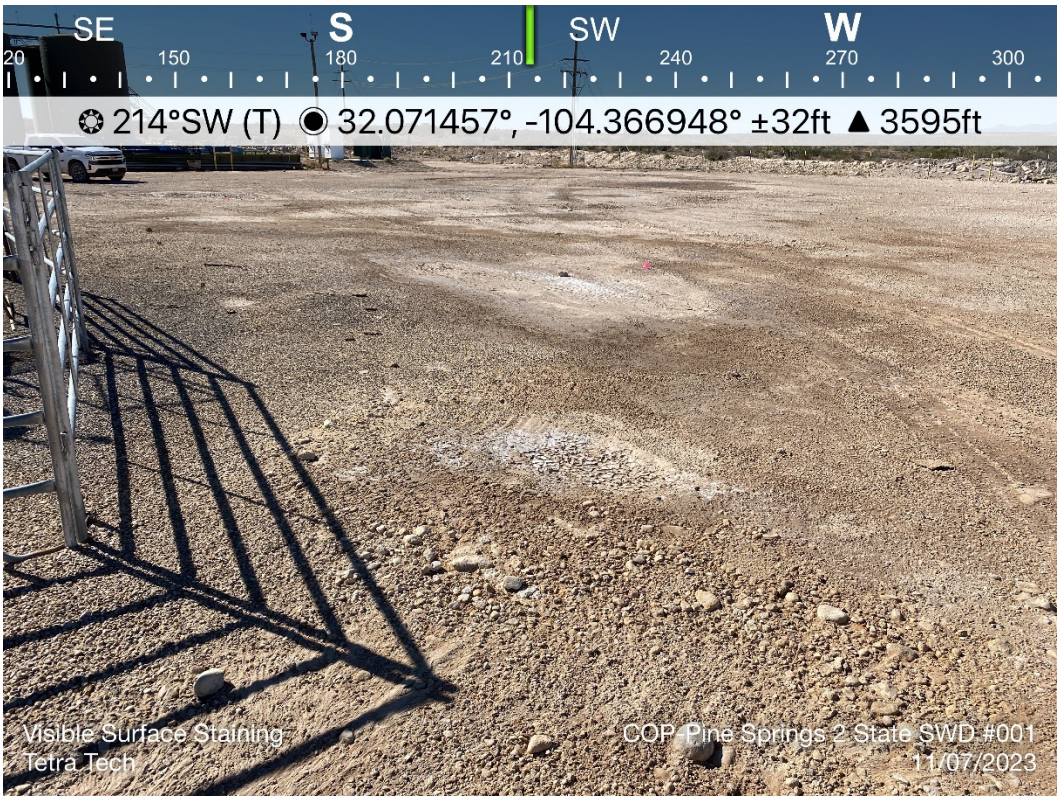
TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View east, facility equipment present along northeastern edge of tank battery.	3
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023

TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View south, southeast corner of pad, no visible surface staining.	4
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023



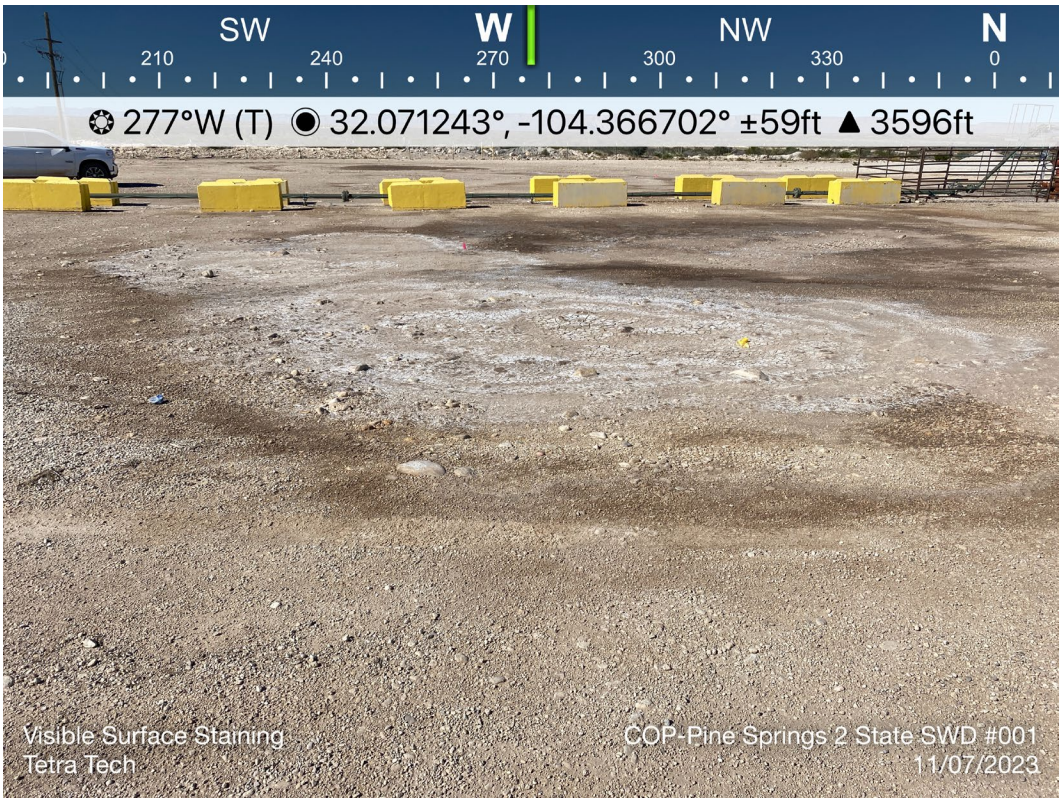
TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View north, underground electrical facilities on northwestern edge of battery facilities.	5
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023

TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View southeast, pad surface with desiccation cracks and visible staining.	6
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View southwest, pad surface with borehole location marked by pin-flag, and visible staining.	7
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023

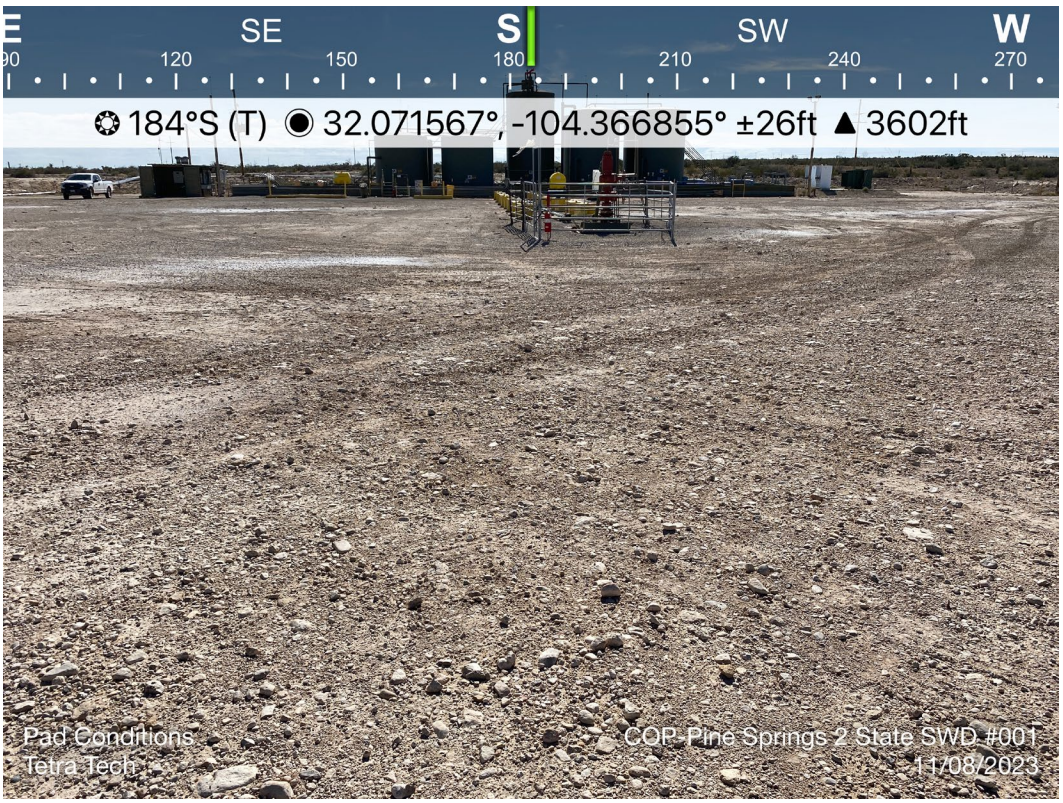
TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View north, east side of wellhead, possible minor staining.	8
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View west, surface steel line in background surrounded by cement blocks. Visible surface staining.	9
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023

TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View northwest, surface steel line surrounded by cement blocks. Visible surface staining.	10
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023

TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View south, raised steel line and surrounding cement blocks. Visible surface staining.	11
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02878	DESCRIPTION	View south, pad area north of wellhead, tank battery in background, and visible staining on pad surface.	12
	SITE NAME	Pine Springs 2 State SWD #001 Release	11/7/2023

APPENDIX E
Laboratory Analytical Data

CARDINAL Laboratories

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

November 14, 2023

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: PINE SPRINGS 2 STATE SWD #001

Enclosed are the results of analyses for samples received by the laboratory on 11/09/23 12:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (0-1') (H236152-01)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2440**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	**11.2**	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *117 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (2'-3') (H236152-02)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1840**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (3'-4') (H236152-03)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *115 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *112 %* *49.1-148*

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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (5'-6') (H236152-04)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *109 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *106 %* *49.1-148*

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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (6'-7') (H236152-05)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *111 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *108 %* *49.1-148*

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (0-1') (H236152-06)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1620**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *98.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.4 %* *49.1-148*

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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (2'-3') (H236152-07)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1060**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *101 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.8 %* *49.1-148*

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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 3 (0-1') (H236152-08)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *108 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *107 %* *49.1-148*

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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 3 (2'-3') (H236152-09)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**528**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *100 %* *49.1-148*

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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 4 (0-1') (H236152-10)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1810**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.1 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 4 (2'-3') (H236152-11)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**912**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *113 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *107 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 4 (3'-4') (H236152-12)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *112 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/08/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 5 (0-1') (H236152-13)

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	11/10/2023	ND	2.02	101	2.00	0.852	
Toluene*	<0.050	0.050	11/10/2023	ND	2.12	106	2.00	7.31	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.27	113	2.00	8.10	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.88	115	6.00	7.96	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *107 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *104 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/08/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 5 (2'-3') (H236152-14)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.8 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 6 (0-1') (H236152-15)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1260**	16.0	11/10/2023	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*	<10.0	10.0	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *107 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *104 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 6 (2'-3') (H236152-16)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	11/10/2023	ND	416	104	400	3.77	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	11/09/2023	ND	186	92.8	200	1.63	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	178	88.9	200	0.998	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 6 (3'-4') (H236152-17)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	11/10/2023	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	11/09/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *107 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *125 %* *49.1-148*

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CARDINAL Laboratories

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 6 (5'-6') (H236152-18)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	11/10/2023	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	11/09/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *102 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *119 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 6 (6'-7') (H236152-19)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	11/10/2023	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	11/09/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *78.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.0 %* *49.1-148*

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 7 (0-1') (H236152-20)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1200**	16.0	11/10/2023	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	11/09/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *124 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *144 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 7 (2'-3') (H236152-21)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1120**	16.0	11/10/2023	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	11/09/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *113 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *134 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 7 (3'-4') (H236152-22)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**352**	16.0	11/10/2023	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	11/09/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *110 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *128 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 8 (0-1') (H236152-23)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	11/10/2023	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	11/09/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/09/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/09/2023	ND					

Surrogate: 1-Chlorooctane *106 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *121 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 9 (0-1') (H236152-24)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	11/10/2023	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	11/10/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/10/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/10/2023	ND					

Surrogate: 1-Chlorooctane *107 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *123 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 10 (0-1') (H236152-25)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	11/10/2023	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	11/10/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/10/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/10/2023	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *119 %* *49.1-148*

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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:	11/09/2023	Sampling Date:	11/08/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 11 (0-1') (H236152-26)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	11/10/2023	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	11/10/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/10/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/10/2023	ND					

Surrogate: 1-Chlorooctane *98.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/08/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 12 (0-1') (H236152-27)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	11/10/2023	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	11/10/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/10/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/10/2023	ND					

Surrogate: 1-Chlorooctane *112 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *131 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/08/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 13 (0-1') (H236152-28)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	11/10/2023	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	11/10/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/10/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/10/2023	ND					

Surrogate: 1-Chlorooctane *107 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *123 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/08/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 14 (0-1') (H236152-29)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	11/10/2023	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	11/10/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/10/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/10/2023	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *121 %* *49.1-148*

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Analytical Results For:

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

Received:	11/09/2023	Sampling Date:	11/08/2023
Reported:	11/14/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 15 (0-1') (H236152-30)

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	11/10/2023	ND	2.20	110	2.00	1.93	
Toluene*	<0.050	0.050	11/10/2023	ND	2.18	109	2.00	1.53	
Ethylbenzene*	<0.050	0.050	11/10/2023	ND	2.16	108	2.00	1.34	
Total Xylenes*	<0.150	0.150	11/10/2023	ND	6.74	112	6.00	1.40	
Total BTEX	<0.300	0.300	11/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	11/10/2023	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	11/10/2023	ND	188	94.2	200	2.53	
DRO >C10-C28*	<10.0	10.0	11/10/2023	ND	199	99.6	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	11/10/2023	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *124 %* *49.1-148*

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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech		**BILL TO**	ANALYSIS REQUEST
Project Manager: Christian Llull		P.O. #:	
Address: 8911 Capitol o Texas Hwy, Suite 2310		Company: Tetra Tech	
City: Austin	State: TX Zip:	Attn: Christian Llull	
Phone #: (512)565-0190	Fax #:	Address: EMAIL	
Project #: 212C-MD-02878	Project Owner: ConocoPhillips	City:	
Project Name: Pine Springs 2 State SWD #001		State: Zip:	
Project Location: Eddy County, New Mexico		Phone #:	
Sampler Name: Colton Bickerstaff		Fax #:	

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 8015M	BTEX 8021B	Chloride SM4500CI-B
H236152																	
1	BH-1 (0-1')	G	1			X					X		11/7/2023		X	X	X
2	BH-1 (2'-3')	G	1			X					X		11/7/2023		X	X	X
3	BH-1 (3'-4')	G	1			X					X		11/7/2023		X	X	X
4	BH-1 (5'-6')	G	1			X					X		11/7/2023		X	X	X
5	BH-1 (6'-7')	G	1			X					X		11/7/2023		X	X	X
6	BH-2 (0-1')	G	1			X					X		11/7/2023		X	X	X
7	BH-2 (2'-3')	G	1			X					X		11/7/2023		X	X	X
8	BH-3 (0-1')	G	1			X					X		11/7/2023		X	X	X
9	BH-3 (2'-3')	G	1			X					X		11/7/2023		X	X	X
10	BH-4 (0-1')	G	1			X					X		11/7/2023		X	X	X

Relinquished By: Colton Bickerstaff	Date: 11/9/23 Time: 1250	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 3.3 Corrected Temp. °C	Sample Condition Cool Intact ☑ Yes ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials)

Turnaround Time: Standard ☒ Bacteria (only) Sample Condition
Rush: NO, N/A ☐ Cool Intact Observed Temp. °C
Thermometer ID ~~#113~~ #140
Correction Factor ~~0.5°C~~ ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

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

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech		**BILL TO**	ANALYSIS REQUEST
Project Manager: Christian Llull		P.O. #:	
Address: 8911 Capital o Texas Hwy, Suite 2310		Company: Tetra Tech	
City: Austin	State: TX Zip:	Attn: Christian Llull	
Phone #: (512)565-0190	Fax #:	Address: EMAIL	
Project #: 212C-MD-02878	Project Owner: ConocoPhillips	City:	
Project Name: Pine Springs 2 State SWD #001		State: Zip:	
Project Location: Eddy County, New Mexico		Phone #:	
Sampler Name: Colton Bickerstaff		Fax #:	

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 8015M	BTEX 8021B	Chloride SM4500CI-B
H236152																	
11	BH-4 (2'-3')	G	1			X					X		11/7/2023		X	X	X
12	BH-4 (3'-4')	G	1			X					X		11/7/2023		X	X	X
13	BH-5 (0-1')	G	1			X					X		11/8/2023		X	X	X
14	BH-5 (2'-3')	G	1			X					X		11/8/2023		X	X	X
15	BH-6 (0-1')	G	1			X					X		11/7/2023		X	X	X
16	BH-6 (2'-3')	G	1			X					X		11/7/2023		X	X	X
17	BH-6 (3'-4')	G	1			X					X		11/7/2023		X	X	X
18	BH-6 (5'-6')	G	1			X					X		11/7/2023		X	X	X
19	BH-6 (6'-7')	G	1			X					X		11/7/2023		X	X	X
20	BH-7 (0-1')	G	1			X					X		11/7/2023		X	X	X

Relinquished By: Colton Bickerstaff	Date: 11/9/23 Time: 1250	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 3.3 Corrected Temp. °C	Sample Condition Cool Intact ☑ Yes ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials) T.O.

Turnaround Time: Standard ☒ Bacteria (only) Sample Condition
Rush: NO, N/A ☐ Cool Intact Observed Temp. °C
Thermometer ID ~~#113~~ #140
Correction Factor ~~-0.5°C~~ ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech		**BILL TO**	ANALYSIS REQUEST
Project Manager: Christian Llull		P.O. #:	
Address: 8911 Capital o Texas Hwy, Suite 2310		Company: Tetra Tech	
City: Austin	State: TX Zip:	Attn: Christian Llull	
Phone #: (512)565-0190	Fax #:	Address: EMAIL	
Project #: 212C-MD-02878	Project Owner: ConocoPhillips	City:	
Project Name: Pine Springs 2 State SWD #001		State: Zip:	
Project Location: Eddy County, New Mexico		Phone #:	
Sampler Name: Colton Bickerstaff		Fax #:	

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 8015M	BTEX 8021B	Chloride SM4500CI-B
H236152																	
21	BH-7 (2'-3')	G	1			X					X		11/7/2023		X	X	X
22	BH-7 (3'-4')	G	1			X					X		11/7/2023		X	X	X
23	BH-8 (0-1')	G	1			X					X		11/7/2023		X	X	X
24	BH-9 (0-1')	G	1			X					X		11/7/2023		X	X	X
25	BH-10 (0-1')	G	1			X					X		11/7/2023		X	X	X
26	BH-11 (0-1')	G	1			X					X		11/8/2023		X	X	X
27	BH-12 (0-1')	G	1			X					X		11/8/2023		X	X	X
28	BH-13 (0-1')	G	1			X					X		11/8/2023		X	X	X
29	BH-14_alt (0-1')	G	1			X					X		11/8/2023		X	X	X
30	BH-15 (0-1')	G	1			X					X		11/8/2023		X	X	X

Relinquished By: Colton Bickerstaff	Date: 11/9/23 Time: 1250	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 33 Corrected Temp. °C	Sample Condition Cool: Yes Intact: Yes / No	CHECKED BY: (Initials) TO

Turnaround Time: Standard ☒ Bacteria (only) Sample Condition
Rush: NO, N/A ☐ Cool Intact Observed Temp. °C
Thermometer ID #113 Correction Factor -0.5°C #140
☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

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CARDINAL Laboratories

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

November 15, 2023

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: PINE SPRINGS 2 STATE SWD #001

Enclosed are the results of analyses for samples received by the laboratory on 11/09/23 12:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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:	11/09/2023	Sampling Date:	11/07/2023
Reported:	11/15/2023	Sampling Type:	Soil
Project Name:	PINE SPRINGS 2 STATE SWD #001	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02878	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH- 2 (3'-4') (H236158-41)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/14/2023	ND	1.85	92.5	2.00	7.65	
Toluene*	<0.050	0.050	11/14/2023	ND	1.96	98.1	2.00	10.3	
Ethylbenzene*	<0.050	0.050	11/14/2023	ND	1.98	98.8	2.00	12.2	
Total Xylenes*	<0.150	0.150	11/14/2023	ND	6.02	100	6.00	13.5	
Total BTEX	<0.300	0.300	11/14/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	11/15/2023	ND	432	108	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	11/14/2023	ND	200	99.8	200	3.63	
DRO >C10-C28*	<10.0	10.0	11/14/2023	ND	203	101	200	2.06	
EXT DRO >C28-C36	<10.0	10.0	11/14/2023	ND					

Surrogate: 1-Chlorooctane *97.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.4 %* *49.1-148*

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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech	BILL TO
Project Manager: Christian Llull	P.O. #:
Address: 8911 Capital o Texas Hwy, Suite 2310	Company: Tetra Tech
City: Austin State: TX Zip:	Attn: Christian Llull
Phone #: (512)565-0190 Fax #:	Address: EMAIL
Project #: 212C-MD-02878 Project Owner: ConocoPhillips	City:
Project Name: Pine Springs 2 State SWD #001	State: Zip:
Project Location: Eddy County, New Mexico	Phone #:
Sampler Name: Colton Bickerstaff	Fax #:

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	ANALYSIS REQUEST: TPH 8015M	BTEX 8021B	Chloride SM4500Cl-B	HOLD
H231458																		
1	BH-1 (9'-10')	G	1			X					X		11/7/2023		X	X	X	X
2	BH-1 (11'-12')	G	1			X					X		11/7/2023		X	X	X	X
3	BH-1 (14'-15')	G	1			X					X		11/7/2023		X	X	X	X
4	BH-2 (5'-6')	G	1			X					X		11/7/2023		X	X	X	X
5	BH-2 (6'-7')	G	1			X					X		11/7/2023		X	X	X	X
6	BH-2 (9'-10')	G	1			X					X		11/7/2023		X	X	X	X
7	BH-3 (3'-4')	G	1			X					X		11/7/2023		X	X	X	X
8	BH-3 (5'-6')	G	1			X					X		11/7/2023		X	X	X	X
9	BH-3 (6'-7')	G	1			X					X		11/7/2023		X	X	X	X
10	BH-3 (9'-10')	G	1			X					X		11/7/2023		X	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: 11/9/23 Time: 1250	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 3.3 Corrected Temp. °C	Sample Condition Cool Intact ☑ Yes ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials) TO.

Turnaround Time: Standard ☒ Bacteria (only) Sample Condition
Rush: NO, N/A ☐ Cool Intact Observed Temp. °C
Thermometer ID ~~#113~~ #140
Correction Factor ~~0.6~~ °C
☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL Laboratories

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

Company Name: Tetra Tech	BILL TO
Project Manager: Christian Llull	P.O. #:
Address: 8911 Capital o Texas Hwy, Suite 2310	Company: Tetra Tech
City: Austin State: TX Zip:	Attn: Christian Llull
Phone #: (512)565-0190 Fax #:	Address: EMAIL
Project #: 212C-MD-02878 Project Owner: ConocoPhillips	City:
Project Name: Pine Springs 2 State SWD #001	State: Zip:
Project Location: Eddy County, New Mexico	Phone #:
Sampler Name: Colton Bickerstaff	Fax #:

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	ANALYSIS REQUEST: TPH 8015M	BTEX 8021B	Chloride SM4500Cl-B									HOLD
H236158																										X
11	BH-4 (5'-6')	G	1			X					X		11/7/2023		X	X	X									X
12	BH-4 (6'-7')	G	1			X					X		11/7/2023		X	X	X									X
13	BH-4 (9'-10')	G	1			X					X		11/7/2023		X	X	X									X
14	BH-5 (3'-4')	G	1			X					X		11/8/2023		X	X	X									X
15	BH-5 (5'-6')	G	1			X					X		11/8/2023		X	X	X									X
16	BH-5 (6'-7')	G	1			X					X		11/8/2023		X	X	X									X
17	BH-5 (9'-10')	G	1			X					X		11/8/2023		X	X	X									X
18	BH-6 (9'-10')	G	1			X					X		11/7/2023		X	X	X									X
19	BH-6 (11'-12')	G	1			X					X		11/7/2023		X	X	X									X
20	BH-7 (5'-6')	G	1			X					X		11/7/2023		X	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 consequential 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: 11/9/23	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1250		All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Observed Temp. °C 3.3
Corrected Temp. °C

Sample Condition: Cool ☑ Yes Intact ☑ Yes / ☐ No ☐ No

CHECKED BY: (Initials) TD

Turnaround Time: Standard ☒ Bacteria (only) Sample Condition
Rush: NO, N/A ☐ Cool Intact Observed Temp. °C
Thermometer ID #113 #140
Correction Factor 0.5°C ☐ Yes ☐ Yes / ☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech	BILL TO
Project Manager: Christian Llull	P.O. #:
Address: 8911 Capital o Texas Hwy, Suite 2310	Company: Tetra Tech
City: Austin State: TX Zip:	Attn: Christian Llull
Phone #: (512)565-0190 Fax #:	Address: EMAIL
Project #: 212C-MD-02878 Project Owner: ConocoPhillips	City:
Project Name: Pine Springs 2 State SWD #001	State: Zip:
Project Location: Eddy County, New Mexico	Phone #:
Sampler Name: Colton Bickerstaff	Fax #:

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 8015M	BTEX 8021B	Chloride SM4500CI-B									HOLD
H236158																										
21	BH-7 (6'-7')	G	1			X					X		11/7/2023		X	X	X									X
22	BH-7 (9'-10')	G	1			X					X		11/7/2023		X	X	X									X
23	BH-16_alt (0-1')	G	1			X					X		11/8/2023		X	X	X									X
24	BH-16_alt (2'-3')	G	1			X					X		11/8/2023		X	X	X									X
25	BH-16_alt (3'-4')	G	1			X					X		11/8/2023		X	X	X									X
26	BH-16_alt (5'-6')	G	1			X					X		11/8/2023		X	X	X									X
27	BH-16_alt (6'-7')	G	1			X					X		11/8/2023		X	X	X									X
28	BH-16_alt (9'-10')	G	1			X					X		11/8/2023		X	X	X									X
29	BH-17_alt (0-1')	G	1			X					X		11/8/2023		X	X	X									X
30	BH-17_alt (2'-3')	G	1			X					X		11/8/2023		X	X	X									X

ANALYSIS REQUEST

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 consequential 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: 11/9/23 Time: 1250	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date: Time:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 3.3 Corrected Temp. °C	Sample Condition: Cool Intact ☑ Yes ☐ Yes ☐ No ☐ No	CHECKED BY: (Initials) TE

Turnaround Time: Standard ☒ Bacteria (only) Sample Condition
Rush: NO, N/A ☐ Cool Intact Observed Temp. °C
Thermometer ID ~~#113~~ #140
Correction Factor ~~-0.5°C~~ ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech	BILL TO
Project Manager: Christian Llull	P.O. #:
Address: 8911 Capital o Texas Hwy, Suite 2310	Company: Tetra Tech
City: Austin State: TX Zip:	Attn: Christian Llull
Phone #: (512)565-0190 Fax #:	Address: EMAIL
Project #: 212C-MD-02878 Project Owner: ConocoPhillips	City:
Project Name: Pine Springs 2 State SWD #001	State: Zip:
Project Location: Eddy County, New Mexico	Phone #:
Sampler Name: Colton Bickerstaff	Fax #:

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 8015M	BTEX 8021B	Chloride SM4500C1-B									HOLD
H236158																										
31	BH-17_alt (3'-4')	G	1			X					X		11/8/2023		X	X	X									X
32	BH-17_alt (5'-6')	G	1			X					X		11/8/2023		X	X	X									X
33	BH-17_alt (6'-7')	G	1			X					X		11/8/2023		X	X	X									X
34	BH-17_alt (9'-10')	G	1			X					X		11/8/2023		X	X	X									X
35	BH-18_alt (0-1')	G	1			X					X		11/8/2023		X	X	X									X
36	BH-18_alt (2'-3')	G	1			X					X		11/8/2023		X	X	X									X
37	BH-18_alt (3'-4')	G	1			X					X		11/8/2023		X	X	X									X
38	BH-18_alt (5'-6')	G	1			X					X		11/8/2023		X	X	X									X
39	BH-18_alt (6'-7')	G	1			X					X		11/8/2023		X	X	X									X
40	BH-18_alt (9'-10')	G	1			X					X		11/8/2023		X	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 consequential 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: 11/9/23	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1250		All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 3.3 Corrected Temp. °C	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TO	Turnaround Time: Standard ☒ Bacteria (only) Sample Condition Rush: NO, N/A ☐ Cool Intact Observed Temp. °C Thermometer ID #140 Correction Factor -0.5 °C ☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech	BILL TO
Project Manager: Christian Llull	P.O. #:
Address: 8911 Capital o Texas Hwy, Suite 2310	Company: Tetra Tech
City: Austin State: TX Zip:	Attn: Christian Llull
Phone #: (512)565-0190 Fax #:	Address: EMAIL
Project #: 212C-MD-02878 Project Owner: ConocoPhillips	City:
Project Name: Pine Springs 2 State SWD #001	State: Zip:
Project Location: Eddy County, New Mexico	Phone #:
Sampler Name: Colton Bickerstaff	Fax #:

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 8015M	BTEX 8021B	Chloride SM4500Cl-B	HOLD
H236158 41	BH-2 (3'-4')	G	1			X					X		11/7/2023		X	X	X	X

Hold requested 11/14/23 TB.

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Relinquished By: Colton Bickerstaff	Date: 11/9/23	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1250		All Results are emailed. Please provide Email address: Christian.Llull@tetratech.com
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Turnaround Time: Standard ☒ Bacteria (only) Sample Condition
Rush: NO, N/A ☐ Cool Intact Observed Temp. °C
Thermometer ID #113 #140
Correction Factor -0.5°C
Yes Yes / No No Corrected Temp. °C

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 3.3
Corrected Temp. °C
Sample Condition Cool ☒ Yes ☐ No Intact ☒ Yes ☐ No
CHECKED BY: (Initials) TB.

FORM-006 R 3.2 10/07/21

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

QUESTIONS

Action 316834

QUESTIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 316834
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1817955890**
Incident Name	**NAB1817955890 PINE SPRINGS 2 STATE SWD #001 @ 30-015-42348**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Received**
Incident Well	**[30-015-42348] PINE SPRINGS 2 STATE SWD #001**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PINE SPRINGS 2 STATE SWD #001
Date Release Discovered	06/25/2018
Surface Owner	State

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Other (Specify) | Produced Water | Released: 25 BBL | Recovered: 20 BBL | Lost: 5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 316834
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Christian LLuLL Title: Project Manager Email: christian.llull@tetratech.com Date: 02/22/2024

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 316834
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Less than or equal 25 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Critical
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	10700
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	201
GRO+DRO (EPA SW-846 Method 8015M)	150
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	05/15/2024
On what date will (or did) the final sampling or liner inspection occur	05/20/2024
On what date will (or was) the remediation complete(d)	05/28/2024
What is the estimated surface area (in square feet) that will be reclaimed	22250
What is the estimated volume (in cubic yards) that will be reclaimed	2472
What is the estimated surface area (in square feet) that will be remediated	25000
What is the estimated volume (in cubic yards) that will be remediated	2472
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 316834
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Christian LLuLL Title: Project Manager Email: christian.llull@tetratech.com Date: 02/22/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 316834
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

District I
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QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 316834
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	***{Unavailable.}***

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Action 316834

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 316834
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation plan approved. Submit a report via the OCD permitting portal by July 1, 2024.	2/26/2024