



September 26, 2024

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

**Re: Release Characterization and Remediation Work Plan  
ConocoPhillips  
Willow A State #001 Tank Battery Release  
Unit Letter J, Section 03, Township 25 South, and Range 28 East  
Eddy County, New Mexico  
Incident ID NAPP2221332553  
Landowner: NMSLO**

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess and evaluate a release that occurred at the Willow State Tank Battery associated with the Willow A State #001 (API # 30-015-33012). The release footprint is located in Public Land Survey System (PLSS) Unit Letter J, Section 03, Township 25 South, and Range 28 East, Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.157654°, -104.074715°, as shown on Figures 1 and 2.

## BACKGROUND

According to the State of New Mexico C-141 Initial Report (Appendix A), the Willow A State #001 Tank Battery release was discovered on July 17, 2022. The release was caused by a failed gasket on the facility's free water knockout unit. The initial C-141 reports that 195 barrels (bbls) of crude oil were released within the gravel lined facility, and 100 bbls were recovered with a vacuum truck. Of note, the Spill Volume Estimate Form included as an attachment to the C-141 noted the release volume as 95 bbls of oil, rather than 195 bbls. The C-141 was submitted to the NMOCD on August 1, 2022 and assigned the Incident ID NAPP2221332553.

## LAND OWNERSHIP

According to the NMOCD Oil and Gas Map, the Site is located on State Trust Lands. A review of the NMSLO Land Status Map was completed and the Site is located within active oil and gas lease ID VA29640002, which is listed under Concho Oil & Gas LLC/COG Operating LLC. Based on guidance provided by the NMSLO, as the release footprint is located on an active oil and gas lease, and the footprint is wholly located within the boundaries of the active oil and gas lease, no Remediation Right of Entry (ROE) is required at the Site. Prior to conducting remediation activities, this Remediation Work Plan will be submitted to the NMSLO for review.

## CULTURAL PROPERTIES PROTECTION

In order to meet the requirements to perform reclamation activities on State Trust Lands, compliance with the cultural properties protection rule and legal authorization to work on State Trust Land needed to be addressed. The New Mexico Administrative Code (NMAC) 19.2.24.8 states "*Any persons engaged in activities on state trust lands are subject to the requirements of the Cultural Properties Act, the Cultural*

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*Properties Protection Act, and 19.2.24.13 NMAC. Persons shall not disturb, dislodge, damage, destroy, or remove any cultural properties on state trust lands. Any project on state trust lands that has the potential to directly or indirectly damage cultural properties is additionally subject to the requirements of Subsections B, C, D, and E of 19.2.24.8 NMAC."*

Tetra Tech, on behalf of ConocoPhillips, contracted SWCA Environmental Consultants (SWCA) to conduct an Archeological Resources Management Section (ARMS) review in the release area to comply with 19.2.24 NMAC. On September 4, 2024, SWCA completed a literature and file search using the State of New Mexico's New Mexico Cultural Resources Information System online database which included a review of known historic resources, including the built environment, archaeological sites, and State/National Register listed properties. Other sources reviewed include the BLM GLO Records website, which include land patent and general land office survey data.

The project area and surrounding 500 meters (0.31 miles) have been subject to 25 cultural resource surveys, 23 of which were conducted within the last 10 years (NMCRI 154124). One previously recorded site is located within the 500 meter search buffer, but outside of the project area. The project area is entirely located on NMSLO-managed lands. The project area is not completely covered by previous qualifying survey; however, it is located on previously disturbed land from oil and gas construction activities.

SWCA consulted with the NMSLO, per Anne Curry at NMSLO, since all ground disturbing activities will remain within the disturbed area, no additional survey is required (8/16/2024). All remediation and reclamation work will remain within the approved existing disturbance. A copy of the ARMS letter is included in Appendix B.

## SITE CHARACTERIZATION

A site characterization was performed in accordance with 19.15.29.11 New Mexico State Administrative Code (NMAC) and the guidance document Process Updates re: Submissions of Form C-141 Release Notification and Corrective Actions (12/01/2023).

A summary of the site characterization is presented below:

<b>Shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (feet bgs)</b>	Between 26 and 50 ft
<b>Method used to determine the depth to ground water</b>	NM OSE iWaters Database Search
<b>Did this release impact groundwater or surface water?</b>	No
<b><u>What is the minimum distance between the closest lateral extents of the release and the following surface areas:</u></b>	
<b>A continuously flowing watercourse or any other significant watercourse</b>	Between 1/2 mi. and 1 mi.
<b>Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)</b>	Between 1 mi. and 5 mi.
<b>An occupied permanent residence, school, hospital, institution, or church</b>	Greater than 5 miles
<b>A spring or private domestic fresh water well used by less than five households for domestic or stock watering purposes</b>	Between 1 mi. and 5 mi.
<b>Any other fresh water well or spring</b>	Between 1 mi. and 5 mi.
<b>Incorporated municipal boundaries or a defined municipal fresh water well field</b>	Greater than 5 miles
<b>A wetland</b>	Between 1 mi. and 5 mi.

<b>A subsurface mine</b>	Greater than 5 miles
<b>A (non-karst) unstable area</b>	Greater than 5 miles
<b>Categorized risk of this well / site being in a karst geology</b>	High
<b>A 100-year floodplain</b>	Between 1/2 mi. and 1 mi.
<b>Did the release impact areas not on an exploration, development, production, or storage site?</b>	No

There are no water wells listed in the New Mexico Office of the State Engineer (NMOSE) database located within approximately 0.5 miles (800 meters) of the Site. There are three water wells with recent groundwater data located within 0.62 miles (1,000 meters) from the Site with an average depth to water of 45 feet below ground surface (bgs). The site characterization data are presented in Appendix C.

## REGULATORY FRAMEWORK

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

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

<b>Constituent</b>	<b>Site RRALs</b>
<b>Chloride</b>	600 mg/kg
<b>Total TPH</b>	100 mg/kg
<b>BTEX</b>	50 mg/kg
<b>Benzene</b>	10 mg/kg

## INITIAL ASSESSMENT ACTIVITIES, SAMPLING RESULTS, AND DEFERRAL REQUEST

Carmona Resources, LLC (Carmona) performed release assessment activities on behalf of ConocoPhillips from July 2022 through January 2023. On July 20, 2022, a total of four (4) interior sample points (S-1 through S-4) and seven (7) horizontal samples (H-1 through H-7) were advanced to depths ranging from the surface to 4.5 feet below ground surface (bgs) to evaluate the vertical and horizontal extent of the release. The release was successfully delineated horizontally, but vertical delineation of the release was not achieved in the first sampling event.

On September 21, 2022, four (4) soil test trenches (T-1 through T-4) were installed within the release footprint at locations coinciding with S-1 through S-4. Vertical delineation was still not achieved at 9 feet bgs, so on January 16, 2023, a total of four (4) boreholes (BH-1 through BH-4) were advanced in the release footprint at the same coincident locations to depths ranging from 20 to 25 feet bgs to complete vertical delineation of the release. Sample locations and the approximate release extent are indicated in Figure 3.

Soil samples collected during the three assessment mobilizations were submitted to Eurofins Laboratories in Midland, Texas and analyzed for TPH via EPA Method 8015B, BTEX via EPA Method 8021B, and chloride via EPA Method 300.0.

The analytical results associated with BH-1 through BH-3 exceeded the Site RRALs for chloride, BTEX and/or TPH to depths of 15 feet bgs. Analytical results associated with BH-4 exceeded the Site RRALs for chloride, BTEX and/or TPH to a depth of 20 feet bgs. Analytical results from the initial assessment are summarized in Table 1.

The soil analytical results from the various assessment activities were compiled into a Deferment Report prepared by Carmona, dated May 4, 2023, and submitted to the NMOCD for approval. The conclusion of this report stated: "Based on safety concerns of destabilizing the production equipment within the facility, COG requests to defer the BTEX, chloride, and total TPH impacts until the tank batteries are decommissioned, or the facility equipment is removed."

The Deferment Report prepared by Carmona was rejected by the NMOCD on October 18, 2023 with the following comments:

- *"The Deferral Request is Denied. Only sample points on pad that require a major facility deconstruction will be deferred. Continue to remove contaminants safely with alternative methods (shovel, hydrovac, etc.). The OCD needs to see that every measure has been taken to remediate the release before a deferral can be granted. The deferral may be granted so long as the contamination is fully delineated and does not cause an imminent risk to human health, the environment, or ground water. The surface contaminants/staining will need to be cleaned up to prevent danger to wildlife. If this has been accomplished, include pictures in the updated report. After all possible contaminated soil has been removed, a formal deferral request will need to be uploaded to the OCD Permitting Portal for review. The work will need to occur 90 days after the report has been reviewed."*

A copy of the deferment report submitted by Carmona and associated NMOCD rejection is included in the NMOCD Permitting online incident files.

## DEFERRAL RESUBMITTAL

The original Deferment Report appears to have been resubmitted to the NMOCD on February 22, 2024. It appears to have been resubmitted with minimal changes to the figures set, and no revisions to the remedy, as requested. It was again rejected by the NMOCD on July 5, 2024, with the following comments:

- *"Deferral denied. The previous denial on 10/18/23 advised that COG remove contaminants safely with alternative methods (shovel, hydrovac, etc.) as well as provide photographic evidence that the surface staining has been cleaned up. Neither has occurred."*
- *As COG OPERATING LLC (229137) is responsible for the remediation, reclamation, and revegetation of this release, it is the responsible party's duty to include letters from the pipeline operators who are requesting a buffer zone around their pipelines to take responsibility for any contamination left in place due to their buffer zone request. If the pipeline operators are unwilling to take responsibility for the contamination located within their requested buffer zones, the responsible party will be required to remediate, reclaim, and revegetate the release pursuant to 19.15.29 NMAC. Furthermore, pursuant to 19.15.29.7C NMAC, OCD may consider a person causing the release or controlling the location of the release as the responsible party. If any pipeline operator refuses to allow the remediation, reclamation, and revegetation of this release, please include the refusal in writing. OCD reserves the right to hold the pipeline operator as the responsible party."*
- *Until COG removes contaminants to the MEP a deferral will not be granted. Resubmit report to the OCD by 8/5/24."*

Tetra Tech requested an extension to complete reporting in an email dated August 5, 2024. The NMOCD approved an extension to October 3, 2024 in an email response dated August 6, 2024. Copies of the regulatory correspondence is included in Appendix D.

## TETRA TECH SITE EVALUATION

On behalf of ConocoPhillips, Tetra Tech conducted a visual Site inspection on August 1, 2024 to assess current Site conditions, document any observable impact, and photograph the area and surrounding



equipment. Tetra Tech personnel observed an area of minor staining largely coinciding with the approximate release footprint. The staining was observed to remain within the existing facility berm.

The release appeared to have flowed east from the free water knockout vessel across an unoccupied portion of the pad, predominantly remaining north of several steel production lines, and terminating north of the westernmost tank in the tank battery. Surrounding the release footprint are several vertical separators (including the free water knockout vessel), multiple sets of surface steel lines, a transfer pump and associated electrical conduit, and a tank battery with connecting surface polylines, all within the interior of the facility berm.

Outside the facility berm, several sets of surface polylines are spread across the ground surface north and west of the facility berm, hampering access for machine equipment to the release footprint. A Solaris Water Midstream, LLC tinhorn is located amongst the surface polylines, with a single polyline emerging from the tinhorn running westward. However, pending the removal of the northern berm, Tetra Tech observed that several areas of the release extent could be accessible to heavy equipment without destabilizing the production vessels and or piping. The facility equipment is indicated in Figure 3. Photographic documentation from the Site evaluation is included in Appendix E.

## REMEDIATION WORK PLAN

Based on the NMOCD rejections, the collected analytical results, and review of current Site conditions, ConocoPhillips proposes to remove the impacted material as indicated on Figure 4.

The assessment indicates deep subsurface impacts in the areas of BH-1 through BH-4 which exceeded the Site RRALs for chloride and/or TPH at depths ranging from 15-20 feet bgs. ConocoPhillips proposes to remove the impacted material in these areas to the maximum extent practicable. For safety concerns, the current plan is to excavate to a maximum depth of 5-8 feet below ground surface (or until a representative sample from the walls and bottom of the excavation is below the Site RRALs) in areas accessible to heavy equipment, as indicated in Figure 4. If deeper excavation cannot be performed due to infrastructure or safety concerns, any remaining deeper impact will be deferred until facility abandonment.

Heavy equipment (backhoe and mini-excavator) will be utilized to excavate areas outside the immediate vicinity of pressurized lines and will come no more than 2 feet from any pressurized lines or active vessels. Any area within 2 feet of pressurized lines or vessels will be addressed with non-mechanical methods (hydro-excavation or hand dig) to a maximum depth of 2 feet bgs. Impacted soils around production equipment, vessels, structures, or lines may not be fully removed during remediation activities due to concerns for onsite personnel and/or the possibility of an additional unwanted release to the environment.

Based on OSHA regulations, benching protection systems will be utilized in the central excavation as it is greater than 5 feet in depth. The sides of the excavation will be benched to form a series of horizontal levels, with near-vertical surfaces between levels. In the event the excavation cannot be safely benched, impacted soils will be excavated to the maximum depth possible to prevent a cave-in or the destabilization of onsite equipment.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation floor and sidewall samples will be collected every 200 square feet for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 1,370 square feet. Prior to confirmation sampling the NMOCD district office and the NMSLO will be notified via email in accordance with Subsection D of 19.15.29.12 NMAC.

The estimated volume of material to be remediated is approximately 215 cubic yards. Once results are received, the excavation will then be backfilled with clean material to surface grade. One (1) representative 5-point composite sample will be collected from the backfill material to verify that it is comprised of non-waste containing, uncontaminated, earthen material in accordance with 19.15.29.13 NMAC.

Release Characterization and Remediation Work Plan  
September 26, 2024

ConocoPhillips

## CONCLUSION

ConocoPhillips proposes to begin remediation activities at the Site within 90 days of plan approval by both the NMOCD and the NMSLO. Upon completion of the proposed work, a final report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD. In the event the proposed remediation does not remove the entirety of the observed impacts at the Site, a deferral request will be submitted to the NMOCD. If the confirmation sampling results indicate that the impacts have been removed to meet the standards of Table I of 19.15.29.12 NMAC, a closure report will be drafted and submitted to the NMOCD.

If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 739-7874 or email at [sam.abbott@tetrattech.com](mailto:sam.abbott@tetrattech.com).

Sincerely,

**Tetra Tech, Inc.**



Samantha Abbott, P.G.  
Project Manager



Christian M. Llull, P.G.  
Program Manager

cc:

Mr. Ike Tavarez, RMR – ConocoPhillips  
NMSLO ECO

## LIST OF ATTACHMENTS

### Figures:

- Figure 1 – Overview Map
- Figure 2 – Site Location/Topographic Map
- Figure 3 – Approximate Release Extent and Site Assessment
- Figure 4 – Proposed Remediation Extent

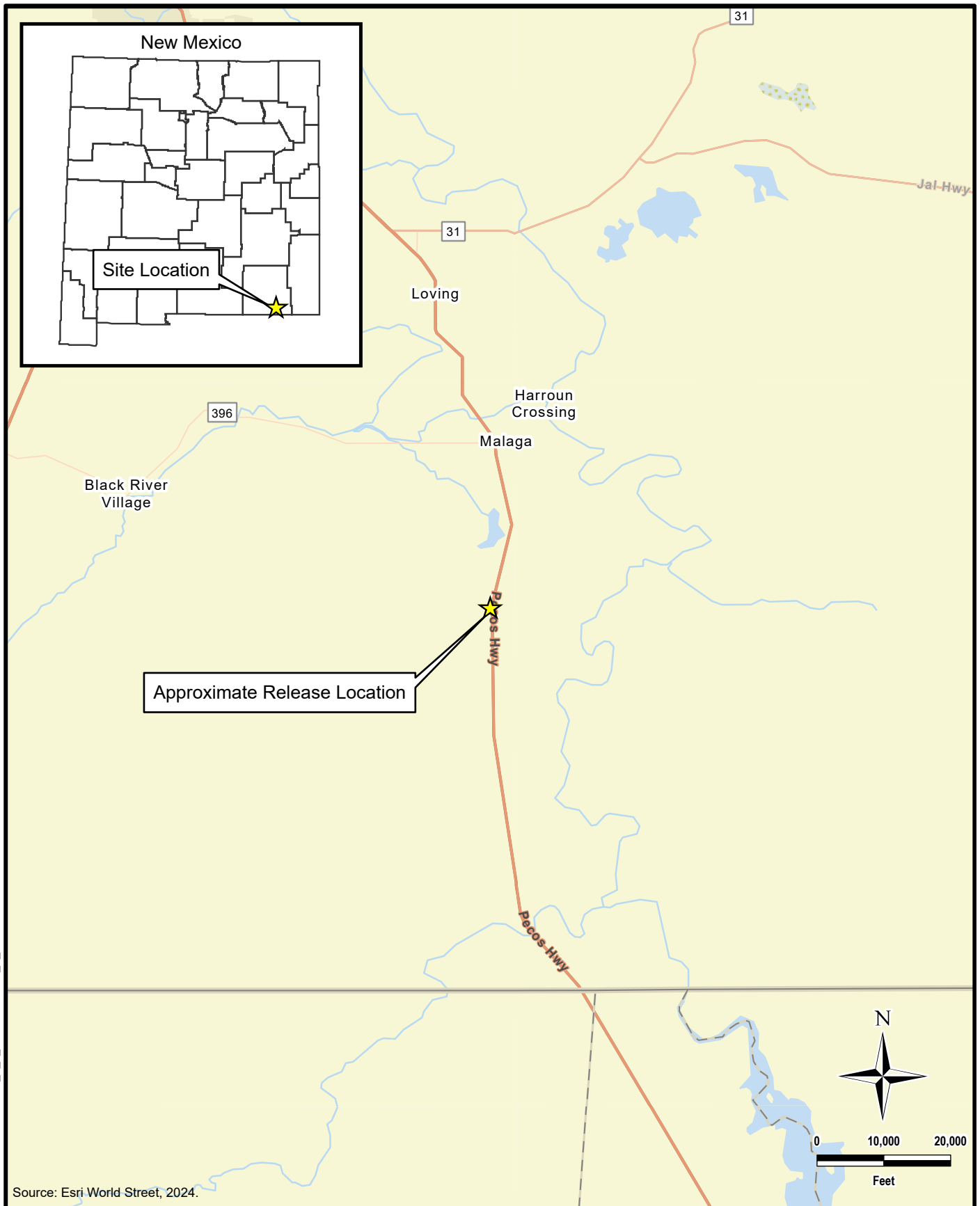
### Tables:

- Table 1 – Summary of Analytical Results – Soil Assessment (Carmona Resources)

### Appendices:

- Appendix A – C-141 Forms
- Appendix B – ARMS Review Letter
- Appendix C – Site Characterization Data
- Appendix D – Regulatory Correspondence
- Appendix E – Photographic Documentation

## **FIGURES**



Source: Esri World Street, 2024.



**TETRA TECH**

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**CONOCOPHILLIPS**

NAPP2221332553  
(32.157656°, -104.074720°)  
LEA COUNTY, NEW MEXICO

**WILLOW A STATE #001 TANK BATTERY RELEASE  
OVERVIEW MAP**

PROJECT NO.: 212C-MD-03573

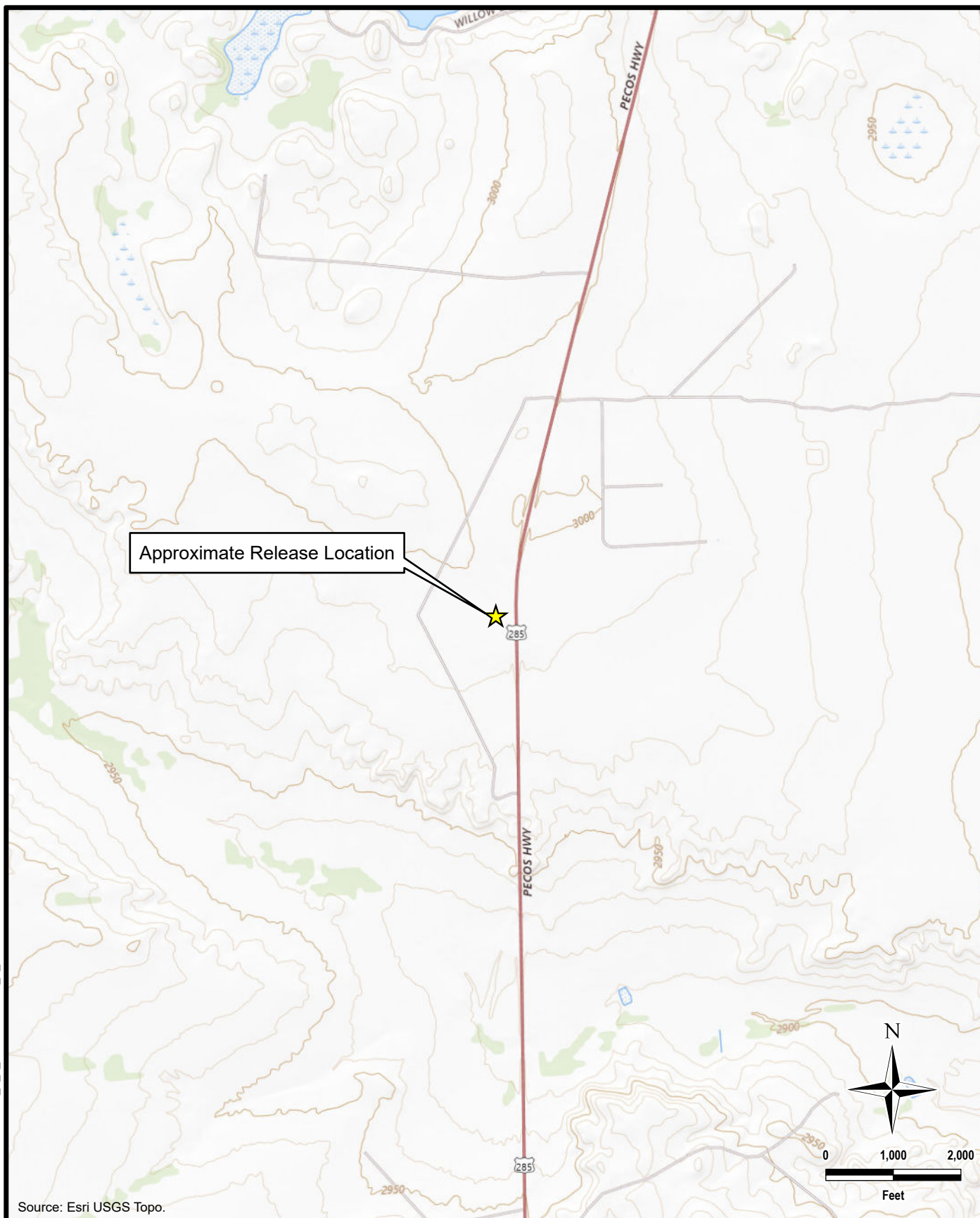
DATE: AUGUST 22, 2024

DESIGNED BY: LMV

Figure No.

**1**

DOCUMENT PATH: Y:\CONOCOPHILLIPS\WILLOW\_A\_1\_TANK\WILLOW\_A\_1.APRX



Source: Esri USGS Topo.



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**CONOCOPHILLIPS**

NAPP2221332553  
(32.157656°, -104.074720°)  
LEA COUNTY, NEW MEXICO

**WILLOW A STATE #001 TANK BATTERY RELEASE  
TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-0XXX

DATE: AUGUST 22, 2024

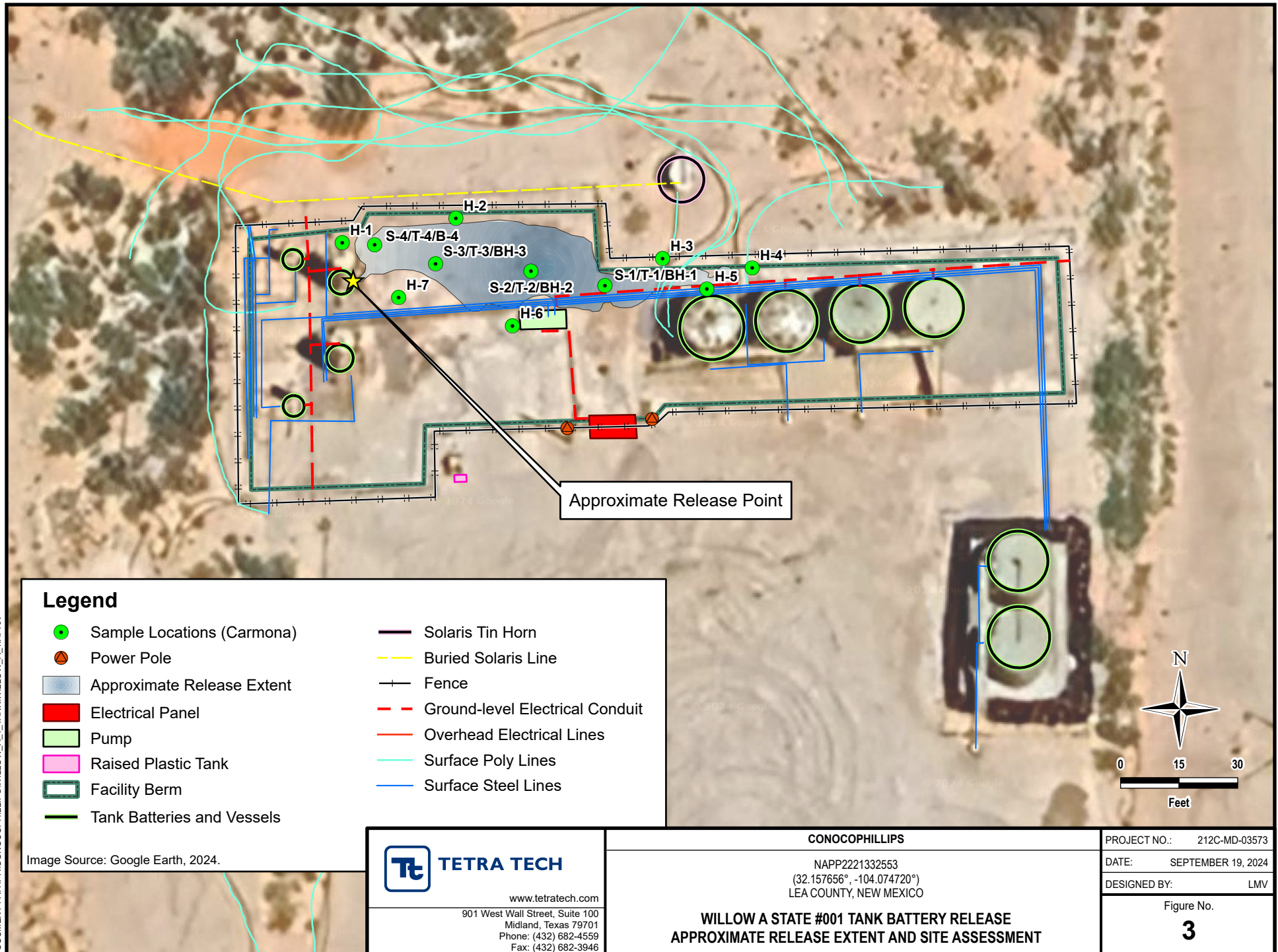
DESIGNED BY: LMV

Figure No.

**2**

DOCUMENT PATH: Y:\CONOCOPHILLIPS\WILLOW\_A\_1\_TANK\WILLOW\_A\_1.APRX









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## **TABLES**

TABLE 1  
SUMMARY OF ANALYTICAL RESULTS  
SOIL ASSESSMENT (CARMONA RESOURCES) - NAPP2221332553  
CONOCOPHILLIPS  
WILLOW A STATE #001 TANK BATTERY RELEASE  
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride <sup>1</sup>	BTEX <sup>2</sup>					TPH <sup>3</sup>			
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	MRO	Total TPH
									C <sub>6</sub> - C <sub>10</sub>	> C <sub>10</sub> - C <sub>28</sub>	> C <sub>28</sub> - C <sub>36</sub>	(GRO+DRO+EXT DRO)
		ft. bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S-1	7/20/2022	0-1	3410	13.6	87.4	59.3	171	331	12100	6030	<499	18100
		1.5	1470	17.4	76.8	51.1	152	298	11700	6860	<500	18600
		2.5	1090	<2.00	15.8	11.8	27.9	55.5	1020	493	<250	1510
		3.5	983	<0.0398	0.0919	0.155	0.402	0.649	60.3	64.6	<49.9	125
		4.5	1010	<0.0399	<0.0399	<0.0399	<0.0798	<0.0798	<49.9	<49.9	<49.9	<49.9
T-1	9/21/2022	0-1	1880	<0.101	<0.101	2.06	6.08	8.14	1660	22000	<500	23700
		1.5	2650	<0.0990	<0.0990	2.5	1.88	4.38	1760	21200	<498	23000
		2	2000	<0.0399	<0.0399	0.464	0.73	1.19	165	714	<49.9	879
		3	2170	<0.0403	<0.0403	0.529	1.16	1.69	140	526	<49.8	666
		4	2660	<0.0396	<0.0396	<0.0396	<0.0792	<0.0792	<50.0	76.8	<50.0	76.8
		5	2750	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	154	<50.0	154
		6	124	<0.00201	<0.00201	0.00355	0.0124	0.016	<49.8	248	<49.8	248
		7	1590	<0.00202	0.00315	0.0384	0.0362	0.0777	103	301	<49.9	404
		8	208	<0.0497	1.21	5.33	10.6	17.2	924	1420	<50.0	2340
		9	155	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<50.0	<50.0	<50.0	<50.0
BH-1	1/16/2023	0-1	15000	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<49.9	1440	207	1650
		2-3	4310	<0.00202	<0.00202	<0.00202	0.0734	0.0734	<49.8	142	<49.8	142
		4-5	834	<0.00199	<0.00199	<0.00199	0.0107	0.0107	<49.9	173	<49.9	173
		6-7	765	<0.00199	<0.00199	<0.00199	0.012	0.012	<49.8	154	<49.8	154
		9-10	1540	<0.00200	<0.00200	<0.00200	0.0222	0.0222	<49.9	<49.9	<49.9	<49.9
		11-12	1510	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<50.0	<50.0	<50.0	<50.0
		14-15	1250	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<50.0	<50.0	<50.0	<50.0
		20	72.2	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0
S-2	7/20/2022	0-1	20900	4.67	53.1	30.6	87	175	7000	7930	<499	14900
		1.5	15600	0.537	6.4	6.01	12.6	25.6	733	1260	<249	1990
		2.5	15600	1.16	8.97	5.92	16.5	32.6	348	236	<50.0	584
		3.5	1160	0.256	1.45	2.06	4.17	7.93	148	154	<50.0	302
		4.5	2020	<0.0401	0.109	<0.0401	0.081	0.19	<49.9	<49.9	<49.9	<49.9
T-2	9/21/2022	0-1	5100	<0.0994	<0.0994	2.79	3.87	6.66	1660	28700	<499	30400
		1.5	4380	<0.101	0.122	2.88	6.23	9.23	1940	32500	<499	34400
		2	1380	<0.00198	0.0385	0.138	0.155	0.332	428	4610	<250	5040
		3	1310	<0.00200	0.0179	0.048	0.0711	0.137	188	2000	<49.9	2190
		4	1470	<0.00199	0.128	0.144	0.304	0.576	221	1490	<50.0	1710
		5	778	<0.00200	0.0213	0.0552	0.0911	0.168	143	1040	<50.0	1180
		6	394	<0.00201	0.00443	0.0378	0.154	0.197	74.2	257	<50.0	331
		7	435	<0.00200	<0.00200	0.0115	0.0373	0.0488	98.1	369	<49.9	467
		8	308	<0.00200	0.00288	0.026	0.143	0.171	90	317	<50.0	407
BH-2	1/16/2023	9	277	<0.00199	0.0164	0.0521	0.212	0.28	96.3	258	<50.0	354
		0-1	15300	0.216	<0.0398	<0.0398	<0.0795	0.216	<49.9	879	126	1010
		2-3	1810	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	<49.9	272	<49.9	272
		4-5	1460	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<49.8	267	<49.8	267
		6-7	825	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<50.0	120	<50.0	120
		9-10	1730	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9	<49.9	<49.9
		11-12	997	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<49.9	<49.9	<49.9	<49.9
		14-15	1460	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9
		20	62	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0

TABLE 1  
SUMMARY OF ANALYTICAL RESULTS  
SOIL ASSESSMENT (CARMONA RESOURCES) - NAPP2221332553  
CONOCOPHILLIPS  
WILLOW A STATE #001 TANK BATTERY RELEASE  
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride <sup>1</sup>	BTEX <sup>2</sup>					TPH <sup>3</sup>			
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	MRO	Total TPH
									C <sub>6</sub> - C <sub>10</sub>	> C <sub>10</sub> - C <sub>28</sub>	> C <sub>28</sub> - C <sub>36</sub>	(GRO+DRO+EXT DRO)
		ft. bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S-3	7/20/2022	0-1	3280	13.6	157	54.6	164	389	12200	8280	<498	20500
		1.5	1390	17.4	102	55.8	168	343	8890	5390	<500	14300
		2.5	26.5	<0.0401	0.0613	0.705	1.5	2.28	67.8	68.6	<49.8	136
		3.5	3320	<0.0399	<0.0399	<0.0399	<0.0798	<0.0798	<49.9	97.2	<49.9	97.2
		4.5	862	<0.0401	<0.0401	<0.0401	<0.0802	<0.0802	<49.9	<49.9	<49.9	<49.9
T-3	9/21/2022	0-1	5140	<0.101	0.234	1.47	6.66	8.36	984	29400	5050	35400
		1.5	5000	<0.101	0.184	0.933	4.46	5.58	1090	33800	6390	41300
		2	3010	0.13	<0.0399	0.586	1.54	2.26	272	1090	163	1530
		3	2780	0.0297	0.1	0.607	1.63	2.37	217	746	120	1080
		4	3450	0.0395	0.0802	<0.0201	<0.0402	0.12	<50.0	141	<50.0	141
		5	3150	0.154	<0.0404	0.0506	0.175	0.379	55.5	723	114	893
		6	2360	0.135	0.0745	0.72	1.98	2.91	177	1260	202	1640
		7	2660	0.129	0.131	0.855	2.33	3.44	108	825	115	1050
		8	2510	0.147	0.135	0.948	2.59	3.82	205	1080	157	1440
		9	2600	0.121	0.122	0.956	2.54	3.74	178	1260	192	1630
BH-3	1/16/2023	0-1	9940	0.153	0.24	1.92	4.59	6.9	329	1840	288	2460
		2-3	4420	<0.0399	<0.0399	0.182	0.512	0.694	72.2	930	137	1140
		4-5	4570	<0.0401	<0.0401	0.14	0.384	0.524	143	1590	231	1960
		6-7	3410	0.165	0.0461	0.35	1.04	1.6	79.6	814	102	996
		9-10	1400	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<50.0	222	<50.0	222
		11-12	1450	<0.00201	0.00337	0.00691	0.0238	0.034	<49.9	183	<49.9	183
		14-15	1070	<0.00200	<0.00200	<0.00200	<0.00401	<0.00401	<49.9	280	<49.9	280
		20	490	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.8	86.4	<49.8	86.4
		25	65.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0
S-4	7/20/2022	0-1	293	7.47	76.5	49	142	275	11300	21700	3220	36200
		1.5	135	8.01	81.5	55.4	167	312	5710	11500	1820	19000
		2.5	43.9	9.56	69.9	40.3	116	236	6550	7770	1170	15500
		3.5	39.8	7.05	58.4	33.4	97.9	197	5020	5750	856	11600
		4.5	79.3	6.4	55.4	31.200	95.2	188	3970	2940	<498	6910
T-4	9/21/2022	0-1	4220	<0.0998	0.143	0.951	3.8	4.89	941	32900	6060	39900
		1.5	2760	<0.0996	0.107	1.22	2.92	4.24	914	33700	6150	40800
		2	3320	<0.100	0.11	1.15	2.79	4.05	892	38200	6610	45700
		3	392	0.158	2.21	3.54	7.2	13.1	541	2510	369	3420
		4	261	0.0504	0.507	4.45	8.22	13.2	658	2220	350	3230
		5	251	<0.0398	0.394	3.38	6.43	10.2	691	2170	341	3200
		6	2990	0.116	0.103	0.662	1.77	2.65	174	1240	183	1600
		7	164	<0.00202	<0.00202	0.00473	0.0257	0.0304	<49.9	420	60	480
		8	240	0.00766	0.16	0.237	0.428	0.832	813	1960	304	3080
		9	319	<0.00199	<0.00199	0.00349	0.0184	0.0219	<50.0	312	<50.0	312
BH-4	1/16/2023	0-1	954	<0.00200	<0.00200	0.0148	0.00419	0.019	<249	4360	<249	4360
		2-3	1040	<0.00201	<0.00201	0.0208	0.00482	0.0256	239	1890	<49.9	2130
		4-5	656	<0.00200	<0.00200	0.00364	<0.00401	<0.00401	<49.9	137	<49.9	137
		6-7	999	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0
		9-10	1070	<0.00198	<0.00198	<0.00198	<0.00396	<0.00396	<49.9	<49.9	<49.9	<49.9
		11-12	885	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0
		14-15	1610	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<50.0	<50.0	<50.0	<50.0
		20	2000	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<50.0	<50.0	<50.0	<50.0
		25	<4.98	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9



TABLE 1  
SUMMARY OF ANALYTICAL RESULTS  
SOIL ASSESSMENT (CARMONA RESOURCES) - NAPP2221332553  
CONOCOPHILLIPS  
WILLOW A STATE #001 TANK BATTERY RELEASE  
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride <sup>1</sup>	BTEX <sup>2</sup>					TPH <sup>3</sup>			
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	MRO	Total TPH
				C <sub>6</sub> - C <sub>10</sub>	> C <sub>10</sub> - C <sub>28</sub>	> C <sub>28</sub> - C <sub>36</sub>	(GRO+DRO+EXT DRO)					
		ft. bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
H-1	7/20/2022	0-0.5	35	<0.00201	<0.00201	<0.00201	<0.00402	<0.00402	<50.0	<50.0	<50.0	<50.0
H-2	7/20/2022	0-0.5	28.6	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9	<49.9	<49.9
H-3	7/20/2022	0-0.5	<4.97	<0.00198	<0.00198	<0.00198	<0.00397	<0.00397	<50.0	<50.0	<50.0	<50.0
H-4	7/20/2022	0-0.5	<4.99	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<50.0	<50.0	<50.0	<50.0
H-5	7/20/2022	0-0.5	14.7	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9
H-6	7/20/2022	0-0.5	<4.96	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	<49.9	<49.9	<49.9	<49.9
H-7	7/20/2022	0-0.5	<5.02	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	<49.9	<49.9	<49.9	<49.9

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 Site RRALs.***

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

- U Indicates the analyte was analyzed but not detected
- F1 MS and/or MSD recovery exceeds control limits
- \*+



## **APPENDIX A C-141 Forms**

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

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

Nature and Volume of Release

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

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

Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

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

### Initial Response

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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name _____	Title: _____
Signature: <u>Battani Espinoza</u>	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>08/01/2022</u>

NAPP2221332553

L48 Spill Volume Estimate Form									
Facility Name & Number: Willow A State Battery									
Asset Area: DBWN									
Release Discovery Date & Time: 7.18.22									
Release Type: Oil									
Provide any known details about the event: Gasket on free water Knockout and causing the spill									
Spill Calculation - Subsurface Spill - Rectangle									
Was the release on pad or off-pad?					See reference table below				
Has it rained at least a half inch in the last 24 hours?					See reference table below				
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	50.0	15.0	30.00	10.50%	333.750	35.044			
Rectangle B	50.0	16.0	48.00	10.50%	569.600	59.808			
Rectangle C					0.000	0.000			
Rectangle D					0.000	0.000			
Rectangle E					0.000	0.000			
Rectangle F					0.000	0.000			
Rectangle G					0.000	0.000			
Rectangle H					0.000	0.000			
Rectangle I					0.000	0.000			
Rectangle J					0.000	0.000			
Total Volume Release:						94.852			

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

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

CONDITIONS  
  
Action 130068

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 130068
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	8/1/2022

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

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

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

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

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

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



State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature:  \_\_\_\_\_ Date: \_\_\_\_\_

email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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**

### **ARMS Review Letter**



7770 Jefferson Street NE, Suite 410  
Albuquerque, New Mexico 87109  
Tel 505.254.1115 Fax 505.254.1116  
www.swca.com

**Date** September 9, 2024

**TO:** Ethan O. Ortega  
Assistant Commissioner of Cultural Resources and Lead Agency Archaeologist  
Cultural Resources Office  
New Mexico State Land Office

**FROM:** SWCA Environmental Consultants

**SUBJECT:** Completion of an Archaeological Records Management Section (ARMS) Review for the Willow A State #001 Inadvertent Release Project in Eddy County, NM

**Company Ref No:** None-Provided

**PROJECT DESCRIPTION:**

Tetra Tech, Inc has subcontracted SWCA Environmental Consultants (SWCA) to conduct an Archaeological Records Management Section (ARMS) review for the Willow A State #001 Inadvertent Release Project in Eddy County, New Mexico. The proposed project is on lands managed by the New Mexico State Land Office (NMSLO) approximately 7.42 kilometers (4.61 miles) south of Malaga, NM in T25S, R28E, Section 3.

A literature and file search were conducted on September 4, 2024, using the New Mexico Cultural Resources Information System (NMCRIS) online database which included a review of known cultural resources, such as the built environment, archaeological sites, and State/National Register listed properties. Other sources reviewed include the BLM GLO Records web site, <http://www.glorerecords.blm.gov>, which include land patent and general land office survey data. As this area was not settled by Spain, land grant records were not reviewed. The review was conducted for the Area of Potential Effects (APE) and 500 meters (m) (0.31 mile) surrounding the APE. The land the proposed project is located on is part of the June 21, 1898: New Mexico Territorial Grant (30 Stat. 484) patented on November 22, 1912, and October 29, 1913.

Information regarding the findings can be found in Table 1 and 2 and Figure 1.

**Recommendation:**

The APE and surrounding 500 m (0.31 mile) have been subject to 25 cultural resource surveys, 23 of which were conducted within the last 10 years (NMCRIS 154124). One previously recorded site (LA 197049) is within the 500 m (0.31 mile) search buffer, but outside of the APE. The project area is entirely located on NMSLO-managed lands. The project area is not completely covered by previous survey; however, it is located on previously disturbed land from oil and gas construction activities. Per Anne Curry at NMSLO, because all ground disturbing activities will remain within the disturbed area, no additional survey is required (8/16/2024). SWCA recommends the completion of an ARMS letter to satisfy the requirements of the reclamation area. All reclamation work will remain within the approved existing disturbance. If cultural materials are identified during ground disturbing activities, work must stop and the NMSLO must be contacted.



ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.®

7770 Jefferson Street NE, Suite 410  
Albuquerque, New Mexico 87109  
Tel 505.254.1115 Fax 505.254.1116  
www.swca.com

A handwritten signature in black ink, appearing to read "R. J. Ry".

Principal Investigator: \_\_\_\_\_

Enclosure:

(1) Review Results Tables (2) ARMS Map



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 Albuquerque, New Mexico 87109  
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### Archaeological Resources Management Section (ARMS) Review Results

92634 Ref No:

**Table 1. Cultural surveys within 500 meters of proposed project.**

Activity No	Performing Organization	Lead Agency	Total Acres	Activity Start Date	Performing Organization Ref No	Report Title	Author
98884	Boone Archaeological Services, LLC	US Bureau of Land Management Carlsbad Field Office	18.75	3/21/2006	BAS-03-06-42	A Class III Archaeological Survey to Connect a Salt Draw 11 Federal #1 to MA Com #1	Jeffery Pangburn
123140	Boone Arch Svcs of NM	NM Department of Transportation	49.20	2/22/2012	BASNM 02-12-17	A Class III Archaeological Survey for the Reconstructor of the Xcel Energy Powerline Located on the Eastern Side of US 285, South of Malaga, between Mileposts 10 and 15	Christine Mavrick
130848	Four Corners Research	NM Department of Transportation	167.80	6/12/2014	13-541	Cultural Resources Survey and Documentation for Pavement Rehabilitation and Shoulder Widening on US 285 from the Texas State Line (Milepost 0.0) to Milepost 11.0, Eddy County, New Mexico	David H. Greenwald, Jeremy T. Davis, and Michael Blet
132608	SWCA Environmental Consultants	NMSLO	28.55	1/19/2015	N/A	A Cultural Resources Investigation for the Proposed Cimarex Expansion Project in Eddy County, New Mexico	Brianne Sisneros and Ryan Brucker
134732	Statistical Research, Inc.	NMSLO	250.56	11/12/2015	15-118	A Cultural Resource Inventory for the ACC Phase II Segment A-11	Monica Murrell, Tim Mills, and Amanda Hernandez





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						Pipeline Project in Eddy County, New Mexico	
135129	Advanced Archaeological Solutions	NMSLO	27.90	2/1/2016	AAS 16-383	Cultural Resource Survey for Devon Energy Production Company, L.P. of Approximately 11,825 linear feet (2.25 Miles) of Proposed Buried Pipeline for the Ice Man 4 State 1H Battery Connect Located within Section 2, 3, 4 and 11; Township 25 South, Range 28 East in Eddy County, New Mexico	Michael Stowe
138247	SWCA Environmental Consultants	NMSLO	16.84	6/1/2017	17-302	Cultural Resource Survey for the Crestwood Hoss Connector Line	Brandon Gonja
139009	SWCA Environmental Consultants	US Bureau of Land Management Carlsbad Field Office	588.50	7/12/2017	17-571	A Class III Archaeological Survey for the Proposed Willow Lake Pipeline Project in Eddy County, New Mexico, and Culberson County, Texas	Brianne Sisneros
141142	Marron & Associates	US Department of Transportation Federal Highway Administration	260.20	7/17/2018	16066.14C	A Cultural Resource Survey for Proposed NMDOT Improvements along US 285 between Milepost 0 and Milepost 22, Eddy County, New Mexico (CN 21002161)	Toni R. Groar, Tadhg Kirwan, and R. Stanley Kerr
141276	TRC, Inc.	US Bureau of Land Management Carlsbad Field Office	697.07	7/11/2018	305277.0400-C-01	Cultural Resources Survey of NGL Water Pipelines LLC's Proposed 16-inch Pipeline in Southern Eddy County, New Mexico and Northeastern Culberson County, Texas	Kenneth L. Brown
141334	Tetra Tech, Inc.	NMSLO	52.42	8/30/2018	N/A	An Archaeological Survey of the Solaris Lobo 285 to Blackmon SWD Project, Eddy County, NM	Tim Mills and Mark Karpinski
142283	Boone Archaeological Consultants, LLC	NMSLO	10.07	1/10/2019	BARC 01-19-03	A Class III Archaeological Survey for the Lucid Energy Delaware, LLC Proposed Rick Deckard Flowline (AFE 180186), Eddy County, New Mexico	Stacy K Galassini and Joshua W. Broxson



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142879	Boone Archaeological Consultants, LLC	NMSLO	27.78	3/11/2019	BARC 03-19-08	A Class III Archaeological Survey for the Oryx Delaware Oil Gathering NM, LLC Proposed Carlsbad Salt Draw 6" Lateral Pipeline, Eddy County, New Mexico	Stacy K Galassini and Joshua W. Broxson
142880	Boone Archaeological Consultants, LLC	NMSLO	30.61	3/11/2019	BARC 03-19-10	A Class III Archaeological Survey for the Oryx Delaware Oil Gathering NM, LLC Proposed Carlsbad Salt Draw 1 - 4" Lateral Pipeline, Eddy County, New Mexico	Stacy K Galassini and Joshua W. Broxson
143877	Goshawk Environmental Consulting	NMSLO	19.33	9/19/2019	03ED43877	A Class III Archaeological Survey of the Solaris Water Midstream, LLC, Proposed Kyle 5H Well Connect, Eddy County, New Mexico	E. van Zanten, S. Evans, S. Cox, R. Clark
144165	Goshawk Environmental Consulting	NMSLO	4.32	9/19/2019	03ED44165	A Class III Archaeological Survey of the Solaris Water Midstream, LLC, Proposed Kyle to Tin Horn Willow, Eddy County, New Mexico	E. van Zanten, S. Evans, S. Cox, R. Clark
144404	Marron & Associates	Federal Energy Regulatory Commission	876.51	9/10/2019	527319-0000038.00	A Cultural Resource Survey for the Proposed El Paso Natural Gas Carlsbad South Expansion Project, 31113 New Pipeline, Eddy and Lea Counties, New Mexico (two volumes)	Toni Goar and Keli James
145136	Boone Archaeological Consultants, LLC	NMSLO	5.97	2/7/2020	BARC 11-19-40	A Class III Archaeological Survey for the Mewbourne Oil Company Proposed Gas Pipeline from the Yuma 3-10 CN to the Lucid Tie-In, Eddy County, New Mexico	Stacy K Galassini and Joshua W. Broxson
146400	Goshawk Environmental Consulting	NMSLO	16.32	8/24/2020	03ED46400	A Class III Archaeological Survey of EOG Resources, Inc. Proposed Tomahawk Fed Unit CTB to Lobo Blackmon, Eddy County, New Mexico	E. van Zanten, S. Pritchett, S. Evans, V. Tompkins



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148337	Goshawk Environmental Consulting	NMSLO	12.09	6/30/2021	03ED48337	A Class III Archaeological Survey of the Solaris Water Midstream, LLC, Really Scary Pond Access Road, Eddy County, New Mexico	V. Tompkins, S. Evans, S. Pritchett
148367	Boone Archaeological Consultants, LLC	NMSL O	17.97	7/12/2021	BARC 07-21-09	A Class III Archaeological Survey for the Mewbourne Oil Company Proposed Boondock 3 W00B State Com 1H, W0PA State Com 1H, W10B State Com 2H, and W1PA State Com 2H Well Pad, Tank Battery, and Access Road, Eddy County, New Mexico	Stacy K Galassini and Joshua W. Broxson
148610	WGA Environmental, LLC	NMSLO	3.97	8/16/2021	021134-01	Cultural Resource Survey for the Boondock 1 CTB Lateral, Eddy County, New Mexico	Ralph Logan
151798	Black River Consulting, LLC	NMSLO	8.13	11/4/2022	BRC 62 22-11-01	Cultural Resource Survey for the Targa Northern Delaware, LLC, Proposed Cabo Wabo Offload Access Road, Eddy County, New Mexico	Scott Walley and Dr. Tammie L. Gerke
155228	Resi Solutions	US Bureau of Land Management Carlsbad Field Office	22.20	3/20/2024	Resi-2024-034-01	A Class III Cultural Resources Investigation for the Coterra Riverbend Gas Lines Project in Eddy County, New Mexico	Lizette Dominguez and Matthew Bandy
156141	WSP USA	US Bureau of Land Management Carlsbad Field Office	6.15	7/23/2024	182785B	A Class III Cultural Resource Survey for Yuma Loop Pipeline in Eddy County, New Mexico	Dominic Montoya and Lincoln Harschlip



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**Table 2. Cultural Resources within 500 meters of proposed project.**

LA Number	Cultural/Temporal Affiliation	Eligibility Determination
197049	Historic: Anglo, NM Statehood-WWII (1912 – 1945 A.D.)	Unevaluated (HPD Log No. 118558, 12/12/2023 with NMSLO concurring 8/14/2023)



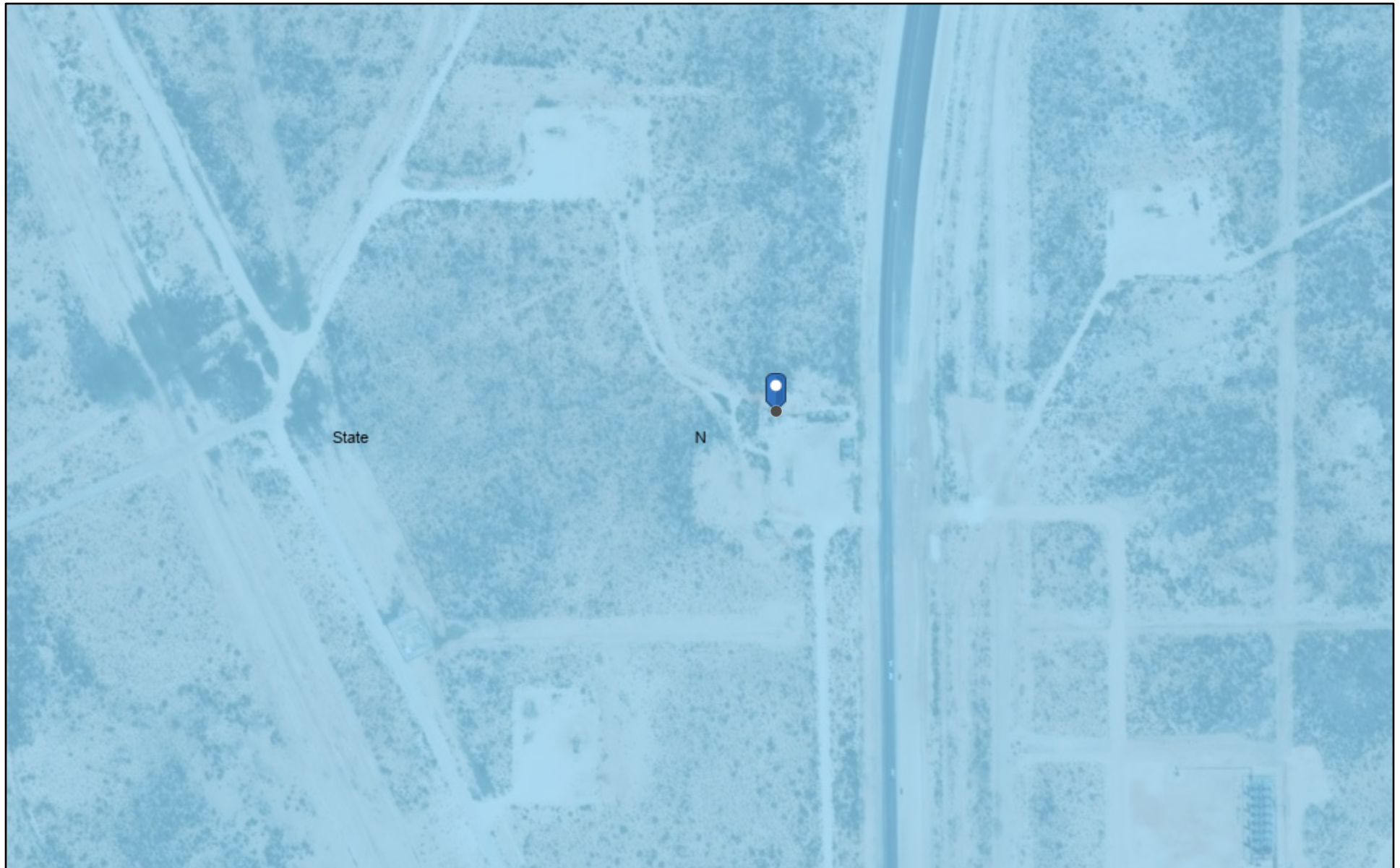
**Figure 1. NMCRIS screenshot showing location of the proposed Willow A State #001 Inadvertent Release Project area (blue square), previously recorded site (orange), and previously conducted investigations are brown and yellow polygons.**

## **APPENDIX C**

### **Site Characterization Data**



# OCD Land Ownership



8/5/2024, 2:04:48 PM

Mineral Ownership

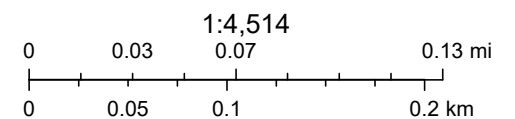


N-No minerals are owned by the U.S.

Land Ownership



S



U.S. BLM, Esri, HERE, Garmin, iPC, 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 smallest to largest)

(meters)

(In feet)

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
<a href="#">C 04680 POD1</a>		C	ED	SW	NW	SW	03	25S	28E	586440.1	3558089.5		833	105	52	53
<a href="#">C 01411 POD2</a>		C	ED	SE	NE	SE	04	25S	28E	586373.8	3558036.3		911	90	50	40
<a href="#">C 01411</a>	R	C	ED	SE	SE	NE	04	25S	28E	586289.0	3558522.0 *		989	69	35	34
<a href="#">C 04715 POD1</a>		CUB	ED	SW	SE	SE	34	24S	28E	587786.5	3559440.3		1272	40		
<a href="#">C 02668</a>		C	ED	NE	NW	NE	09	25S	28E	585890.0	3557525.0 *		1558	150		

Average Depth to Water: 45 feet

Minimum Depth: 35 feet

Maximum Depth: 52 feet

Record Count: 5

Basin/County Search:

County: ED

UTM Filters (in meters):

Easting: 587250.00

Northing: 3558286.00

Radius: 001600

\* UTM location was derived from PLSS - see Help

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



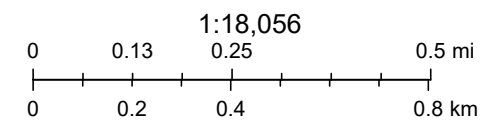
## OCD Water Bodys



8/5/2024, 2:12:15 PM

 OSW Water Bodys

 OSE Streams

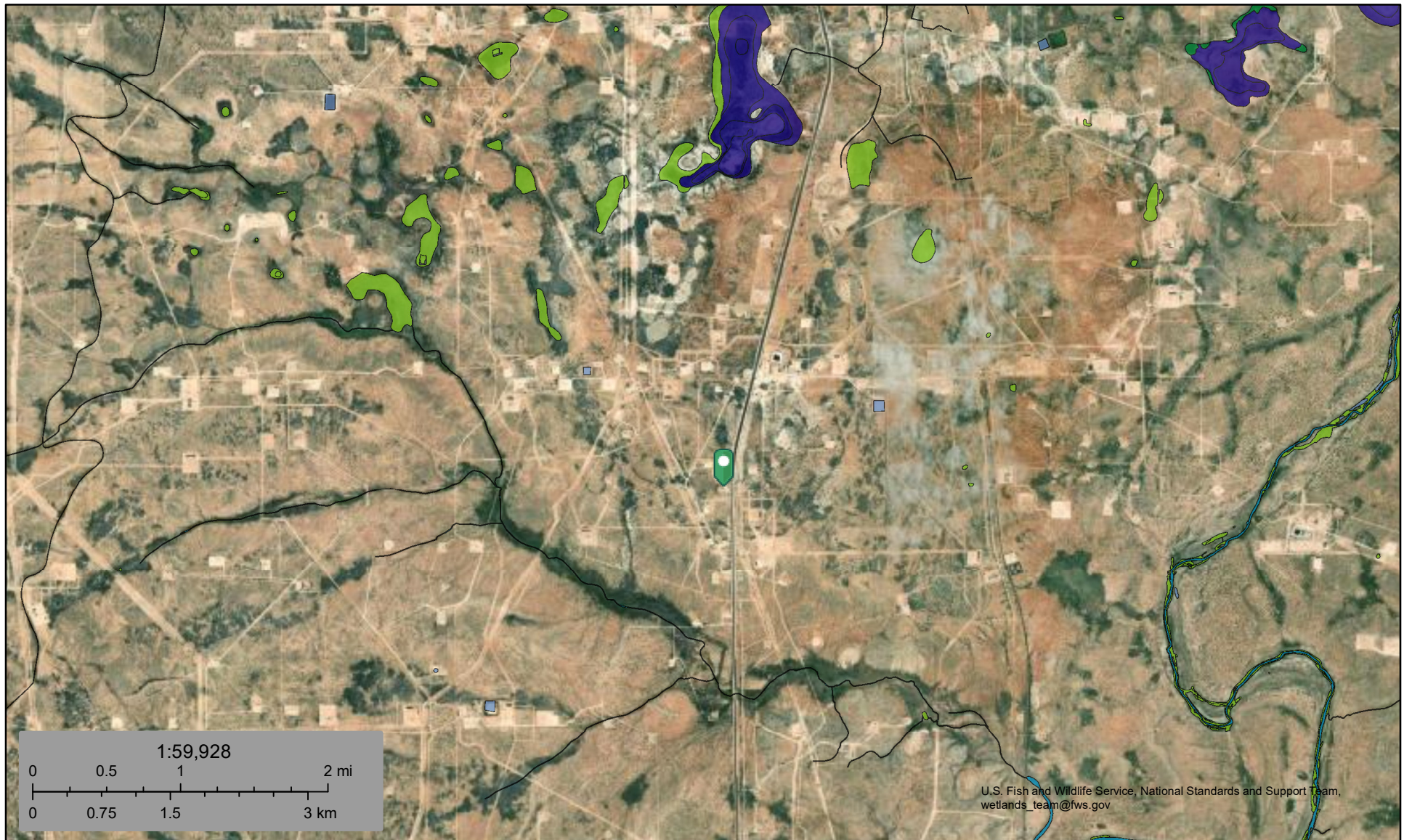


Esri, HERE, Garmin, iPC, Maxar, NM OSE





## National Wetlands Inventory



August 5, 2024

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

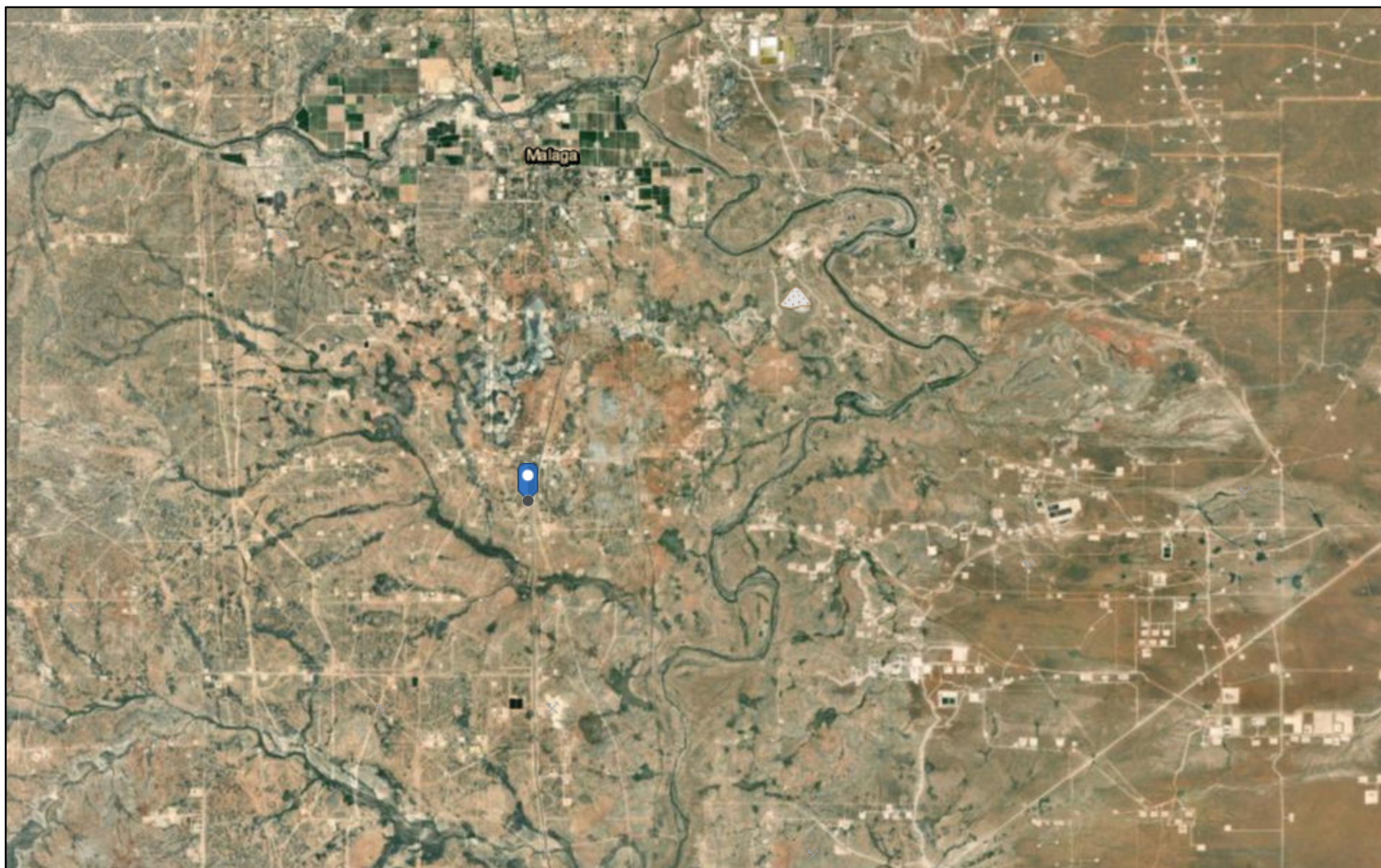
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



# Active Mines in New Mexico



8/5/2024, 2:22:08 PM

Registered Mines

✕ Aggregate, Stone etc.



Aggregate, Stone etc.

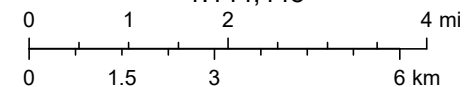


Aggregate, Stone etc.



Salt

1:144,448



Esri, HERE, Garmin, Earthstar Geographics



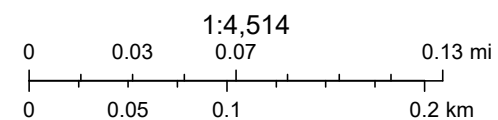
## OCD Potential Karst Areas



8/5/2024, 2:07:38 PM

Karst Occurrence Potential

High



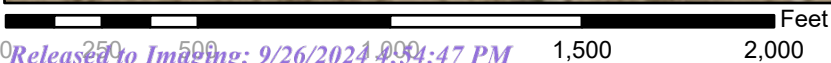
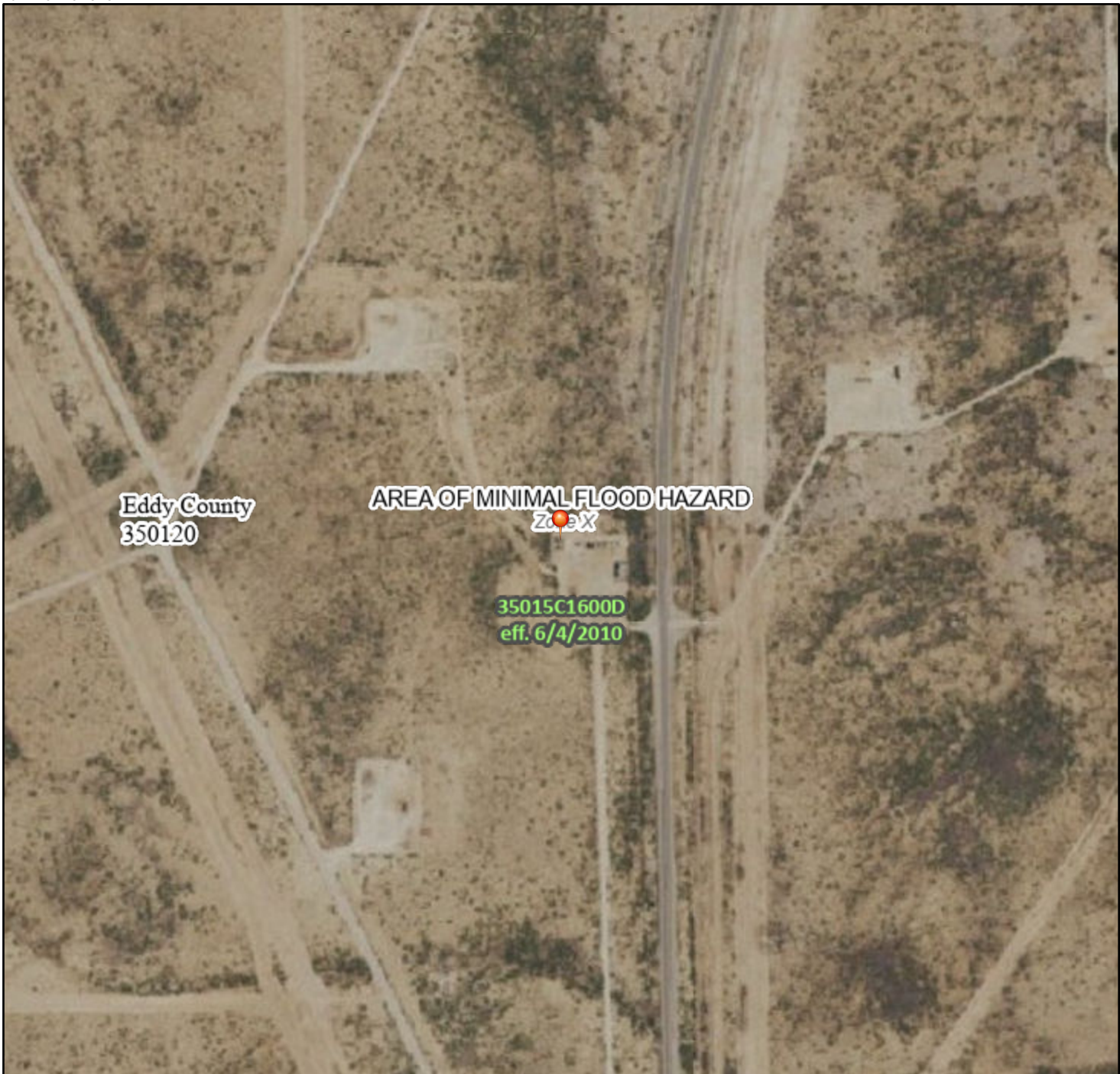
BLM, OCD, New Mexico Tech, Esri, HERE, Garmin, IPC, Maxar



# National Flood Hazard Layer FIRMette



104°4'48"W 32°9'43"N



1:6,000

104°4'10"W 32°9'12"N

Basemap Imagery Source: USGS National Map 2023

## Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/5/2024 at 3:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

## **APPENDIX D**

### **Regulatory Correspondence**

**From:** [Lull, Christian](#)  
**To:** [Chavira, Lisbeth](#)  
**Cc:** [Poole, Nicholas](#)  
**Subject:** [EXTERNAL]The Oil Conservation Division (OCD) has rejected the application, Application ID: 316552  
**Date:** Thursday, July 18, 2024 10:08:00 AM

---

Willow A State 001 (07-17-2022)

---

**From:** [OCDOnline@state.nm.us](mailto:OCDOnline@state.nm.us) <[OCDOnline@state.nm.us](mailto:OCDOnline@state.nm.us)>  
**Sent:** Friday, July 5, 2024 3:22 PM  
**To:** Esparza, Brittany <[Brittany.Esparza@conocophillips.com](mailto:Brittany.Esparza@conocophillips.com)>  
**Subject:** [EXTERNAL]The Oil Conservation Division (OCD) has rejected the application, Application ID: 316552

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

To whom it may concern (c/o Brittany Esparza 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#) nAPP2221332553, for the following reasons:

- **Deferral denied.** The previous denial on 10/18/23 advised that COG remove contaminants safely with alternative methods (shovel, hydrovac, etc.) as well as provide photographic evidence that the surface staining has been cleaned up. Neither has occurred.
- **As COG OPERATING LLC (229137) is responsible for the remediation, reclamation, and revegetation of this release, it is the responsible party's duty to include letters from the pipeline operators who are requesting a buffer zone around their pipelines to take responsibility for any contamination left in place due to their buffer zone request. If the pipeline operators are unwilling to take responsibility for the contamination located within their requested buffer zones, the responsible party will be required to remediate, reclaim, and revegetate the release pursuant to 19.15.29 NMAC. Furthermore, pursuant to 19.15.29.7C NMAC, OCD may consider a person causing the release or controlling the location of the release as the responsible party. If any pipeline operator refuses to allow the remediation, reclamation, and revegetation of this release, please include the refusal in writing. OCD reserves the right to hold the pipeline operator as the responsible party.**
- **Until COG removes contaminants to the MEP a deferral will not be granted. Resubmit report to the OCD by 8/5/24.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 316552.

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,

Shelly Wells

Environmental Specialist-A

505-469-7520

[Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)

**New Mexico Energy, Minerals and Natural Resources Department**

1220 South St. Francis Drive

Santa Fe, NM 87505

**From:** [Wells, Shelly, EMNRD](#)  
**To:** [Abbott, Sam](#)  
**Cc:** [Llull, Christian](#); [Bratcher, Michael, EMNRD](#)  
**Subject:** RE: [EXTERNAL] Extension Request - Willow A State 001 Tank Battery (NAPP2221332553)  
**Date:** Tuesday, August 6, 2024 10:44:55 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

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

Good morning Sam,

The extension request for NAPP2221332553 WILLOW A STATE 001 is approved. The new due date to submit your remediation closure report to the OCD is October 3, 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.

Kind regards,

Shelly

**Shelly Wells** \* Environmental Specialist-Advanced  
Environmental Bureau  
EMNRD-Oil Conservation Division  
1220 S. St. Francis Drive|Santa Fe, NM 87505  
(505)469-7520|[Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)  
<http://www.emnrd.state.nm.us/OCD/>

---

**From:** Abbott, Sam <Sam.Abbott@tetrattech.com>  
**Sent:** Monday, August 5, 2024 8:39 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Llull, Christian <Christian.Llull@tetrattech.com>  
**Subject:** [EXTERNAL] Extension Request - Willow A State 001 Tank Battery (NAPP2221332553)

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

To Whom it May Concern,

On behalf of ConocoPhillips, Tetra Tech is requesting a 60-day extension (October 3, 2024) to complete reporting for the Willow A State 001 Tank Battery Release (NAPP2221332553).

Due to the site complexity, this release is now being investigated and handled by the ConocoPhillips



Risk Management team. Additional time is needed to coordinate with adjacent pipeline operators to prepare a remediation plan to safely remove contaminants associated with the release to the maximum extent practicable.

A complete report will be submitted to the NMOCD within the proposed timeframe pursuant to the conditions specified by the NMOCD on July 5, 2024.

Thank you in advance.  
Sam

**Samantha Abbott, PG** | Project Manager  
Direct Mobile +1 (512) 739-7874 | Business +1 (512) 338-1667 | [Sam.Abbott@tetrattech.com](mailto:Sam.Abbott@tetrattech.com)

**Tetra Tech, Inc.** | *Leading with Science*<sup>®</sup> | OGA  
8911 N Capital of Texas Hwy #2310 | Austin, TX 78759 | [tetrattech.com](http://tetrattech.com)

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## **APPENDIX E**

# **Photographic Documentation**



TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View of site signage.	1
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View west. View of wellhead area, south of tank battery facilities.	2
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024



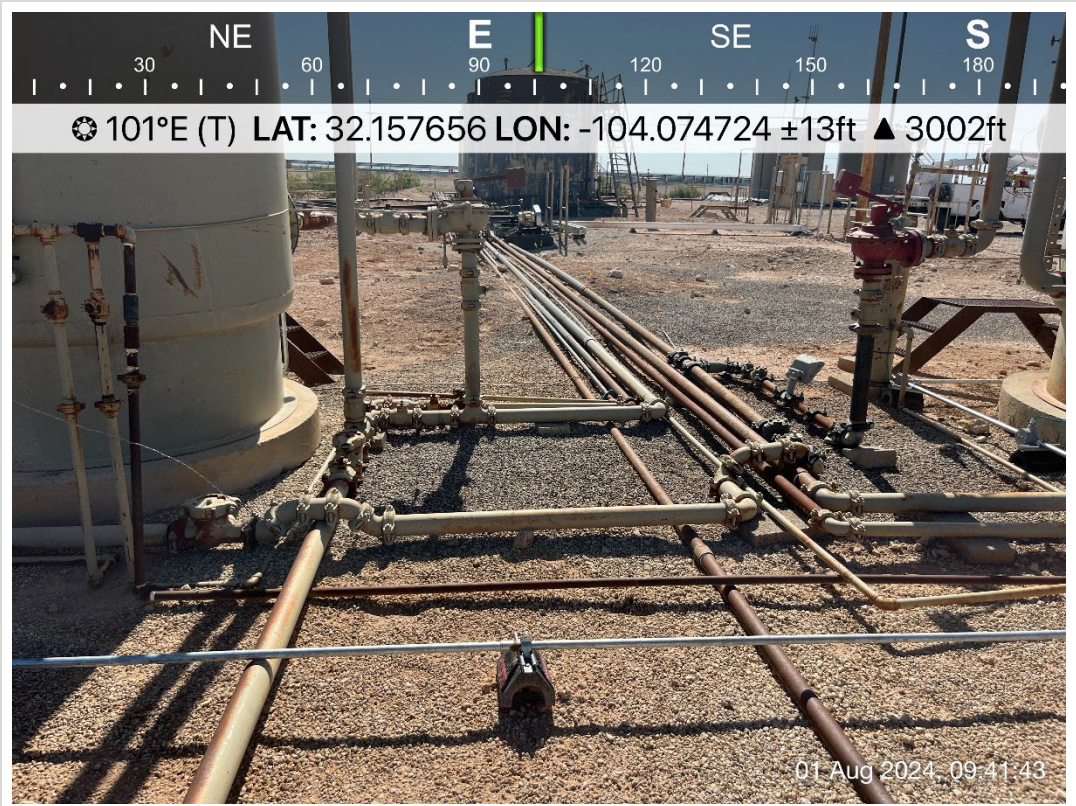


TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View north. View of tank battery, located in same berm adjacent to release footprint.	3
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024

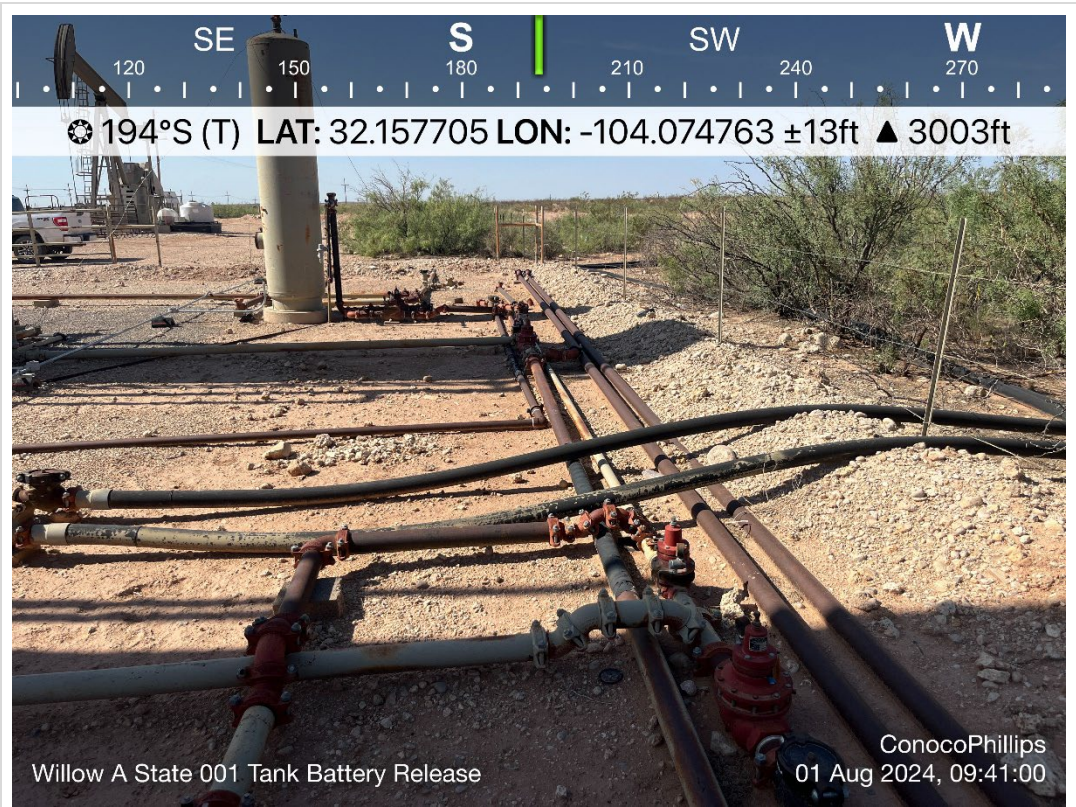


TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View west. Western edge of tank battery with facility berm in foreground and vessels in background.	4
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024





TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View east. Raised steel surface lines running between tank battery and vessels.	5
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024

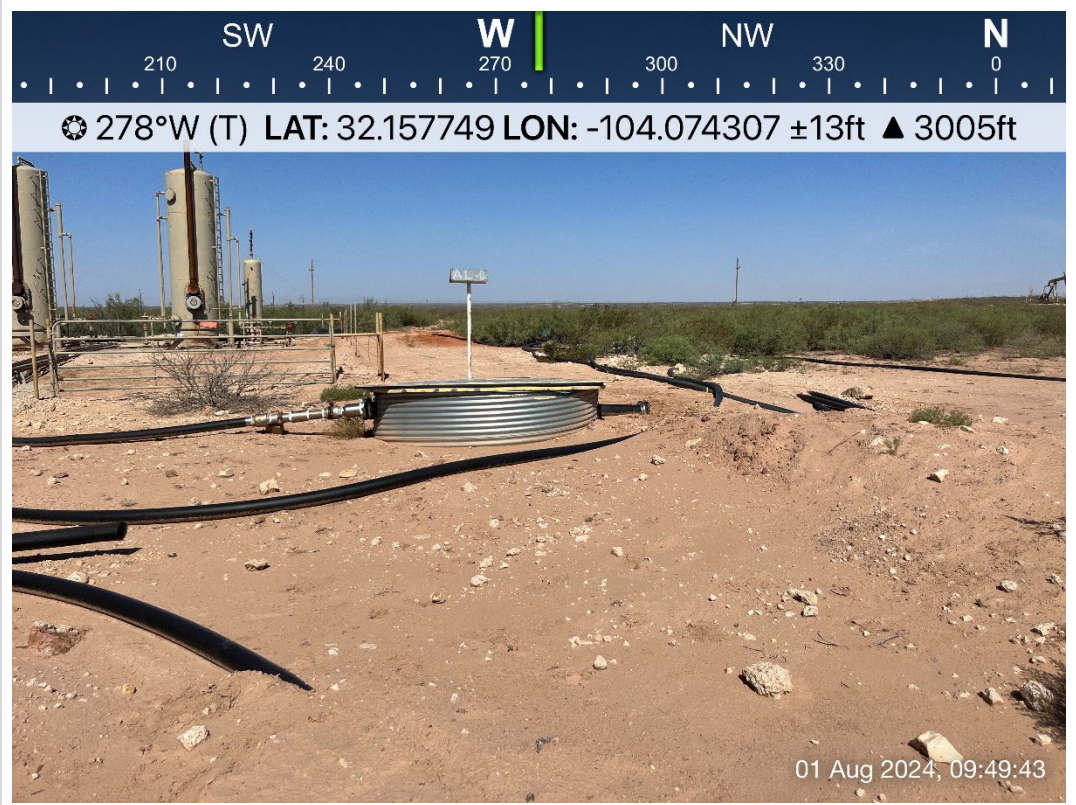


TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View south. Raised steel surface lines on west side of vessels.	6
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024



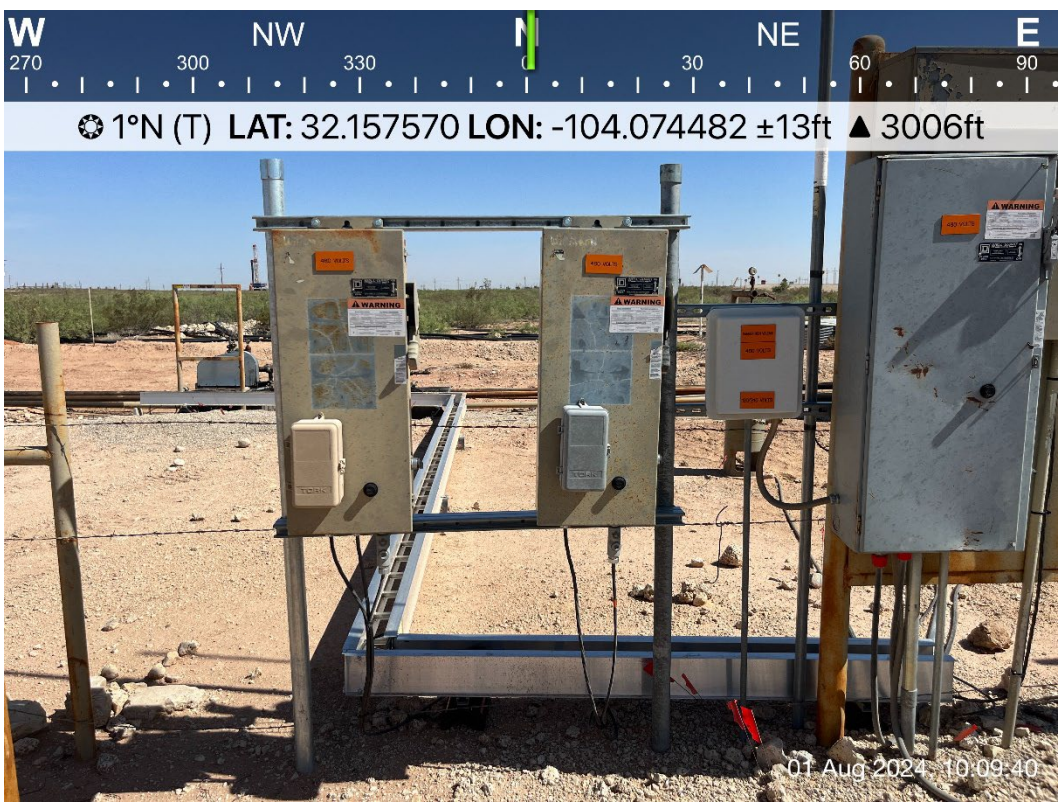


TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View northeast. Surface flowlines on north-side of tank battery.	7
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View west. Solaris tinhorn on north-side of tank battery facility berm.	8
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024





TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View north. Electrical panel at central portion of tank battery facility.	9
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View northeast. West-side of tank battery with surface steel lines running west from north-side of tank battery.	10
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024





TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View east. North-side of tank battery, raised steel surface lines on north-side of tank battery.	11
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View northwest. North-side of raised steel lines. Area of release.	12
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024





TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View south-southwest. Surface flowlines north of tank battery and facility berm.	13
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03573	DESCRIPTION	View southwest. North-side of tank battery. Surface flowlines emanating from raised steel lines.	14
	SITE NAME	Willow A State #001 Tank Battery Release	8/1/2024

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

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

QUESTIONS

Action 387437

QUESTIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
	Action Number:
	387437
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2221332553
Incident Name	NAPP2221332553 WILLOW A STATE 001 @ 0
Incident Type	Oil Release
Incident Status	Remediation Plan Received
Incident Facility	[fAPP2203532080] WILLOW A STATE #1 BATTERY

Location of Release Source	
Please answer all the questions in this group.	
Site Name	WILLOW A STATE 001
Date Release Discovered	07/17/2022
Surface Owner	State

Incident Details	
Please answer all the questions in this group.	
Incident Type	Oil 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	Cause: Equipment Failure   Valve   Crude Oil   Released: 195 BBL   Recovered: 100 BBL   Lost: 95 BBL.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	Not answered.
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.

**District I**

1625 N. French Dr., Hobbs, NM 88240  
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**Santa Fe, NM 87505**

QUESTIONS, Page 2

Action 387437

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
	Action Number:
	387437
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@tetrattech.com Date: 09/26/2024
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QUESTIONS, Page 3

Action 387437

**QUESTIONS (continued)**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
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	387437
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)	Between 26 and 50 (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
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 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 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	High
A 100-year floodplain	Between ½ and 1 (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)	20900
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	45700
GRO+DRO	(EPA SW-846 Method 8015M)	39092
BTEX	(EPA SW-846 Method 8021B or 8260B)	389
Benzene	(EPA SW-846 Method 8021B or 8260B)	17

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	01/06/2025
On what date will (or did) the final sampling or liner inspection occur	01/08/2025
On what date will (or was) the remediation complete(d)	01/15/2025
What is the estimated surface area (in square feet) that will be reclaimed	1370
What is the estimated volume (in cubic yards) that will be reclaimed	215
What is the estimated surface area (in square feet) that will be remediated	1370
What is the estimated volume (in cubic yards) that will be remediated	215

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, Page 4

Action 387437

**QUESTIONS (continued)**

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	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 <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> 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@tetrattech.com Date: 09/26/2024
--	--

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, Page 5  
  
Action 387437

**QUESTIONS (continued)**

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	Action Number: 387437
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Deferral Requests Only</b>	
<i>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.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6  
  
Action 387437

QUESTIONS (continued)

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[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 387437

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 387437
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
scwells	Remediation plan approved. Submit deferral request or remediation closure report to OCD by 12/25/24.	9/26/2024