



May 6, 2024

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

**Re: Revised Remediation Work Plan ADDENDUM
ConocoPhillips Company (Heritage COG Operating, LLC)
Way South State Com #001H Tin Horn Release
Unit Letter A, Section 30, Township 26 South, Range 28 East
Eddy County, New Mexico
Incident ID# nAB1821441824
Landowner: NMSLO**

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (ConocoPhillips) to assess a release that occurred from a tin horn associated with the Way South State Com #001H well (API No. 30-015-37324). The release footprint is located within the Public Land Survey System (PLSS) Unit Letter A, Section 30, Township 26 South, Range 28 East, in Eddy County, New Mexico (Site). The Site coordinates are approximately 32.018655°, -104.120179°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico C-141 Initial Report, the release was discovered on July 28, 2018. Approximately 72 barrels (bbls) of produced water and 0.1 bbl of oil were released due to a hole on the check valve. A vacuum truck was dispatched to remove all freestanding fluids. Approximately 60 bbls of produced water and no oil was recovered. The release impacted areas in pasture east of the tin horn. The New Mexico Oil Conservation District (NMOCD) approved the initial C-141 on August 2, 2018 and assigned the release the Incident ID nAB1821441824.

LAND OWNERSHIP

According to the NMOCD Oil and Gas Map, the site is located on New Mexico State trust land. A review of the New Mexico State Land Office (NMSLO) Land Status Map was completed, and the site is within active oil and gas lease V074510003. The active lease is under Concho Oil & Gas LLC/COG Operations 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.

CULTURAL PROPERTIES PROTECTION

Tetra Tech, on behalf of ConocoPhillips, contracted SWCA Environmental Consultants (SWCA) to conduct an intensive pedestrian survey in support of a permit application to install monitoring wells at the adjacent Way South Com #001H Tank Battery release (Incident ID nRM2008650013). The proposed area of potential effects (APE) for the proposed monitoring well is a 10-acre block on NMSLO-managed land in Eddy County, New Mexico. On April 17, 2023, SWCA surveyed a 100-foot buffer on all sides of the proposed monitoring well project area for a total survey area of 18.15 acres. No archaeological sites, historic

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properties, or isolated occurrences were observed during the investigation. No additional investigation or treatment was recommended regarding the current undertaking. A copy of the NMCRIS Activity No. 152756 is included as Appendix B.

SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, or subsurface mines are located within the distances specified in 19.15.0029 New Mexico Administrative Code (NMAC). A Federal Emergency Management Agency (FEMA) Flood Hazard Area Zone A partially encompasses the Site. The Site is also located within 100 feet of a watercourse mapped by the New Mexico Office of the State Engineers (NMOSE). The Site is in an area of high karst potential.

The Site is within a New Mexico oil and gas production area. There are no water wells listed in the NMOSE reporting system located within a ½ mile (800-meter) radius of the Site. The nearest well with recent groundwater data is located approximately 0.83 miles (1,338 meters) from the Site with a depth to water of 33 feet below ground surface (bgs). The site characterization data is included 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, the remediation RRALs for the Site are as follows:

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

TALON SITE ASSESSMENT

Talon/LPE (Talon) conducted initial site assessment sampling on behalf of Concho in November 2018. Talon personnel installed two (2) boreholes (B1 and B2) within the release extent to 8 feet bgs and 12 feet bgs, respectively. Select samples were sent to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico to be analyzed for TPH by EPA method 8015 modified, BTEX by EPA method 8021B, and chloride by standard method 4500. The borehole locations are shown on Figure 3.

The analytical results are summarized in Table 1. Analytical results associated with all samples collected from boring B2 indicated chloride concentrations above the Site RRAL of 600 mg/kg. The highest chloride concentration analyzed was 12,400 mg/kg at 4 feet bgs, and concentrations declined with depth to 1,120 mg/kg at 12 feet bgs. Analytical results for chloride associated with boring B1 were below the Site RRAL of 600 mg/kg in both soil intervals. Analytical results for TPH, BTEX, and benzene were below the Site RRALs in all analyzed samples from both borings.

TETRA TECH SITE ASSESSMENT

Based on the laboratory data from the Talon Site Assessment, Tetra Tech personnel were onsite on December 20, 2018, to install one borehole (BH #1) in the area of previous Talon borehole B2 to a total depth of 15 feet bgs in order to vertically delineate the impact. In addition, a background borehole was installed to depth of 15 feet bgs to evaluate the native soils. Selected soil samples were collected and submitted to Xenco Laboratories in Midland, Texas to be analyzed for TPH by EPA method 8015 modified,

BTEX by EPA Method 8021B, and chloride by EPA method 300. Sample locations from the December 2018 site assessment activities are shown on Figure 3.

The results of the laboratory analysis associated with the samples collected in December 2018 are summarized in Table 2. Analytical results associated with soil samples from BH #1 indicated TPH, benzene, and total BTEX below the reporting limits. Analytical results associated with both boring BH-1 and the background boring indicated chloride concentrations above the Site RRAL (600 mg/kg) in sampling intervals from the surface to 15 feet bgs. Chloride concentrations in boring BH #1 were 9,760 mg/kg at the surface, increased to 13,400 mg/kg at 4-5 feet bgs, and then declined with depth to 646 mg/kg at 14-15 feet bgs. Chloride concentrations at the background boring increased from 851 mg/kg at the surface to 3,000 mg/kg at 2-3 feet bgs, and then declined to 822 mg/kg at 14-15 feet bgs.

2019 WORK PLAN AND NMOCD REJECTION

Tetra Tech prepared a Work Plan on behalf of Concho dated February 13, 2019 that included a summary of the results of site assessment activities and a proposal to remediate the impacted soils. Due to access issues and safety concerns, the proposed excavation involved removing the impacted soils to the maximum extent practicable. In the area of borehole B1, impacted soils would be excavated to between 3.5 and 4 feet bgs. In the area of boreholes B2 and BH #1, impacted soils would be excavated to between 9 and 10 feet bgs. The excavated areas would be backfilled with clean materials to surface grade. Excavated soils would be transported offsite for proper disposal to an NMOCD-approved or permitted facility. Approximately 115 cubic yards would be excavated during the proposed remediation. Confirmation samples were proposed for collection every 200 square feet in order to ensure proper removal of the impacted areas.

The Work Plan noted that the proposed excavation depths may not be reached due to safety concerns for onsite personnel as well as impacted soils around oil and gas equipment, structures, or subsurface lines may not be viable or practicable to be removed. As such, Concho would excavate the impacted soils to the maximum extent practicable. The Work Plan was submitted to the NMOCD for approval. A copy of the Work Plan is available on the NMOCD Permitting site under the incident ID.

The NMOCD rejected the Work Plan in an email dated November 28, 2022 for the following reasons:

- *"The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.*
- *Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.*
- *2RP-4888 closed. Please refer to incident #nAB1821441824 in all future communications.*
- *Background sample(s) should be a grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release's impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. The background sample cannot be approved based on delineation is incomplete.*
- *Please submit a complete report through the OCD Permitting website by 3/3/2023."*

The NMOCD approved a request for a 90-day extension was approved via email on February 28, 2023. and a second 90-day extension was approved via email on June 2, 2023. An additional 90-day extension

request was approved in an email dated October 31, 2023 for a new due date of December 3, 2023. Copies of the regulatory correspondence are included as Appendix D.

2023 HORIZONTAL DELINEATION SAMPLING

Following receipt of the NMOCD rejection of the 2019 Work Plan, Tetra Tech conducted additional assessment sampling at the Site on behalf of ConocoPhillips in order to complete horizontal delineation of the release. On May 11, 2023, Tetra tech personnel installed six (6) hand auger borings (AH-23-1 through AH-23-6) along the perimeter of the reported release extent to complete horizontal delineation. Horizontal sampling locations were placed 15 feet or more away from buried lines out of safety considerations. The 2023 boring locations and a revised release extent based on historical aerial imagery and observations made in the field are presented on Figure 3. Photographic documentation of the release area at the time of the horizontal delineation sampling is included as Appendix E.

A total of six (6) samples were collected from the 0-1 foot bgs soil interval from each of the boring locations and submitted to Cardinal to be analyzed for chloride via standard method 4500, TPH via EPA Method 8015M, and BTEX via EPA Method 8261B. The laboratory analytical data is included as Appendix F.

Analytical results from the 2023 horizontal delineation soil assessment activities are summarized in Table 3. All analytical results were below the applicable Site RRALs for all constituents. Horizontal delineation was achieved following the May 2023 additional assessment activities.

ADJACENT WAY SOUTH STATE COM #001H TANK BATTERY RELEASE SITE

A separate release occurred at the nearby Way South State Com #001H Tank Battery in December 2019 and is being addressed under the Incident ID nRM2008650013. Included among the ongoing assessment activities for that release site, ConocoPhillips plans to collect background soil samples and install up to three monitoring wells in order to assess potential groundwater impacts at the tank battery release site. As mentioned previously, the release footprints for both the tin horn release and the tank battery release are located on State Trust Lands. As of December 1, 2022, the NMSLO's Cultural Properties Protection (CPP) Rule is in effect. In tandem with this CPP rule, the NMSLO has begun enforcing application and permitting requirements per Rule 12 (19.2.12 NMAC) for Water/Soil Boring Exploration Permits. Any intrusive activities must be permitted through the Water Bureau, Oil, Gas, and Minerals Division, NMSLO.

Tetra Tech and ConocoPhillips experienced delays in scheduling the additional assessment activities while in the process of complying with these rules. At the time of this report, the Revised Work Plan Addendum for the proposed additional groundwater characterization and background sampling at the tank battery release site has been submitted to the NMOCD and was recently approved.

BACKGROUND CHLORIDE CONCENTRATIONS AND REVISED RRALS

Based on an average chloride concentration from the samples collected from the background boring (Table 2), ConocoPhillips proposed a revised chloride RRAL (for subsurface soil below 10 feet bgs) of 1,450 mg/kg.

The reasons for the NMOCD rejection of the 2019 Work Plan included the following:

- *"Background sample(s) should be a grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release's impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. The background sample cannot be approved based on delineation is incomplete."*

The 2018 assessment background samples summarized in Table 2 were grab samples, not composite, that were collected from an undisturbed pasture location approximately 100 feet northwest and slightly

upgradient of the release extent, as indicated on Figure 3. Chloride concentrations at this background boring location were 851 mg/kg in the 0-1 foot bgs soil interval, increased to 3,000 mg/kg at 2-3 feet bgs, and then declined with depth back to 876 mg/kg at 9-10 feet bgs and 822 mg/kg at 14-15 feet bgs.

Thus, it was confirmed that natural chloride concentrations are variable in native soils in the release vicinity. Based on this determination, the soils in the 14-15 foot bgs sample interval at boring BH-1, which had a chloride concentration of 646 mg/kg, are proposed to be left in place. These soils in the release footprint are characterized by a lower concentration than the same depth interval in the background boring outside the release footprint.

REVISED REMEDIATION WORK PLAN (2023)

A Revised Remediation Work Plan was submitted by Tetra Tech on behalf of COP, dated December 1, 2023, to the NMOCD via the portal describing the additional horizontal assessment activities and sampling results. The NMOCD rejected the Revised Work Plan in an email from Ms. Brittany Hall dated December 28, 2023 with the following comments:

- *“Due to the site being partially encompassed by a FEMA Flood Hazard Area Zone A, within 100 feet of a watercourse mapped by the NMOSE, in an area of high karst potential, in an area of shallow groundwater, and the age of the analytical data for the background; the OCD is requesting a new background borehole be installed within the vicinity of the 2018 background borehole before approving background chloride concentrations. Please send at least a 2-business day notification to the OCD Enviro email and Robert Hamlet (robert.hamlet@emnrd.nm.gov), prior to installing the borehole and collecting background samples. OCD would like to witness the boring and sampling, if available.*
- *Submit a complete report through the OCD Permitting website by 5/6/2024.”*

The associated comments can be found on the OCD Permitting website.

REGULATORY REVIEW AND REQUEST FOR ADDITIONAL INFORMATION

The Revised Work Plan was also sent to NMSLO for review via email dated December 27, 2023. In an email dated January 4, 2024, Ms. Tami Knight wrote the following:

- *“ECO has reviewed the workplan and NMOCD comments. We do agree with NMOCD and would like to witness a new background soil boring. However, we believe it would be more beneficial to determine background chlorides by selecting a new sample location, not near the 2018 boring. We have also opened the discussion with NMOCD regarding the soil boring location. ECO has concerns about selecting a new sample point due the erosional features coming off the ROW north of the spill location which appears to have had releases along its path also.*
- *We are available to discuss this project with your team and NMOCD.”*

A conference call was held on January 5, 2024 with representatives from ConocoPhillips and Tetra Tech, Ms. Brittany Hall of the NMOCD, and Ms. Tami Knight of the NMSLO, to discuss the ideal placement for the requested additional background soil boring. After review of the site conditions in the vicinity of the tin horn and the right-of-way, a location approximately 100 feet due north of the release extent (presented in the image below) was selected for the background boring. That location was agreed upon by Tami Knight of NMSLO ECO and Brittany Hall of NMOCD. ConocoPhillips then proceeded to procure a right-of-entry permit from the NMSLO Commercial Resources Division.

A copy of the associated regulatory correspondence is included in Appendix D.

ADDITIONAL BACKGROUND SOIL SAMPLING

Tetra Tech remobilized to the Site on April 17, 2024 to oversee the installation of the requested background boring (BG-24-1) at the previously agreed-upon location. A notice of the scheduled activity was provided to

the NMOCD and the NMSLO via email on April 15th. A copy of the regulatory correspondence is included in Appendix D. Photographic documentation of Site conditions at the time of sampling are presented in Appendix E.

The boring was installed using an air rotary drill rig to a total depth of 20 feet bgs. The boring location is presented on Figure 3. Samples were collected on one-foot centers and submitted to Cardinal to be analyzed for chloride via standard method 4500. The laboratory analytical data is included as Appendix F.

Analytical results from the 2024 background soil assessment activities are summarized in Table 4. Chloride concentrations at this new background boring location were 1340 mg/kg in the 0-1 foot bgs soil interval, increased to 5,040 mg/kg at 1-2 feet bgs, declined to 544 mg/kg at 4-5 feet bgs, and then were relatively consistent in from 5 to 19 feet bgs, ranging from 1230 mg/kg to 1810 mg/kg before declining to 688 mg/kg at the terminal sampling interval of 19-20 feet bgs.

Thus, consistent with the previous background soil boring, it is confirmed that chloride concentrations do indeed vary in native soils. Based on this determination, the soils in the 14-15 foot bgs sample interval at boring BH-1 (within the footprint), which had a chloride concentration of 646 mg/kg, are proposed to be left in place. These soils in the release footprint are characterized by a lower concentration than the same depth interval in the background boring outside the release footprint.

2024 REMEDIATION WORK PLAN

Based on the collected analytical results (and the confirmation background boring), ConocoPhillips proposes to remove the impacted material as shown in Figure 4. Impacted soils on the east side of the release extent in the vicinity of assessment borings B2 and BH #1 will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum total depth of 10 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the RRALs. Impacted soils on the west side of the release extent in the vicinity of boring B1 will be excavated to a total depth of 4 feet below the surrounding surface or until a representative sample is below the RRALs. Any area containing pressurized lines will be hand-dug to a depth of 3 feet or the maximum extent practicable and heavy equipment will come no more than 3 feet from any pressurized lines. Impacted soils inside of the tinhorn will be removed using a hydrovac to the maximum extent possible.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation bottom and sidewall samples will be collected every 200 square feet for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. The proposed excavation encompasses a surface area of approximately 530 square feet. Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 120 cubic yards.

SITE RECLAMATION AND RESTORATION PLAN

The backfilled areas will be seeded in Spring 2024 (first favorable growing season) to aid in revegetation. Based on the soils at the site, the New Mexico State Land Office (NMSLO) Loamy (L) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (PLS) per acre. The seed mixture will be spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

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

Revised Remediation Work Plan ADDENDUM
May 6, 2024

ConocoPhillips

CONCLUSION

ConocoPhillips proposes to begin remediation activities at the Site within 90 days of NMOCD plan approval. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD. If you have any questions concerning the soil assessment or the proposed remediation activities for the Site, please call me at (512) 739-7874.

Sincerely,
Tetra Tech, Inc.



Samantha K. Abbott, P.G.
Project Manager



Christian M, Llull, P.G.
Program Manager

cc:
Mr. Ike Tavarez, RMR – ConocoPhillips
Ms. Brittany Hall – NMOCD
Ms. Tami Knight – NMSLO

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

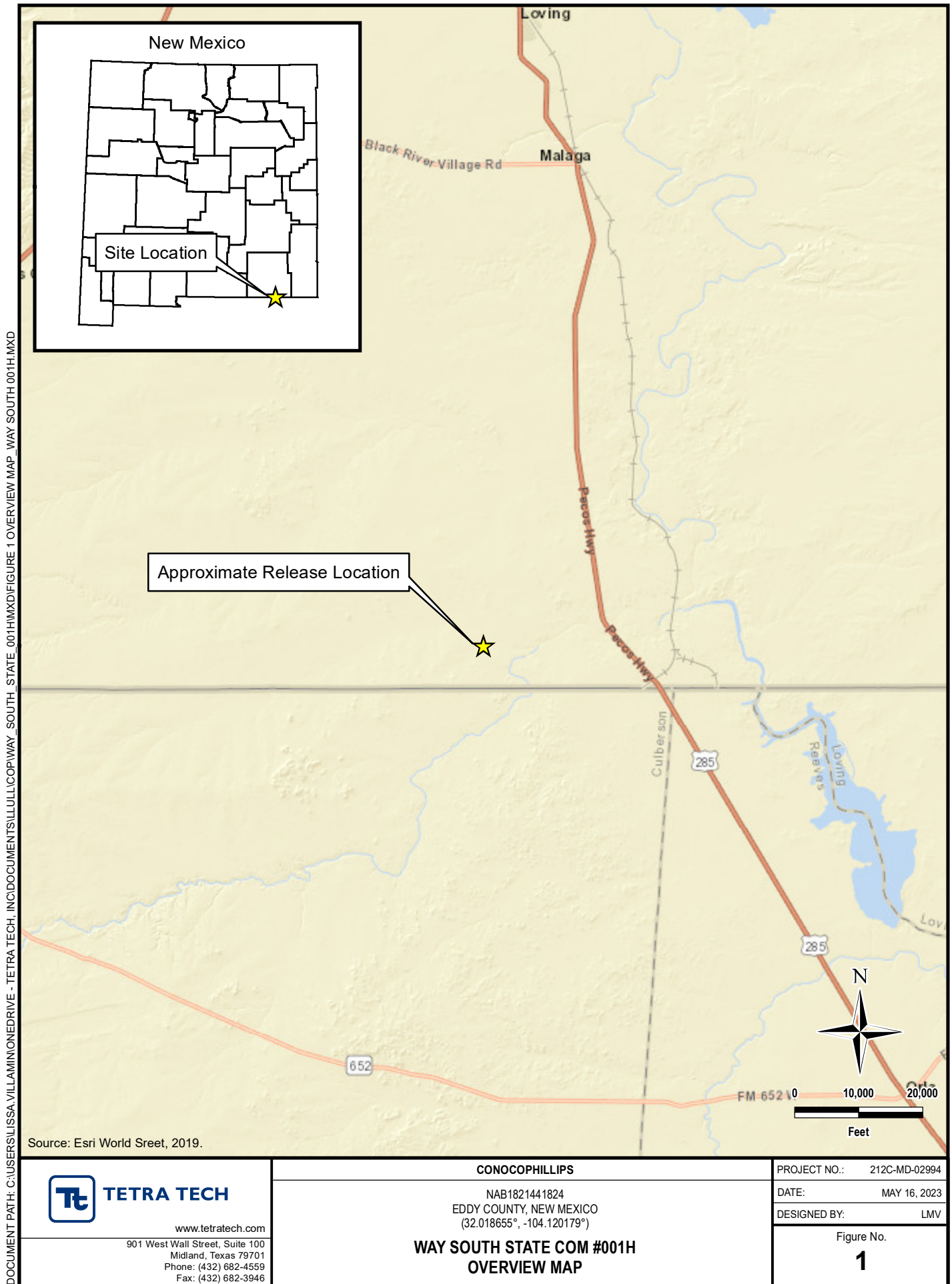
Tables:

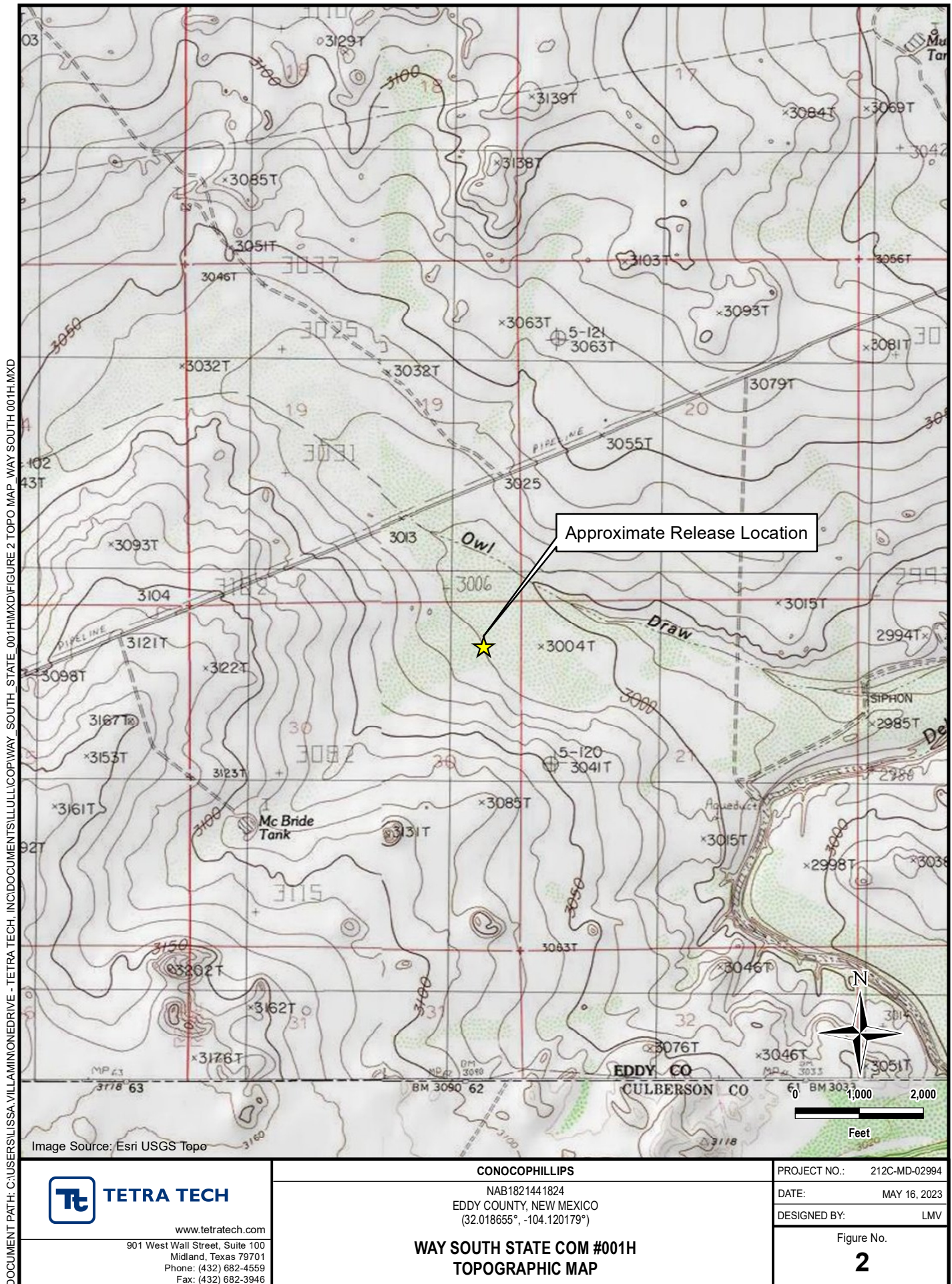
- Table 1 – Summary of Analytical Results – 2018 Soil Assessment (Talon)
- Table 2 – Summary of Analytical Results – 2018 Soil Assessment (Tetra Tech)
- Table 3 – Summary of Analytical Results – 2023 Soil Assessment (Tetra Tech)
- Table 4 – Summary of Analytical Results – 2024 Soil Background (Tetra Tech)

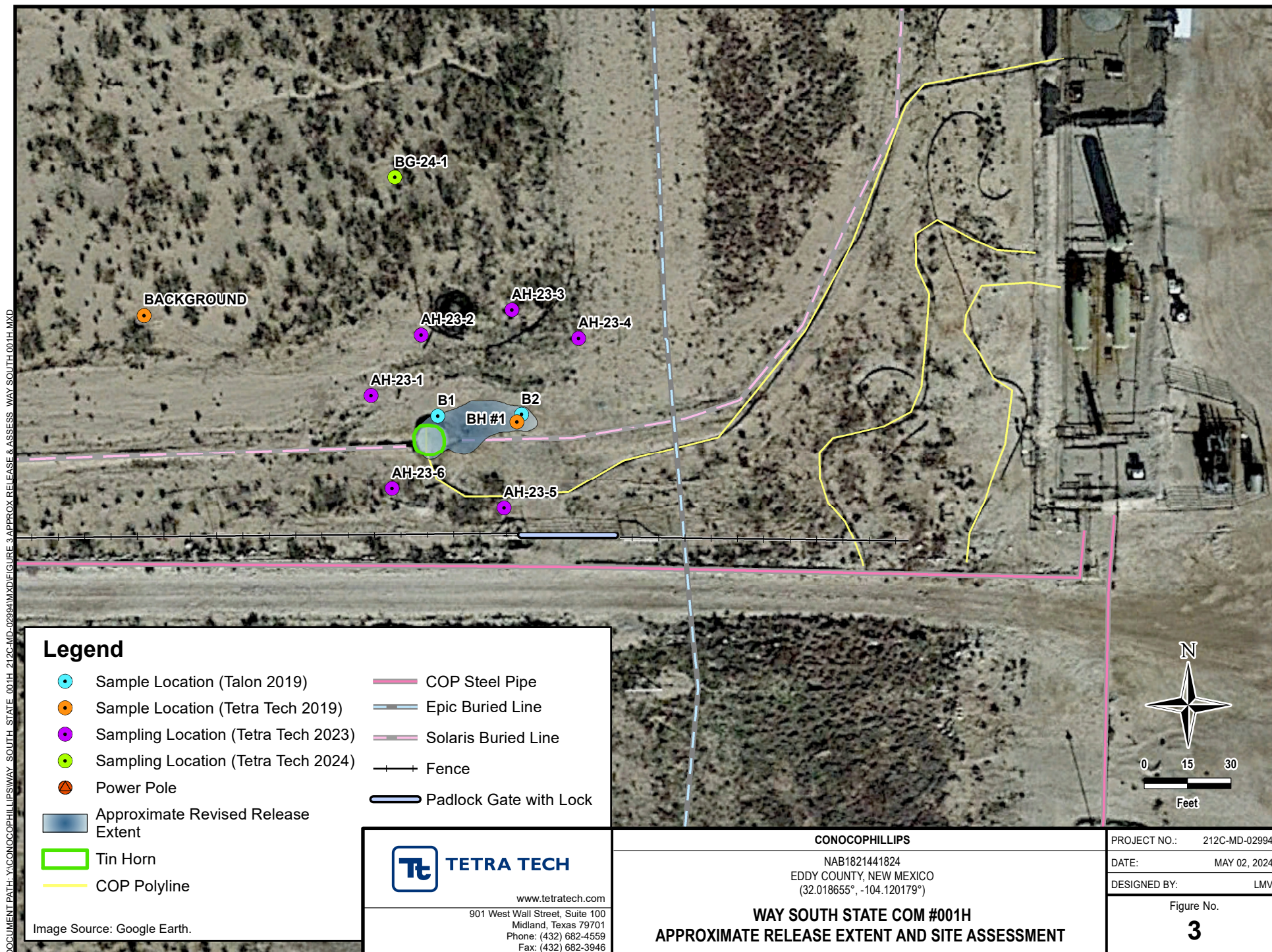
Appendices:

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

FIGURES









TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2018 SOIL ASSESSMENT (TALON) - nAB1821441824
CONOCOPHILLIPS
WAY SOUTH STATE COM #001H
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEx ²										TPH ³							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEx		Gro		Dro		Ext Dro		Total TPH (Gro+Dro+Ext Dro)	
															C ₆ - C ₁₀		> C ₁₀ - C ₂₈		> C ₂₈ - C ₃₆			
		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	
B1	11/28/2018	4	208		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		25.9		18.4		44.3	
		8	288		-		-		-		-		-		-		-		-		-	
B2	11/28/2018	4	12,400		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-	
		8	1,120		-		-		-		-		-		-		-		-		-	
		9	3,680		-		-		-		-		-		-		-		-		-	
		10	976		-		-		-		-		-		-		-		-		-	
		11	1,280		-		-		-		-		-		-		-		-		-	
		12	1,120		-		-		-		-		-		-		-		-		-	

NOTES:

- ft. Feet
- bgs Below ground surface
- mg/kg Milligrams per kilogram
- TPH Total Petroleum Hydrocarbons
- GRO Gasoline range organics
- DRO Diesel range organics
- Sample not analyzed for parameter
- 1 Method SM4500Cl-B
- 2 Method 8021B
- 3 Method 8015M

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

QUALIFIERS:

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
2018 SOIL ASSESSMENT (TETRA TECH) - nAB1821441824
CONOCOPHILLIPS
WAY SOUTH STATE COM#001H
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		
BH # 1	12/20/2018	0-1	9,760		<0.00200		<0.00200		<0.00200		<0.00399		<0.00200		<0.00200		<0.00200		<15.0		<15.0		<15.0		-	
		2-3	10,900		<0.00199		<0.00199		<0.00199		<0.00398		<0.00199		<0.00199		<0.00199		25.7		<15.0		<15.0		25.7	
		4-5	13,400		-		-		-		-		-		-		-		-		-		-		-	
		6-7	5,600		-		-		-		-		-		-		-		-		-		-		-	
		9-10	5,180		-		-		-		-		-		-		-		-		-		-		-	
		14-15	646		-		-		-		-		-		-		-		-		-		-		-	
Background	12/20/2018	0-1	851		-		-		-		-		-		-		-		-		-		-		-	
		2-3	3,000		-		-		-		-		-		-		-		-		-		-		-	
		4-5	2,200		-		-		-		-		-		-		-		-		-		-		-	
		6-7	954		-		-		-		-		-		-		-		-		-		-		-	
		9-10	876		-		-		-		-		-		-		-		-		-		-		-	
		14-15	822		-		-		-		-		-		-		-		-		-		-		-	

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

- 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/or Reclamation Requirements.

QUALIFIERS:

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
2023 SOIL ASSESSMENT (TETRA TECH) - nAB1821441824
CONOCOPHILLIPS
WAY SOUTH STATE COM #001H
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Field Screening Results	Chloride ¹		BTEX ²										TPH ³						
			Chloride			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
																C ₆ - C ₁₀		> C ₁₀ - C ₂₈		> C ₂₈ - C ₃₆		(GRO+DRO+EXT DRO)
		ft. bgs	ppm	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
AH-23-1	5/11/2023	0-1	536	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-2	5/11/2023	0-1	250	160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-3	5/11/2023	0-1	550	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-4	5/11/2023	0-1	276	144		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-5	5/11/2023	0-1	521	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-6	5/11/2023	0-1	197	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-

NOTES:

ft. Feet

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

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

TABLE 4
SUMMARY OF ANALYTICAL RESULTS
2024 SOIL BACKGROUND (TETRA TECH) - nAB1821441824
CONOCOPHILLIPS
WAY SOUTH STATE COM #001H
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride ¹	
		ft. bgs	mg/kg	Q
BG-24-1	4/17/2024	0-1	1340	
		1-2	5040	
		2-3	2160	
		3-4	752	
		4-5	544	
		5-6	1330	
		6-7	1810	
		7-8	1760	
		8-9	1570	
		9-10	1520	
		10-11	1390	
		11-12	1390	
		12-13	1470	
		13-14	1440	
		14-15	1650	
		15-16	1630	
		16-17	1520	
		17-18	1390	
		18-19	1230	
		19-20	688	

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1821441824

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: Way South State Com #001H	Facility Type: Flowline

Surface Owner: State	Mineral Owner: State	API No. 30-015-37234
----------------------	----------------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	30	26S	28E	660	North	330	East	Eddy

Latitude 32.0186005 Longitude -104.1191635 NAD83

NATURE OF RELEASE

Type of Release Oil & Produced Water	Volume of Release 0.1 bbl. - Oil 72 bbl. - Produced Water	Volume Recovered 0 bbl. - Oil 60 bbl. - Produced Water
Source of Release Hole in valve	Date and Hour of Occurrence July 28, 2018 1:00pm	Date and Hour of Discovery July 28, 2018 1:00pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher - NMOCD Ryan Mann - SLO	
By Whom? Sheldon Hitchcock	Date and Hour July 29, 2018 12:33pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 a hole in the check valve. The check valve is being 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: <i>DeAnn Grant</i>		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: DeAnn Grant		Approved by Environmental Specialist: <i>Maria Pruett</i>	
Title: HSE Administrative Assistant	Approval Date: <i>8/2/18</i>	Expiration Date: <i>N/A</i>	
E-mail Address: agrant@concho.com	Conditions of Approval: <i>See attached</i>		Attached: <i>27P-4888</i>
Date: July 30, 2018	Phone: (432) 253-4513		

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 07/31/18 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP4888 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 08/28/18. 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; C₆ thru C₃₆), 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; C₆ thru C₃₆), 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

Bustamante, Amalia, EMNRD

From: Pruett, Maria, EMNRD
Sent: Wednesday, August 1, 2018 6:51 AM
To: Bustamante, Amalia, EMNRD
Subject: FW: (C-141 Initial) Way South State Com #001H (30-015-37234) 07-28-2018
Attachments: revised C-141 directive of 11-4-16.pdf; OCD Received Signed (C-141 Initial) Way South State Com #001H (30-015-37234) 07-28-2018.pdf

Good Morning Amalia,

Please find attached the signed/dated C-141 and directive.

Best Regards,

Maria Pruett

Environmental Specialist
N.M. Oil Conservation Division
District 2
811 S. 1st Street
Artesia, NM 88210
Desk: 575 748-1283 X 101
Cell: 575 840-5963
Fax: 575748-9720

From: DeAnn Grant <agrant@concho.com>
Sent: Tuesday, July 31, 2018 7:28 AM
To: Pruett, Maria, EMNRD <Maria.Pruett@state.nm.us>; Mann, Ryan <rmann@slo.state.nm.us>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Ike Tavaréz <itavarez@concho.com>; Robert McNeill <RMcNeill@concho.com>; Sheldon Hitchcock <SLHitchcock@concho.com>; Dakota Neel <DNeel2@concho.com>; Rebecca Haskell <RHaskell@concho.com>; DeAnn Grant <agrant@concho.com>
Subject: (C-141 Initial) Way South State Com #001H (30-015-37234) 07-28-2018

Ms. Pruett/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

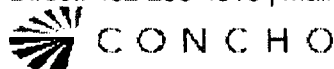
HSE Administrative Assistant

agrant@concho.com

COG Operating LLC

600 W Illinois Avenue | Midland, TX 79701

Direct: 432-253-4513 | Main: 432.683.7443



NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Further, any contract terms proposed or purportedly accepted in this email are not binding and are subject to management's final approval as memorialized in a separate written instrument, excluding electronic correspondence, executed by an authorized representative of COG Operating LLC or its affiliates.

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 not 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: <i>Each of the following items must be included in the report.</i>
<input type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
<input type="checkbox"/> Field data
<input type="checkbox"/> Data table of soil contaminant concentration data
<input type="checkbox"/> Depth to water determination
<input type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
<input type="checkbox"/> Boring or excavation logs
<input type="checkbox"/> Photographs including date and GIS information
<input type="checkbox"/> Topographic/Aerial maps
<input type="checkbox"/> 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

Cultural Survey

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Registration

Lead Agency: New Mexico State Land Office

Performing Agency: SWCA Environmental Consultants

Activity ID: 80223

Performing Agency Report No: 23-245

Report Recipient (Your Client): Tetra Tech

- Activity Types:
- ☐ Research Design
 - ☒ Archaeological Survey/Inventory
 - ☐ Architectural Survey/Inventory
 - ☐ Test Excavation
 - ☐ Monitoring
 - ☐ Collections/Non-Field Study
 - ☐ Compliance Decision
 - ☐ Literature Review Overview
 - ☐ Excavation
 - ☐ Ethnographic Study
 - ☐ Resource/Property Visit
 - ☐ Historic Structures Report
 - ☐ Other:

Total Survey Acreage: 18.15

Total Tribal Acreage: 0.00

Total Resources Visited: 0

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Associate/Register Resources

Prefix	Number	Field Site/Other Number	In GIS	Resource Type	Collections Made?	Revisit
			✓		<input type="checkbox"/>	

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Report Details

Lead Agency

Lead Agency: New Mexico State Land Office

Lead Agency Report No.

Report Number: _____

Title of Report

Title of Report: A Cultural Resources Survey of the Way South State Com Monitor Well Project in Eddy County, New Mexico

Authors: Paisley DeFreese

Type of Report

Publication Type: Report, Monograph, or Book Negative

Description of Undertaking (what does the project entail?)

Description: Tetra Tech contracted SWCA Environmental Consultants (SWCA) to conduct an intensive cultural resources pedestrian survey in support of the Way South State Com Monitor Well project in Eddy County, New Mexico. The proposed project consists of constructing and maintaining a new well and pad and is approximately 23.26 kilometers (14.45 miles) south of Malaga, New Mexico on lands managed by the New Mexico State Land Office (SLO). The SLO will serve as the lead agency.

Tetra Tech is proposing to build a monitor well. The proposed area of potential effects (APE) is a 10-acre (4.04 hectare) block. The project is completely on SLO land. Tetra Tech sent a site monitor to survey with SWCA as part of their standard safety protocol.

Dates of Investigation

From: 04/17/2023 To: 04/17/2023

Report Date

Report Date: 04/26/2023

Performing Agency/Consultant

Name: SWCA Environmental Consultants

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Principal Investigator:	Christine Kendrick
Field Supervisor:	Thea Stehlik-Barry
Field Personnel Names:	N/A
Historian/Other:	N/A

Report Details

Performing Agency Report Number

Report Number: 23-245

Client/Customer (project proponent)

Name:	Tetra Tech
Contact:	Steve Jester
Address:	1500 City West, #1000 Houston, TX 77042
Phone:	(713) 806-8871

Client/Customer Project Number

Project Number: 80223

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Ownership & Location

Land Ownership Status (Must be indicated on Project Map)

Land Ownership:

Land Owner/Manager	Protocol	Acres Surveyed	Acres in APE
NM SLO		18.15	10

Total Survey Acreage: 18.15

Total Tribal Acreage: 0.00

Record Search(es)

Date of HPD/ARMS File Review: 30-March-2023

Date of Other Agency File Review: 30-March-2023

Survey Data

Source Graphics: NAD 83
✓ USGS 7.5' (1:24,000) topo map ☐ Other Topo Map Scale:
✓ GPS Unit
☐ Aerial Photos ☐ Other Source Graphic(s):

The following tables (b,c,& e) are calculated by the NMCRIS Map Service

USGS 7.5' Topographic Map(s)

Map Name	USGS Quad Code
Red Bluff	32104-A1

County(ies)

County	FIPS
Eddy	

Legal Description

Unplatted	Township (N/S)	Range (E/W)	Section
	T26S	R29E	29
	T26S	R29E	30

Projected Legal Description

Nearest City or Town: Malaga

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

GIS

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NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Methodology

Survey Field Methods

Intensity: 100% coverage

Configuration: ☒ Block Survey Units ☐ Linear Survey Units (l x y)

Other Survey Units

Scope: Non-Selective

Coverage Method: ☒ Systematic Pedestrian Coverage **Other Method:** _____

Survey Interval (m): 15 **Crew Size:** 1

Fieldwork Dates: From: 04/17/2023 **To:** 04/17/2023

Survey Person Hours: 1.25 **Recording Person Hours:** 0

Additional Narrative: Colton Bickerstaff, a Tetra Tech monitor, surveyed with SWCA.

Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.)

Environmental Setting:

The project area falls within the Chihuahuan Basins and Playas (24a) ecoregion. This ecoregion includes alluvial fans, internally drained basins, and river valleys mostly below 4,500 feet in elevation (Griffith et al. 2006). The elevation of the project area is 1,061.6 m (3,483 feet) above mean sea level. This ecoregion is composed of desert grasses and shrub land in erosional settings. This project is within the shrub land setting. Typical vegetation includes creosote bush, tarbush, yuccas, sandsage, viscid acacia, tasajillo, lechuguilla, mesquite, and ceniza. (Griffith et al. 2006). Wildlife in the area includes mule deer, prairie dog, gopher, fox, coyote, skunk, black-tailed jackrabbit, desert cottontail, scaled quail, burrowing owl, mourning dove, wrens, various hawks, bull snake, prairie rattlesnake, plain hognose snake, western hooknose snake and numerous lizards (Biota Information System of New Mexico 2023; Brown 1994). Important animal species prehistorically include deer, jackrabbit, and cottontail.

Geology underlying the project area comprises Holocene to middle Pleistocene eolian deposits ([Qe] [U.S. Geological Survey 2023]). Two soils are present within the project area: Gypsum land-Cottonwood complex, 0 to 3 percent slopes (0.28 percent survey area) are well drained, with a low runoff class; Cottonwood-Reeves loams, overflow, 0 to 3 percent slopes (99.72 percent of survey area) and are well drained, with a moderate runoff class (Natural Resources Conservation Service 2023).

Weather data for the survey area was compiled using the Carlsbad Caverns, New Mexico (291480), climate station data (period of record February 1, 1930, to June 6, 2016). Rainfall in the survey area can occur year-round but is most abundant from May through October. During that time period, rainfall totals 30.1 cm (11.9 inches), with an average of 5.0 cm (1.98 inches) per month for those months; September has the heaviest average precipitation. Snowfall is heaviest during December at 5.6 cm (2.2 inches) and can fall between October and March. Temperatures are coldest in December and January at 0.8

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

degree Celsius (33.6 degrees Fahrenheit) and warmest in June at 32.8 degrees Celsius (91.1 degrees Fahrenheit) (Western Regional Climate Center 2023).

Biota Information System of New Mexico

2023 Database Query for Eddy County. Available at: <http://www.bison-m.org/>. Accessed April 2023.

Griffith, G. E., J. M. Omernik, M. M. McGraw, G. Z. Jacobi, C. M. Canavan, T. S. Schrader, D. Mercer, R. Hill, and B. C. Moran

2006 Ecoregions of New Mexico. Color poster with map, descriptive text, summary tables, and photographs. Map scale 1:1,100,000. U.S. Geological Survey, Reston, Virginia.

Natural Resources Conservation Service

2023 Web Soil Survey of Eddy County, New Mexico. Available at: <http://websoilsurvey.nrcs.usda.gov/app/>. Accessed April 2023.

Western Regional Climate Center

2023 Climate Summary for Carlsbad Caverns Climate Station (291480). Available at: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm1480>. Accessed April 2023

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Methodology

Percent Ground Visibility

Ground Visibility: 76-99 %**Condition of Survey Area:** Area was heavily disturbed with a well pad, access roads, flowlines, cleared pad areas, fence lines, and cattle traffic.

Attachments (check all appropriate boxes)

- ☒ USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn (required)
- ☒ Copy of NMCRIS Map Check (required)
- ☐ LA Site Forms – new sites (with sketch map & topographic map) if applicable
- ☐ LA Site Forms (update) – previously recorded & unrelocated sites (first 2 pages minimum)
- ☐ List and Description of Isolates, if applicable
- ☐ List and Description of Collections, if applicable

Other Attachments

- ☒ Photographs and Log
- ☐ Other attachments **Describe:** _____

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Cultural Resource Findings

Investigation Results

Archaeological Sites Discovered and Registered: 0

Archaeological Sites Discovered and NOT Registered: 0

Previously Recorded Archaeological Sites Revisited (site update form required): 0

Previously Recorded Archaeological Sites Not Relocated (site update form required): 0

Total Archaeological Sites (visited & recorded): 0

Total Isolates Recorded: 0

✓ Non-Selective Isolate Recording

HCPI Properties Discovered and Registered: 0

HCPI Properties Discovered And NOT Registered: 0

Previously Recorded HCPI Properties Revisited: 0

Previously Recorded HCPI Properties NOT Relocated: 0

Total HCPI Properties (visited & recorded, including acequias): 0

If No Cultural Resources Found, Discuss Why: 0

Management Summary

SWCA surveyed a 30.48-m (100-feet) buffer on all sides of the proposed project polygons for a total survey area of 18.15 acres (7.33 hectares). No archaeological sites or historic cultural properties (buildings, structures, or objects) or isolated occurrences were observed. This is likely due to the small survey area in addition to the previous surveys around the project also finding no cultural materials.

Summary: SLO cultural resources preservation efforts requires that an archaeological survey be conducted to current standards for the APE pursuant to and in compliance with New Mexico Administrative Code (NMAC) 4.10.15 to ensure that cultural properties are not inadvertently excavated, harmed, or destroyed by any person. SWCA recommends that the proposed project will have no effect on any cultural resources listed or eligible for listing in the New Mexico State Register of Cultural Properties or the National Register of Historic Places. However, if buried cultural deposits are discovered during project construction, work should cease immediately, and the New Mexico SLO and State Historic Preservation Officer should be contacted

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Attachments

Documents:

Attachment Type	Description	Name	File Type	Size	Upload Date	Upload By
Report/Manuscript	NMCRIS_152756 NIAF	NMCRIS_152756	PDF Document	6,879 KB	21-April-2023	Paisley DeFreese

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

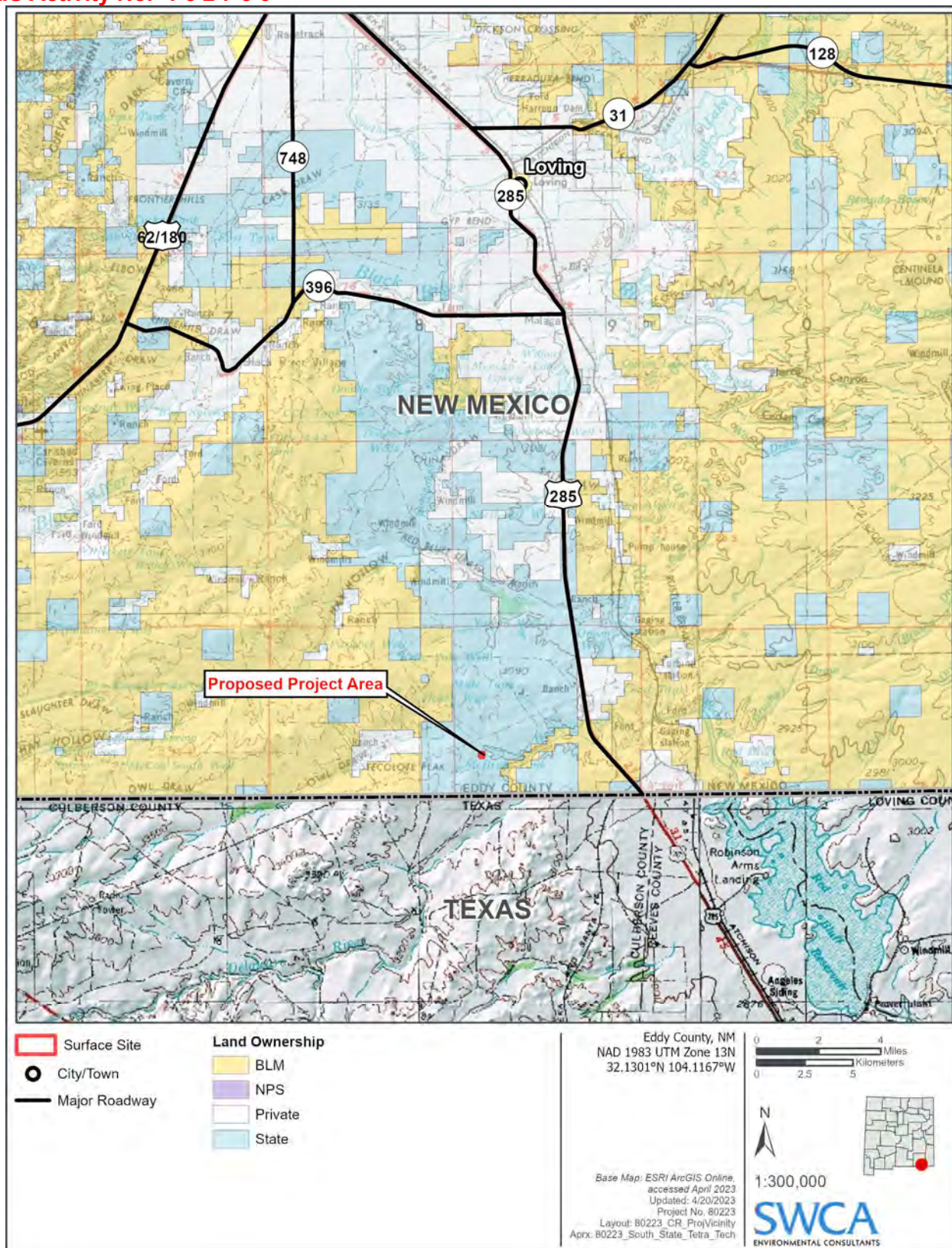


Figure 1. Project vicinity map.

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

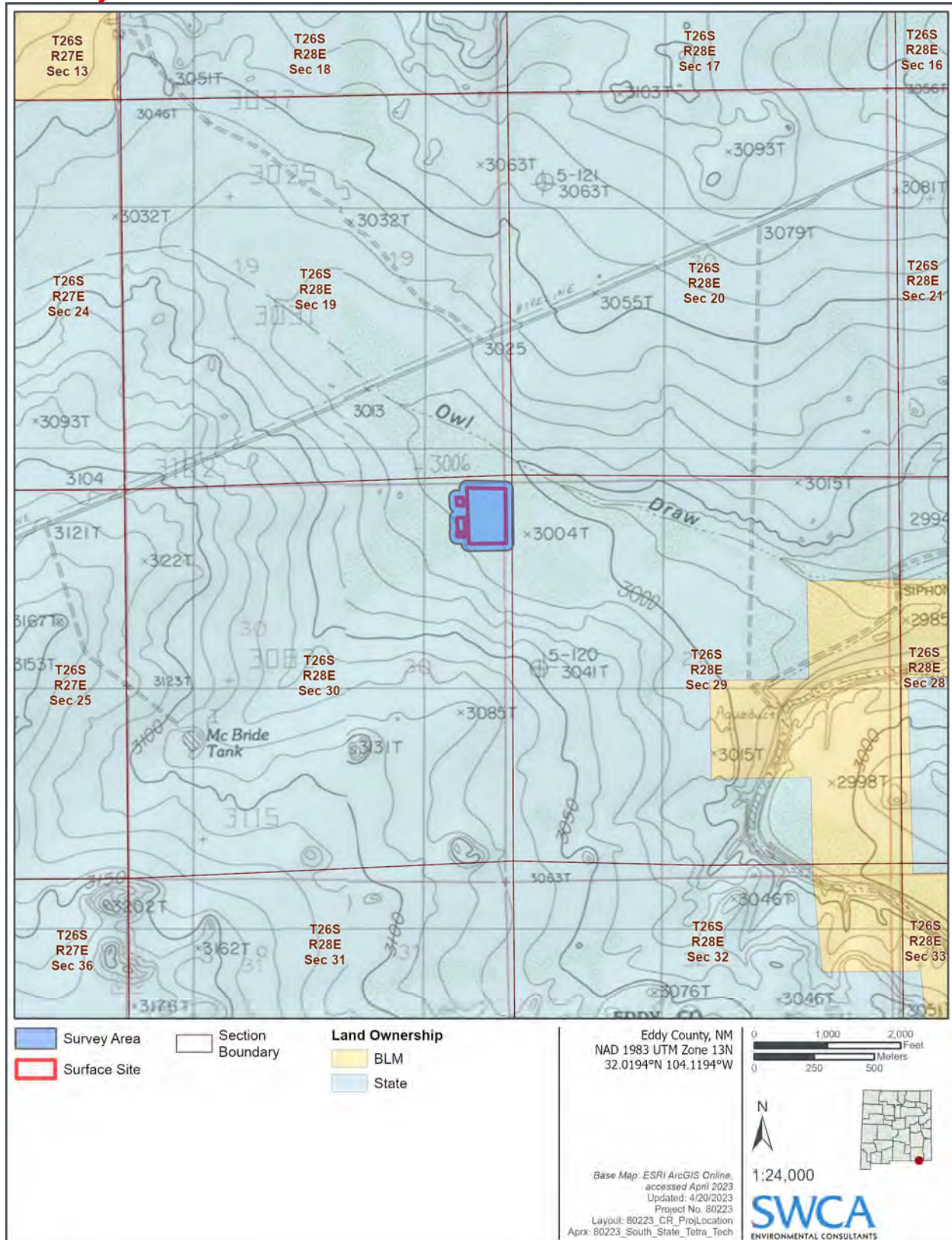


Figure 2. Project location map.

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6



Figure 3. Project overview, facing northeast (Frame -9754).



Figure 4. Project overview, facing southwest (Frame -9456).

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6



Figure 5. Project overview, facing southeast (Frame -5308).



Figure 6. Project overview, facing north (Frame -2509).

NMCRIS Investigation Abstract Form (NIAF)

NMCRIS Activity No. 1 5 2 7 5 6

Table 1. Previously Known Cultural Resources within 500 m (0.31 mile) of the Project Area

*Redacted

Table 2. Previously Completed Cultural Resource Surveys within 500 m (0.31 mile) of the Project Area

*Redacted

Figure 7. ARMS screenshot with the survey area in blue and sites in yellow.

*Redacted

APPENDIX C

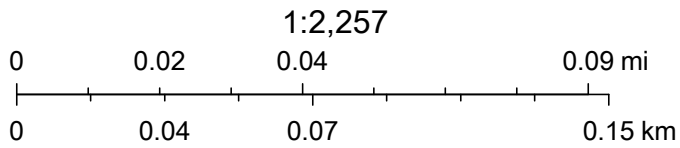
Site Characterization Data

OCD Waterbodies Map



2/8/2023, 2:36:50 PM

— OSE Streams



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

Way South State Com #001H Tin Horn

Incident ID# nAB1821441824

Legend

★ Way South StateCom #001H Tin Horn

Way South State Com #001H Tin Horn

Zone A

REFERENCE LAYERS

- RPFL Curb Analysis
- Water Asset Boundary
- Limit Boundary

SPECIAL FLOOD HAZARD AREAS

- 1% Annual Chance Flood Hazard
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 2% Annual Chance Flood Hazard
- 100 Year Flood Hazard
- Area with Potential Flood Risk
- Area with Limited Flood Risk
- Area with Minimal Flood Risk
- Area of Undetermined Flood Hazard

CROSS SECTIONS & DPER

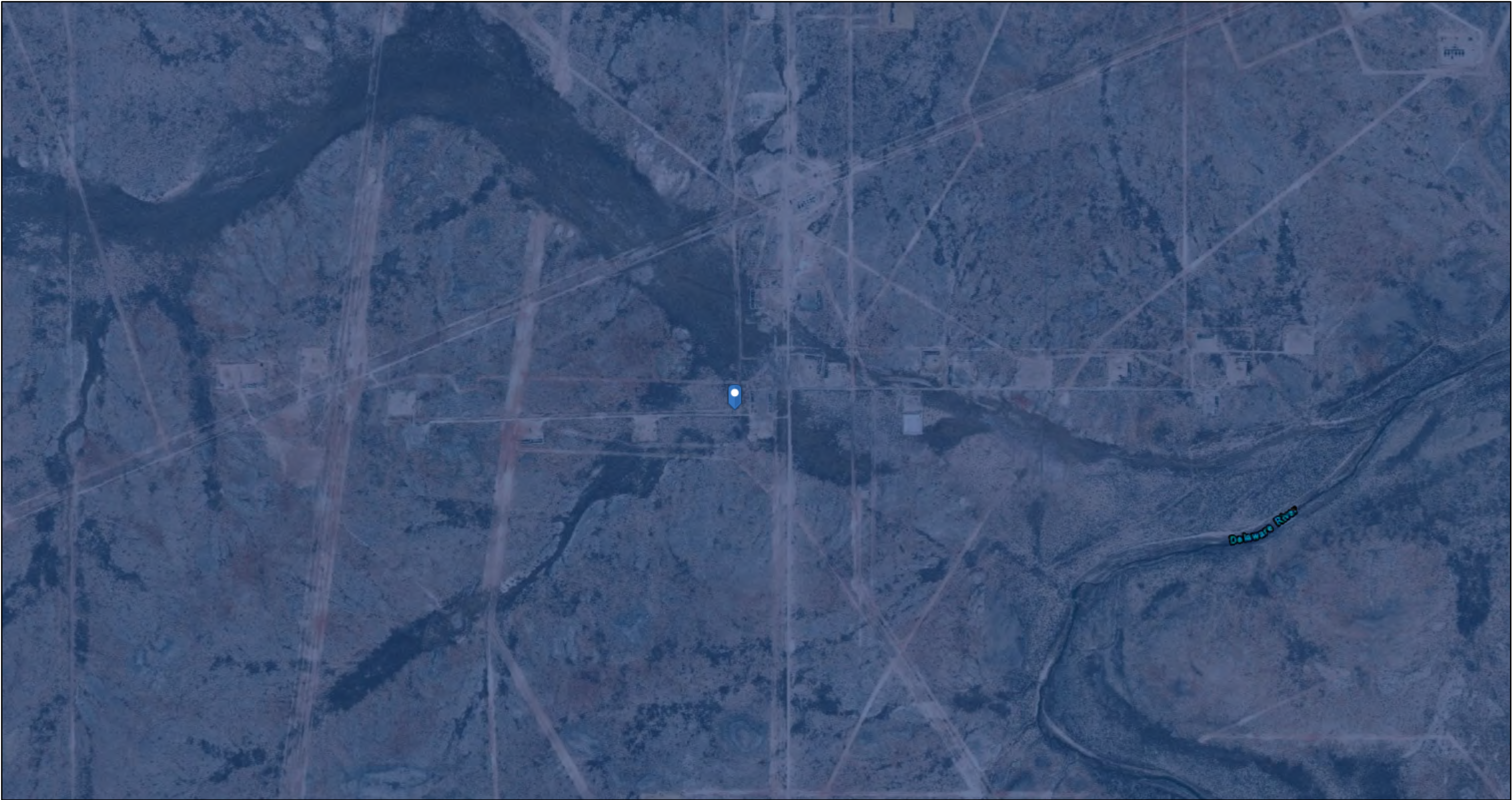
- 1% Annual Chance Flood Hazard
- 2% Annual Chance Flood Hazard
- 100 Year Flood Hazard
- Area with Potential Flood Risk
- Area with Limited Flood Risk
- Area with Minimal Flood Risk
- Area of Undetermined Flood Hazard

SUPPORTING INFORMATION

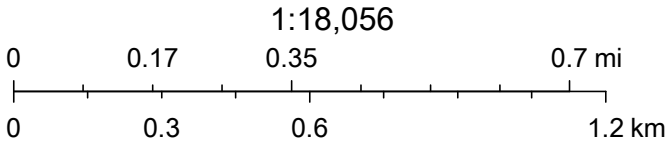
- Limit of Study
- Joint Address Boundary



OCD Karst Potential Map



2/8/2023, 2:35:40 PM
Karst Occurrence Potential
High



BLM, OCD, New Mexico Tech, 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 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04466 POD1	CUB	ED		3	3	2	29	26S	28E	584327	3542357	1338	96	33	63

Average Depth to Water: **33 feet**

Minimum Depth: **33 feet**

Maximum Depth: **33 feet**

Record Count: 1

UTM NAD83 Radius Search (in meters):

Easting (X): 583080

Northing (Y): 3542842.31

Radius: 1600

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.

2/8/23 1:33 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

APPENDIX D

Regulatory Correspondence

From: OCDOnline@state.nm.us
To: [Beauvais, Charles R](#)
Subject: [EXTERNAL]The Oil Conservation Division (OCD) has rejected the application, Application ID: 161772
Date: Monday, November 28, 2022 4:20:48 PM

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 Charles Beauvais for COG OPERATING LLC),

The OCD has rejected the submitted *Internal Manual Incident File Supporting Documentation* (ENV) (IM-BNF), for incident ID (n#) nAB1821441824, for the following reasons:

- **The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.**
- **Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for “on-pad” releases to ensure the release did not extend to the “off-pad”/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved “background” values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.**
- **2RP-4888 closed. Please refer to incident #nAB1821441824 in all future communications.**
- **Background sample(s) should be a grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release’s impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. The background sample cannot be approved based on delineation is incomplete.**
- **Please submit a complete report through the OCD Permitting website by 3/3/2023.**

The rejected IM-BNF can be found in the OCD Online: Permitting - Action Status, under the Application ID: 161772.

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 IM-BNF.

Thank you,
Brittany Hall
Projects Environmental Specialist - A

505-517-5333

Brittany.Hall@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive

Santa Fe, NM 87505

From: [Hall, Brittany, EMNRD](#)
To: [Abbott, Sam](#)
Cc: [Beauvais, Charles R](#); [Llull, Christian](#); [Chavira, Lisbeth](#)
Subject: RE: [EXTERNAL] Extension Request - Application ID 161772 (Incident ID nAB1821441824)
Date: Tuesday, February 28, 2023 9:40:35 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.

Sam,

Your extension request for **nAB1821441824** is approved. The new due date is June 3, 2023.

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: Abbott, Sam <Sam.Abbott@tetrattech.com>
Sent: Tuesday, February 28, 2023 7:48 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>; Llull, Christian <Christian.Llull@tetrattech.com>; Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>
Subject: [EXTERNAL] Extension Request - Application ID 161772 (Incident ID nAB1821441824)

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

Ms. Hall:

On behalf of ConocoPhillips, Tetra Tech is requesting a 90-day extension (until June 3, 2023) to complete additional assessment activities and associated reporting for the Way South State Com #001H Release site (**nAB1821441824**).

ConocoPhillips recently received a large volume of NMOCD determinations related to unresolved releases from ConocoPhillips' predecessor-in-interest ("COG") via the *Internal Manual Incident File Supporting Documentation (ENV)* (IM-BNF) process.

Given the difficulties inherent with available resource allocation for several projects with similar deadlines within a short period of time, this extension is required to safely complete the additional

assessment. ConocoPhillips plans to conduct the additional assessment in the coming month however, and once the sampling data is collected, tabulated, and evaluated, a revised report will be submitted to the OCD.

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

Sam

Samantha Abbott, PG | Project Manager

Direct Mobile +1 (512) 739-7874 | Business +1 (512) 338-1667 | Sam.Abbott@tetrattech.com

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TETRA TECH

From: [Hall, Brittany, EMNRD](#)
To: [Abbott, Sam](#)
Cc: [Cantu Garcia, Moises H](#); [Llull, Christian](#); [Chavira, Lisbeth](#)
Subject: RE: [EXTERNAL] Extension Request - Application ID 161772 (Incident ID nAB1821441824)
Date: Friday, June 2, 2023 2:49:23 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

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Sam,

The extension request for **nAB1821441824** is approved. New due date is 9/3/2023.

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/oecd/>

From: Abbott, Sam <Sam.Abbott@tetrattech.com>
Sent: Friday, June 2, 2023 9:57 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Cantu Garcia, Moises H <Moises.H.CantuGarcia@conocophillips.com>; Llull, Christian <Christian.Llull@tetrattech.com>; Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>
Subject: RE: [EXTERNAL] Extension Request - Application ID 161772 (Incident ID nAB1821441824)

Ms. Hall,

On behalf of ConocoPhillips, Tetra Tech is requesting an additional 90-day extension (until September 3, 2023) to complete additional assessment activities and associated reporting for the Way South State Com #001H Release site (**nAB1821441824**).

NMOCD rejected the submitted Work Plan for incident ID (n#) **nAB1821441824** for the following reasons:

- **The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away**

from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.

- **Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for “on-pad” releases to ensure the release did not extend to the “off-pad”/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved “background” values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.**
- **2RP-4888 closed. Please refer to incident #nAB1821441824 in all future communications.**
- **Background sample(s) should be a grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release’s impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. The background sample cannot be approved based on delineation is incomplete.**
- **Please submit a complete report through the OCD Permitting website by 3/3/2023.**

A 90-day extension (until June 3, 2023) request was approved on February 28, 2023 (email chain below).

The release footprint is located on State Trust lands. As of December 1, 2022 New Mexico State Land Office’s Cultural Properties Protection (CPP) Rule is in effect. In tandem with this CPP rule, the NMSLO has 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 Way South State Com #001H Release site while in the process of complying with these rules. The allocation of resources required to complete the cultural survey requirements and the Water/Soil Boring Exploration permit process are demanding and require additional time for coordination with not only regulatory personnel but additional archaeological subcontractors and cultural specialists. The cultural survey is now completed, the archaeological report is submitted and approved by State Land Office Cultural Resources, and the permitting process is completed. Tetra Tech and ConocoPhillips have initiated assessment activities at the site, and need additional time to evaluate analytical results, conduct additional sampling if necessary, and complete the subsequent reporting.

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

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

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From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>

Sent: Tuesday, February 28, 2023 9:40 AM

To: Abbott, Sam <Sam.Abbott@tetrattech.com>

Cc: Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>; Llull, Christian <Christian.Llull@tetrattech.com>; Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>

Subject: RE: [EXTERNAL] Extension Request - Application ID 161772 (Incident ID nAB1821441824)



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Ms. Hall:

On behalf of ConocoPhillips, Tetra Tech is requesting a 90-day extension (until June 3, 2023) to complete additional assessment activities and associated reporting for the Way South State Com #001H Release site (**nAB1821441824**).

ConocoPhillips recently received a large volume of NMOCD determinations related to unresolved releases from ConocoPhillips' predecessor-in-interest ("COG") via the *Internal Manual Incident File Supporting Documentation (ENV)* (IM-BNF) process.

Given the difficulties inherent with available resource allocation for several projects with similar deadlines within a short period of time, this extension is required to safely complete the additional assessment. ConocoPhillips plans to conduct the additional assessment in the coming month however, and once the sampling data is collected, tabulated, and evaluated, a revised report will be submitted to the OCD.

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

Sam

Samantha Abbott, PG | Project Manager

Direct Mobile +1 (512) 739-7874 | Business +1 (512) 338-1667 | Sam.Abbott@tetrattech.com

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From: [Hall, Brittany, EMNRD](#)
To: [Abbott, Sam](#)
Cc: [Llull, Christian](#); [Chavira, Lisbeth](#)
Subject: RE: [EXTERNAL] Extension Request - Application ID 161772 (nAB1821441824)
Date: Tuesday, October 31, 2023 10:37:22 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

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Ms. Abbott,

The extension request is approved for **nAB1821441824**. The new due date is December 3 ,2023.

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: Abbott, Sam <Sam.Abbott@tetrattech.com>
Sent: Friday, October 27, 2023 8:21 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Llull, Christian <Christian.Llull@tetrattech.com>; Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>
Subject: [EXTERNAL] Extension Request - Application ID 161772 (nAB1821441824)

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

Ms. Hall,

On behalf of ConocoPhillips, Tetra Tech is requesting an additional 90-day extension (until December 3, 2023) to complete additional assessment activities and associated reporting for the Way South State Com #001H Release site (**nAB1821441824**).

NMOCD rejected the submitted Work Plan for incident ID (n#) **nAB1821441824** for the following reasons:

- **The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away**

from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.

- Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for “on-pad” releases to ensure the release did not extend to the “off-pad”/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved “background” values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.
- 2RP-4888 closed. Please refer to incident #nAB1821441824 in all future communications.
- Background sample(s) should be a grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release’s impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. The background sample cannot be approved based on delineation is incomplete.
- Please submit a complete report through the OCD Permitting website by 3/3/2023.

A 90-day extension (until June 3, 2023) request was approved on February 28, 2023 and a second 90-day extension (until September 3, 2023) request was approved on June 2, 2023.

The release footprint is located on State Trust lands. As of December 1, 2022 New Mexico State Land Office’s Cultural Properties Protection (CPP) Rule is in effect. In tandem with this CPP rule, the NMSLO has 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 Way South State Com #001H Release site while in the process of complying with these rules. The allocation of resources required to complete the cultural survey requirements and the Water/Soil Boring Exploration permit process are demanding and require additional time for coordination with not only regulatory personnel but additional archaeological subcontractors and cultural specialists. The cultural survey is now completed, the archaeological report is submitted and approved by State Land Office Cultural Resources, and the permitting process is completed.

The release footprint is located in a floodplain area, with shallow groundwater. **These conditions have created delays in the permit processing timeline. Tetra Tech has made great strides toward receiving these permits for an adjacent site, and once those permits are in hand, this work will be completed.** Tetra Tech and ConocoPhillips have initiated assessment activities at the site, as demonstrated in the attached table and figure. However, ConocoPhillips and Tetra Tech continued to experience delays in obtaining an NMSLO right of entry permit to install groundwater monitoring

wells for an adjacent release site at the Way South Battery (nRM2008650013) and collect additional background samples. The intent was to use this data for the site characterization and assessment of the nAB1821441824 release site as well. Tetra Tech and ConocoPhillips will submit a revised work plan by the requested deadline using all available data.

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

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

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Abbott, Sam

From: Sam.Abbott@tetrattech.com
Subject: FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 290330

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Thursday, December 28, 2023 12:16 PM
To: Llull, Christian <Christian.Llull@tetrattech.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 290330

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

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#) nAB1821441824, for the following reasons:

- Due to the site being partially encompassed by a FEMA Flood Hazard Area Zone A, within 100 feet of a watercourse mapped by the NMOSE, in an area of high karst potential, in an area of shallow groundwater, and the age of the analytical data for the background; the OCD is requesting a new background borehole be installed within the vicinity of the 2018 background borehole before approving background chloride concentrations. Please send at least a 2-business day notification to the OCD Enviro email and Robert Hamlet (robert.hamlet@emnrd.nm.gov), prior to installing the borehole and collecting background samples. OCD would like to witness the boring and sampling, if available.
- Submit a complete report through the OCD Permitting website by 5/6/2024.

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 290330. 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,
Brittany Hall
Projects Environmental Specialist - A
505-517-5333
Brittany.Hall@emnrd.nm.gov

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

Abbott, Sam

From: Abbott, Sam
Sent: Wednesday, January 10, 2024 1:42 PM
To: Hall, Brittany, EMNRD; tknight
Cc: Llull, Christian; Tavarez, Ike; Griffin, Becky R.; David, Deon W.; wbarnes
Subject: RE: [EXTERNAL] RE: (Remediation Plan) - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018 - ECO Review

Thank you, Brittany and Tami. We will notify you both when we get this work scheduled.

Tami, unfortunately we do not have information regarding that ROW.

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

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From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Tuesday, January 9, 2024 8:27 AM
To: tknight <tknight@slo.state.nm.us>; Abbott, Sam <Sam.Abbott@tetrattech.com>
Cc: Llull, Christian <Christian.Llull@tetrattech.com>; Tavarez, Ike <Ike.Tavarez@conocophillips.com>; Griffin, Becky R. <bgriffin@slo.state.nm.us>; David, Deon W. <ddavid@slo.state.nm.us>; wbarnes <wbarnes@slo.state.nm.us>
Subject: RE: [EXTERNAL] RE: (Remediation Plan) - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018 - ECO Review

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Sam,
The OCD also agrees that the proposed location for the background sample is acceptable.

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/>

Please be advised that the new Digital C-141 is live as of December 1, 2023. Please review the new Digital C-141 submission Dec 1, 2023 Guidance document posted on the EMNRD Website prior to submitting any C-141s. The

guidance documents can be found at <https://www.emnrd.nm.gov/ocd/ocd-announcements-and-notifications/> or <https://www.emnrd.nm.gov/ocd/ocd-forms/>.

From: Knight, Tami C. <tknight@slo.state.nm.us>

Sent: Monday, January 8, 2024 11:31 AM

To: Abbott, Sam <Sam.Abbott@tetrattech.com>; Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>

Cc: Llull, Christian <Christian.Llull@tetrattech.com>; Tavaréz, Ike <Ike.Tavaréz@conocophillips.com>; Griffin, Becky R. <bgriffin@slo.state.nm.us>; David, Deon W. <ddavid@slo.state.nm.us>; wbarnes <wbarnes@slo.state.nm.us>

Subject: [EXTERNAL] RE: (Remediation Plan) - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018 - ECO Review

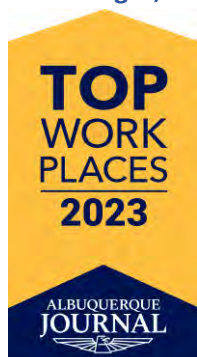
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Sam

Our inspectors confirmed that the proposed background sample location will be acceptable. They also confirmed that the area highlighted in green is indeed a ROW, but they were unable to determine who's right of way it is. Does your team happen to have information on this ROW? We were able to determine that the areas of concern (red) were likely from recent precipitation events.



Thank you

Tami Knight, CHMM

Environmental Specialist
 SRD-Environmental
 Compliance Office (ECO)
 505.670.1638
 New Mexico State Land Office
 1300 W. Broadway Avenue, Suite A
 Bloomfield, NM 87413
tknight@slo.state.nm.us
nmstatelands.org



PLEASE SUBMIT WORKPLANS AND REPORTS TO ECO@SLO.STATE.NM.US

.....

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From: Knight, Tami C.

Sent: Friday, January 5, 2024 10:54 AM

To: Abbott, Sam <Sam.Abbott@tetrattech.com>; Brittany.Hall@emnrd.nm.gov

Cc: Llull, Christian <Christian.Llull@tetrattech.com>; Tavarez, Ike <Ike.Tavarez@conocophillips.com>; Griffin, Becky R. <bgriffin@slo.state.nm.us>; David, Deon W. <ddavid@slo.state.nm.us>

Subject: RE: (Remediation Plan) - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018 - ECO Review

Sam

I am going to wait to hear back from Becky and Deon during their site visit today to make sure we are good on our end.

Tami

From: Abbott, Sam <Sam.Abbott@tetrattech.com>

Sent: Friday, January 5, 2024 10:51 AM

To: Knight, Tami C. <tknight@slo.state.nm.us>; Brittany.Hall@emnrd.nm.gov

Cc: Llull, Christian <Christian.Llull@tetrattech.com>; Tavarez, Ike <Ike.Tavarez@conocophillips.com>

Subject: [EXTERNAL] FW: (Remediation Plan) - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018 - ECO Review

Good morning,

Based on the below correspondence from NMSLO ECO, and the attached correspondence from the NMOCD, a joint conference call was held on 1/5/2024 to discuss the ideal placement for the requested additional background soil boring.

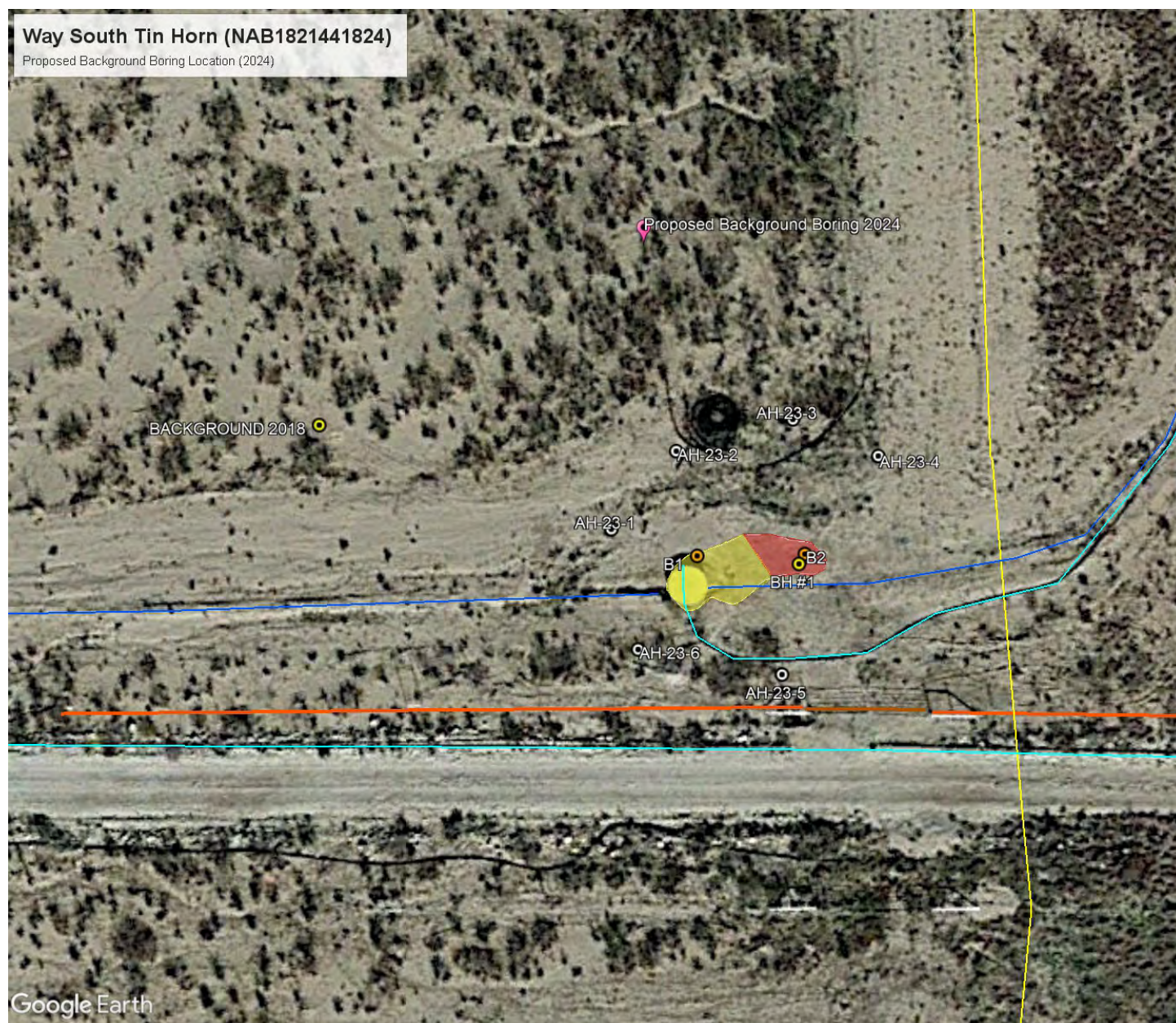
After review of the site conditions in the vicinity of the tin horn and the right-of-way, a location approximately 100 feet due north of the release extent (presented in the image below) was selected for the background boring. That location

was agreed upon by Tami Knight of NMSLO ECO and Brittany Hall of NMOCD. The approximate GPS coordinates of the new proposed background boring are 32.018888°, -104.120315°.

Based on our understanding of the right-of-entry permitting requirements, Tetra Tech will need to procure a right-of-entry permit from CRD.

Please reply to confirm the proposed location. After we have received confirmation from both the NMOCD and NMSLO ECO, we will proceed with permitting.

Thank you,
Sam



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

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From: Knight, Tami C. <tknight@slo.state.nm.us>

Sent: Thursday, January 04, 2024 9:09 AM

To: Abbott, Sam <Sam.Abbott@tetratech.com>; Tavarez, Ike <Ike.Tavarez@conocophillips.com>

Cc: Llull, Christian <Christian.Llull@tetratech.com>; Elliott, April L. <aelliott@slo.state.nm.us>; Barnes, Will

<wbarnes@slo.state.nm.us>; Griffin, Becky R. <bgriffin@slo.state.nm.us>; David, Deon W. <ddavid@slo.state.nm.us>

Subject: RE: (Remediation Plan) - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018 - ECO Review

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Samantha

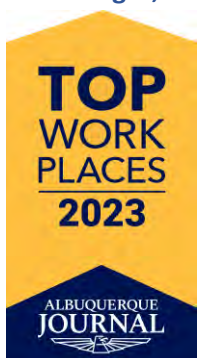
Thank you for submitting the subject workplan for review. ECO has reviewed the workplan and NMOCD comments. We do agree with NMOCD and would like to witness a new background soil boring. However, we believe it would be more beneficial to determine background chlorides by selecting a new sample location, not near the 2018 boring. We have also opened the discussion with NMOCD regarding the soil boring location. ECO has concerns about selecting a new sample point due the erosional features coming off the ROW north of the spill location which appears to have had releases along it's path also.



We are available to discuss this project with your team and NMOCD.

Thank you

Tami Knight, CHMM



Environmental Specialist
SRD-Environmental
Compliance Office (ECO)
505.670.1638
New Mexico State Land Office
1300 W. Broadway Avenue, Suite A
Bloomfield, NM 87413
tknight@slo.state.nm.us
nmstatelands.org



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.....

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From: Abbott, Sam <Sam.Abbott@tetrattech.com>
Sent: Wednesday, December 27, 2023 1:58 PM
To: SLO Spills <spills@slo.state.nm.us>
Cc: Knight, Tami C. <tknight@slo.state.nm.us>; Llull, Christian <Christian.Llull@tetrattech.com>
Subject: [EXTERNAL] (Remediation Plan) - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018

Tami:

Attached is one pdf file Work Plan Report that includes the written narrative and associated attachments regarding proposed remedial activities at the Way South State Com #001H Tin Horn Release, Incident ID NAB1821441824.

Incident ID NAB1821441824 Details:

- Release Location: 32.018655°, -104.120179°
- Site is located in Eddy County, NM.
- Landowner: NMSLO
 - Located within active oil and gas lease ID V074510003, which is listed under Chisolm Energy Operating, LLC.
- Date of Release: 7/28/2018
- According to the C-141, approximately 72 barrels (bbls) of produced water and 0.1 bbls of oil were reported released, of which 60 bbls of produced water and no oil were recovered.
 - The release was the result of a hole on the check valve in the tin horn.
- The Site is located in a high karst area.
- In November 2018, Talon/LPE conducted assessment activities.
 - Samples were collected from 2 locations (B1 and B2) within the release extent.
 - B2 had results above Site RRALs.
- On December 20, 2018, Tetra Tech conducted an additional soil assessment to vertically delineate the release area.

- One boring (BH #1) was installed in the vicinity of B2.
- A background boring was installed approximately 100 feet northwest and upgradient to evaluate native soils.
- Both BH #1 and the background boring had chloride concentrations above the site RRAL to a depth of 15 feet bgs.
- Tetra Tech summarized the assessment results in a Work Plan dated February 13, 2019.
 - As written in the report, COG proposed to remove soils impacted with chloride to a depth of 3.5-4 feet bgs in one portion of the release and to 9-10 feet bgs in another area of the release extent.
 - The total estimated volume of soils to be excavated was 115 cubic yards.
- The Work Plan Report was rejected by NMOCD on November 28, 2022 for the following reasons:
 - *"The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.*
 - *Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.*
 - *2RP-4888 closed. Please refer to incident #nAB1821441824 in all future communications.*
 - *Background sample(s) should be a grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release's impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. The background sample cannot be approved based on delineation is incomplete."*
- The release footprint is located on State Trust Lands, so Tetra Tech oversaw the completion of a cultural survey at the site, then applied for and received a permit from the State Land Office before conducting any additional assessment or remedial actions.
- Tetra Tech completed additional assessment activities at the Way South State Com #001H incident site in May 2023.
 - Horizontal delineation was achieved during the May 2023 additional assessment activities.
- Tetra Tech has prepared the attached Work Plan in accordance with the NMOCD rejection and the 2023 additional assessment sampling results.
 - Additional planned groundwater characterization and background sampling at the adjacent Way South Tank Battery release site was intended for consideration for this release, but the Revised Work Plan Addendum is awaiting review and approval by the NMOCD.
 - Therefore, based on guidance provided by the NMOCD rejection of the 2019 Work Plan, the original background sampling results were used to propose a revised chloride RRAL of 1,450 mg/kg.
- Based on the analytical results, ConocoPhillips proposes to remove the remaining impacted material to a maximum depth of 10 feet bgs.
 - The estimated volume of material to be remediated is approximately 120 cubic yards.
- ConocoPhillips proposes to begin remedial activities at the Site within 90 days of NMOCD and SLO plan approval.

19.15.29.13 NMAC will be met, and reclamation details are provided.

Please let me know at your earliest convenience if we are cleared to proceed.

If you have any questions, please let me know.

Samantha Abbott, PG | Project Manager

Direct Mobile +1 (512) 739-7874 | Business +1 (512) 338-1667 | Sam.Abbott@tetrattech.com

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From: [Hall, Brittany, EMNRD](#)
To: [Abbott, Sam](#); [tknight](#); [SLO Spills](#)
Cc: [Llull, Christian](#); [Tavarez, Ike](#); [Bickerstaff, Colton](#); [Hamlet, Robert, EMNRD](#); [Bratcher, Michael, EMNRD](#)
Subject: RE: [EXTERNAL] Background boring installation notice - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018
Date: Monday, April 15, 2024 12:14:32 PM
Attachments: [image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)

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Ms. Abbott,

Thank you for the notification. If an OCD representative is not onsite at the schedule time, please proceed on your schedule. Thoroughly document field activities associated with the background boring installation and include the documentation in the report.

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@emnrn.nm.gov
<http://www.emnrn.nm.gov/ocd/>

Please be advised that the new Digital C-141 is live as of December 1, 2023. Please review the new Digital C-141 submission Dec 1, 2023 Guidance document posted on the EMNRD Website prior to submitting any C-141s. The guidance documents can be found at <https://www.emnrn.nm.gov/ocd/ocd-announcements-and-notifications/> or <https://www.emnrn.nm.gov/ocd/ocd-forms/>.

From: Abbott, Sam <Sam.Abbott@tetratech.com>
Sent: Monday, April 15, 2024 10:48 AM
To: tknight <tknight@slo.state.nm.us>; Hall, Brittany, EMNRD <Brittany.Hall@emnrn.nm.gov>; SLO Spills <spills@slo.state.nm.us>
Cc: Llull, Christian <Christian.Llull@tetratech.com>; Tavarez, Ike <Ike.Tavarez@conocophillips.com>; Bickerstaff, Colton <Colton.Bickerstaff@tetratech.com>
Subject: [EXTERNAL] Background boring installation notice - Way South State Com #001H Tin Horn Release (NAB1821441824) - 7-28-2018

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Good morning,

On behalf of ConocoPhillips, Tetra Tech will be at the Way South State Com #001H Tin Horn Release area (NAB1821441824, DOR 7-28-2018) to oversee the installation of the requested background boring (BG-24-1) at **12 pm MDT on Wednesday, April 17th**.

The boring will be installed at the previously-approved and permitted location (32.018888°, -104.120315°), presented in the image below.

Way South State Com #001H Tinhorn Release
ConocoPhillips
Eddy County, New Mexico
Approximate Release Location: 32.018720°, -104.119516°
State Trust Land

PROJECT BACKGROUND

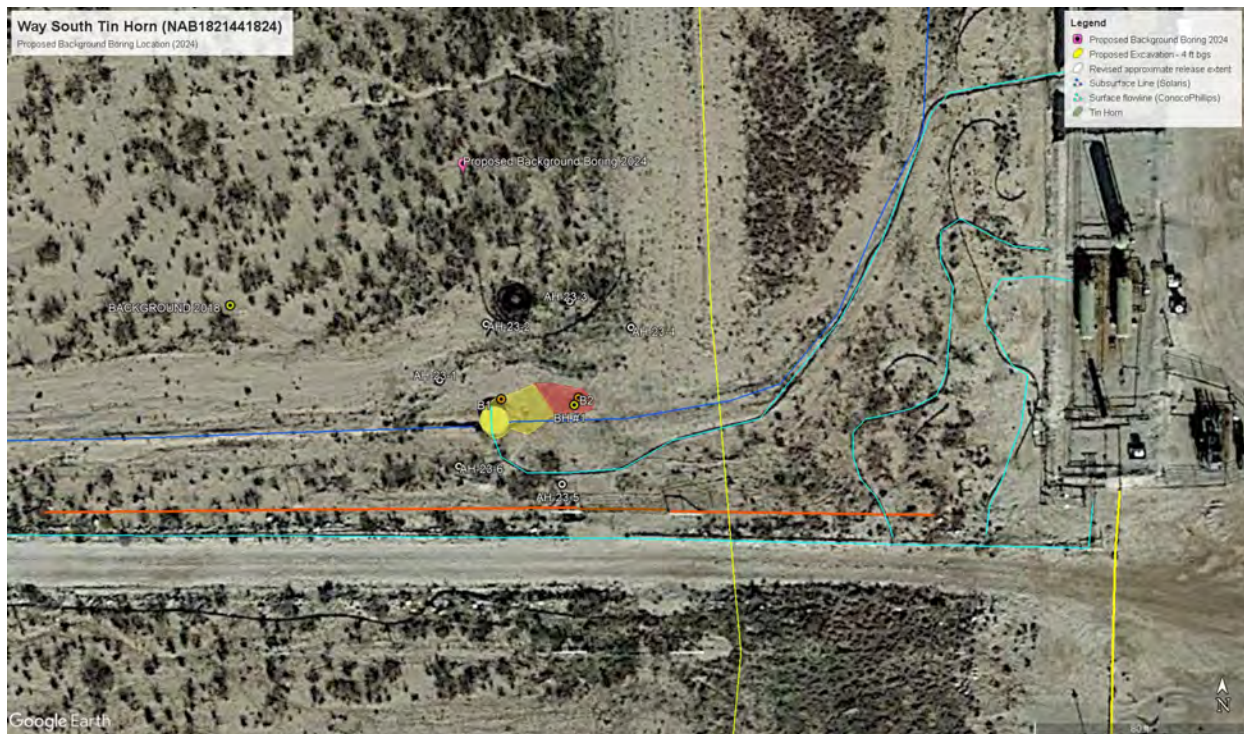
- A Revised Work Plan was submitted by Tetra Tech on behalf of COP, dated December 1, 2023, to the NMOCD. The Work Plan was denied, with the following comments:
 - "Due to the site being partially encompassed by a FEMA Flood Hazard Area Zone A, within 100 feet of a watercourse mapped by the NMOSE, in an area of high karst potential, in an area of shallow groundwater, and the age of the analytical data for the background; the OCD is requesting a new background borehole be installed within the vicinity of the 2018 background borehole before approving background chloride concentrations. Please send at least a 2-business day notification to the OCD Enviro email and Robert Hamlet (robert.hamlet@emnrn.nm.gov), prior to installing the borehole and collecting background samples. OCD would like to witness the boring and sampling, if available.
 - Submit a complete report through the OCD Permitting website by 5/6/2024."
- The NMSLO concurred with the decision by NMOCD.
- Tetra Tech, COP, NMOCD, and NMSLO held a meeting on January 5, 2024 and decided on a location for the background boring (BG-24-1).
 - The NMSLO CRD right-of-entry permit was issued for the chosen location.

SCOPE

- Install 1 background soil boring (**BG-24-1**) with air rotary methods (total 20').
 - Samples will be collected continuously, on 1-foot centers to 20' bgs.
 - All samples will be submitted for laboratory analysis of chloride.
- Sampling results will be submitted to the NMOCD and the NMSLO upon receipt.

NM811 Submitted by Tetra Tech (attached). NM811 Ticket: **24AP020341 (Expires 4/25/2024 @ 23:59 hrs)**, will refresh accordingly (TT)

Colton Bickerstaff will be the TT lead on site, his number is 432-250-9943.
Please reach out if you have questions or if you need more information.



Samantha Abbott, PG | Project Manager
Direct Mobile +1 (512) 739-7874 | Business +1 (512) 338-1667 | Sam.Abbott@tetratech.com

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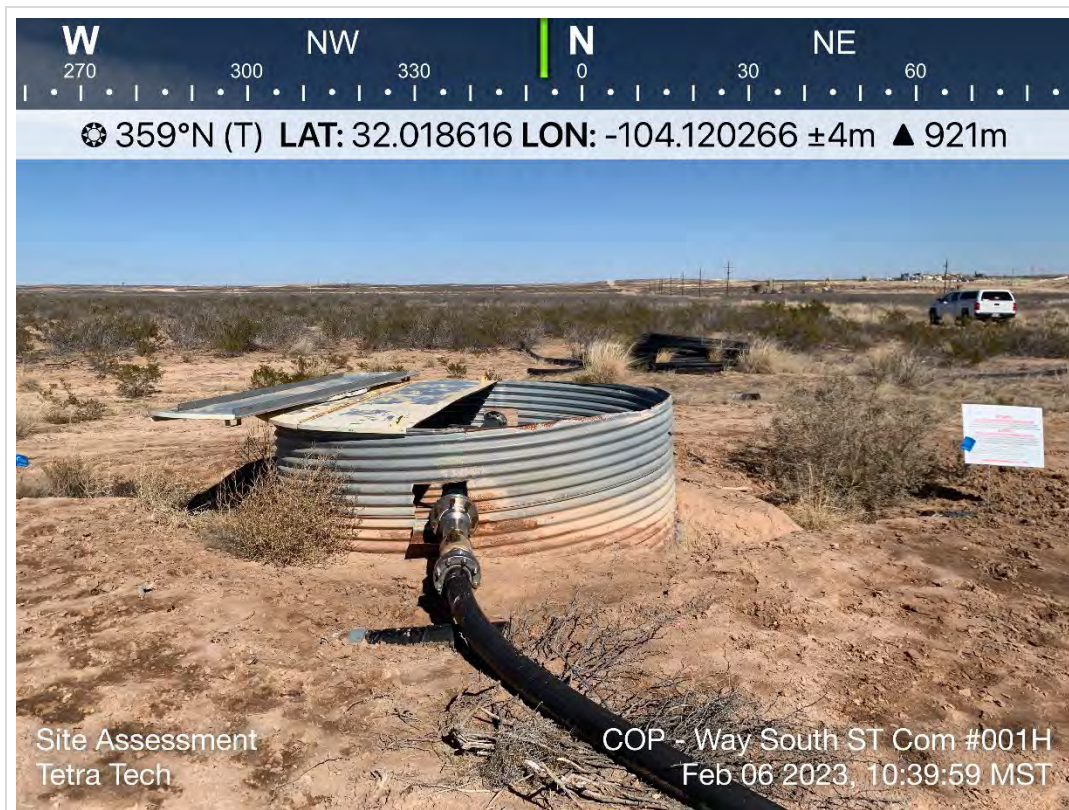
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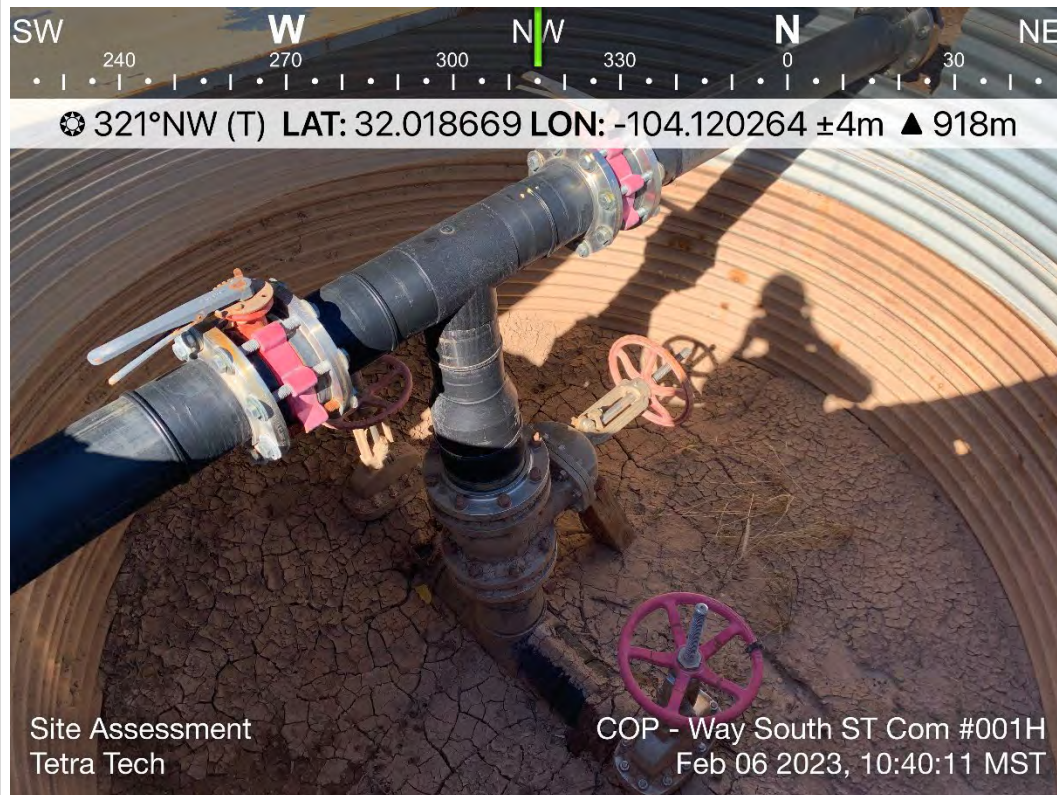


APPENDIX E

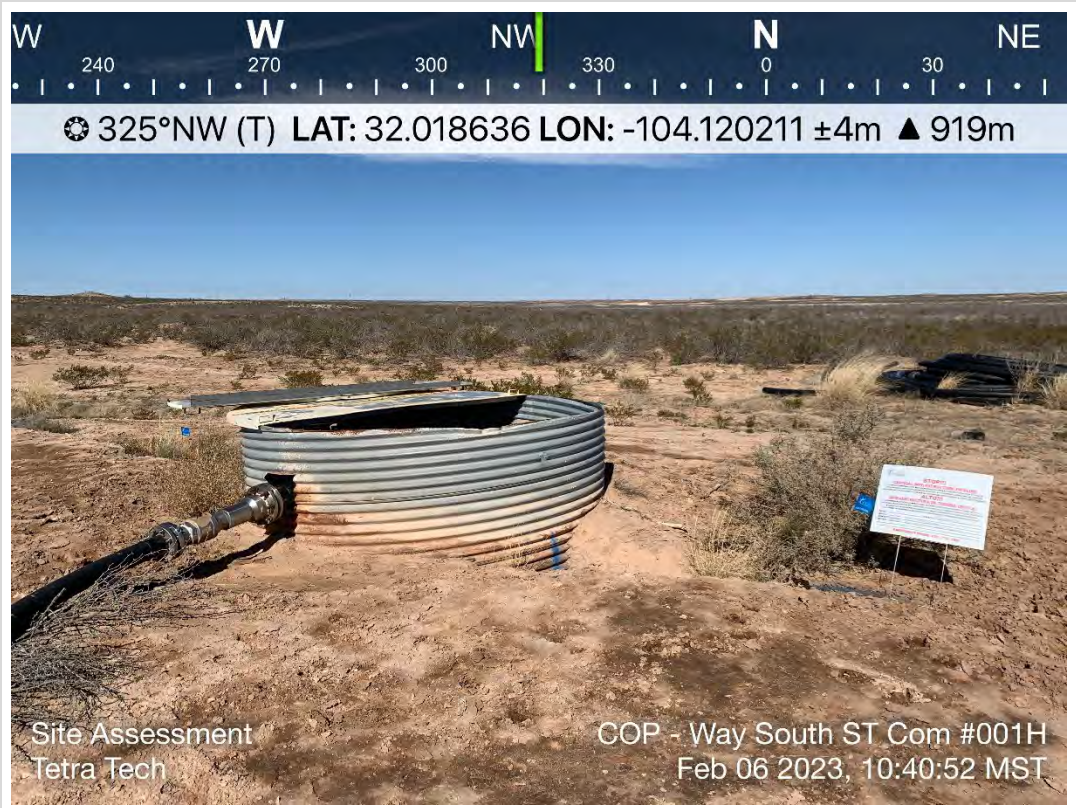
Photographic Documentation



TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View north. View of tin horn and surface polyline.	1
	SITE NAME	Way South State Com #001H Release	2/6/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View northwest. View of inside the tin horn.	2
	SITE NAME	Way South State Com #001H Release	2/6/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View northwest. View of tin horn and surface polyline. View of material and Solaris signage.	3
	SITE NAME	Way South State Com #001H Release	2/6/2023



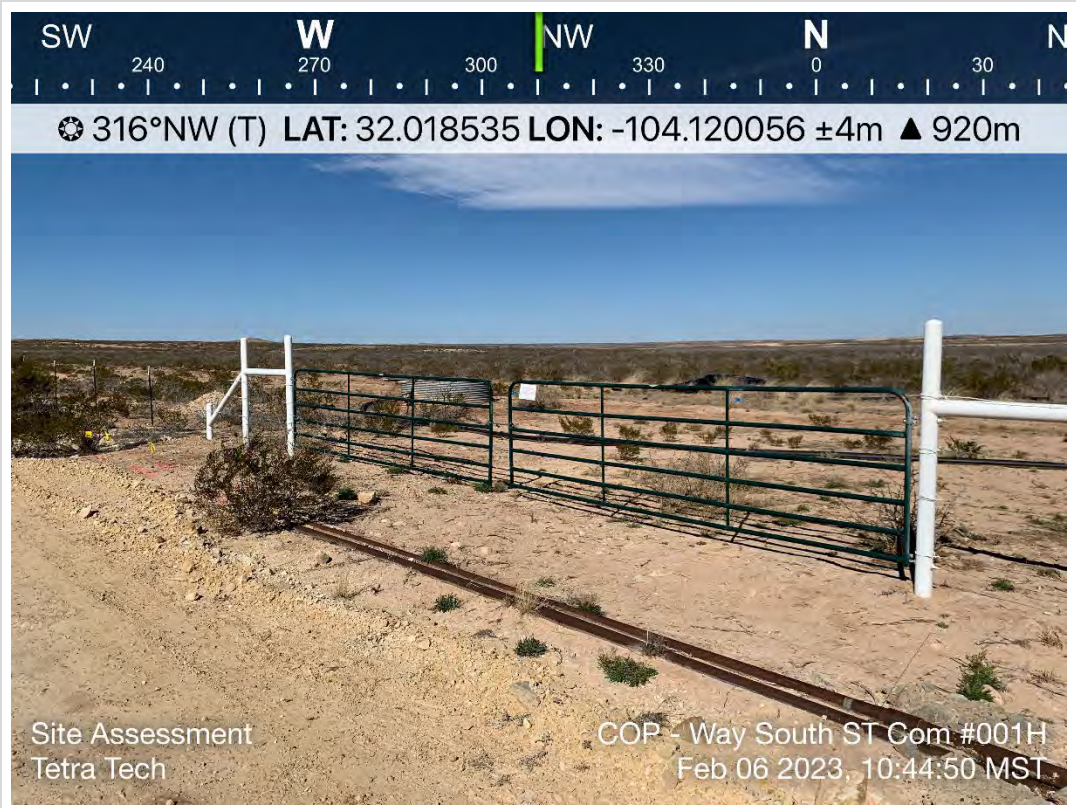
TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View northeast. View of tin horn and Way South State Com Tank battery.	4
	SITE NAME	Way South State Com #001H Release	2/6/2023



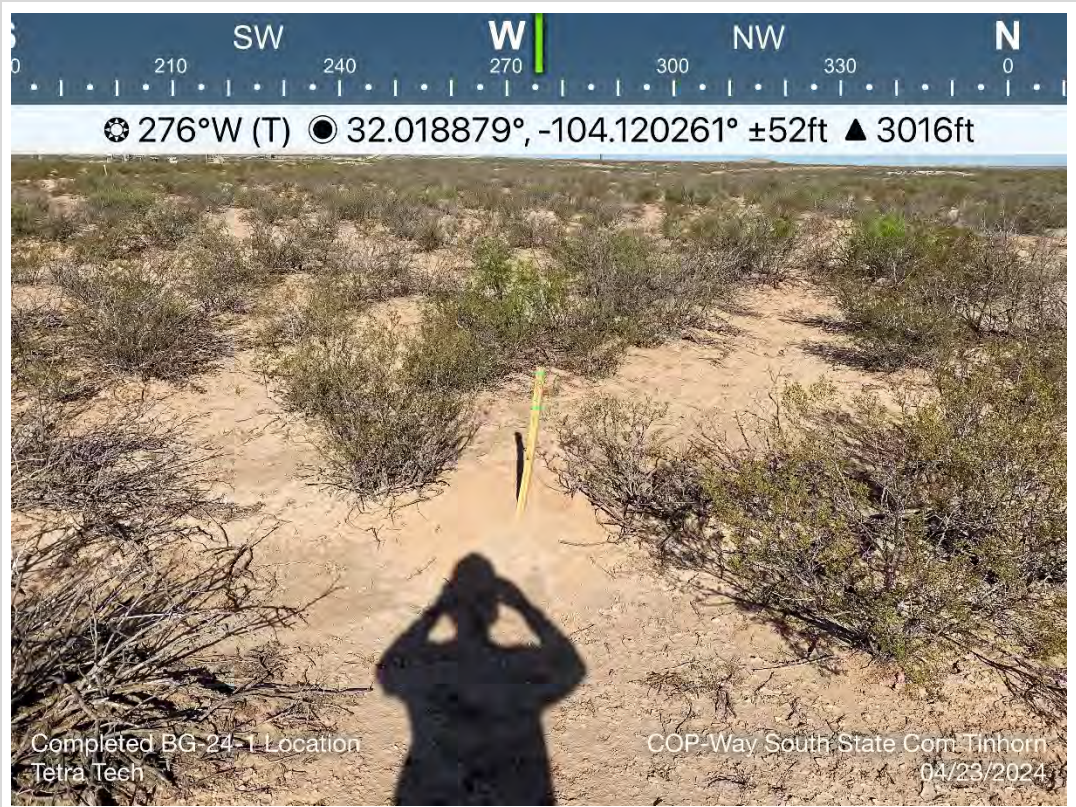
TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View east. View of gate and surface poly line.	5
	SITE NAME	Way South State Com #001H Release	2/6/2023



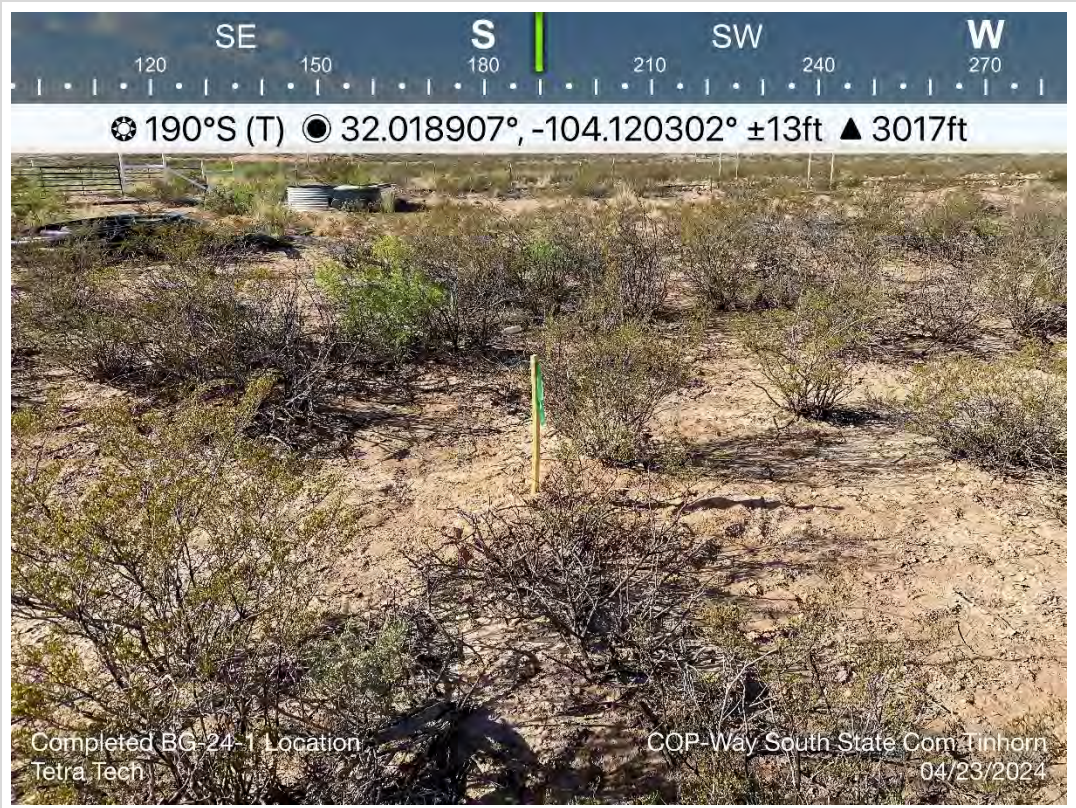
TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View west. View of tin horn and surface poly line.	6
	SITE NAME	Way South State Com #001H Release	2/6/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View northwest. View of gate and tin horn. Steel surface lines visible.	7
	SITE NAME	Way South State Com #001H Release	2/6/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View west. View of completed background boring location BG-24-1.	8
	SITE NAME	Way South State Com #001H Release	4/23/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View south. View of completed background boring location BG-24-1.	9
	SITE NAME	Way South State Com #001H Release	4/23/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02994	DESCRIPTION	View east. View of completed background boring location BG-24-1.	10
	SITE NAME	Way South State Com #001H Release	2/6/2023

APPENDIX F

Laboratory Analytical Data



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

May 16, 2023

SAM ABBOTT

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: WAY SOUTH STATE COM #001H

Enclosed are the results of analyses for samples received by the laboratory on 05/11/23 12:00.

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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/11/2023	Sampling Date:	05/11/2023
Reported:	05/16/2023	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY CO NM		

Sample ID: AH - 23 - 1 (0-1') (H232355-01)

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	05/13/2023	ND	1.96	98.0	2.00	9.62		
Toluene*	<0.050	0.050	05/13/2023	ND	2.01	100	2.00	9.59		
Ethylbenzene*	<0.050	0.050	05/13/2023	ND	1.96	97.9	2.00	8.96		
Total Xylenes*	<0.150	0.150	05/13/2023	ND	6.05	101	6.00	9.20		
Total BTEX	<0.300	0.300	05/13/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/12/2023	ND	400	100	400	3.92		

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	05/12/2023	ND	203	101	200	0.419	
DRO >C10-C28*	<10.0	10.0	05/12/2023	ND	194	96.9	200	5.98	
EXT DRO >C28-C36	<10.0	10.0	05/12/2023	ND					

Surrogate: 1-Chlorooctane 93.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/11/2023	Sampling Date:	05/11/2023
Reported:	05/16/2023	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY CO NM		

Sample ID: AH - 23 - 2 (0-1') (H232355-02)

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	05/13/2023	ND	1.96	98.0	2.00	9.62		
Toluene*	<0.050	0.050	05/13/2023	ND	2.01	100	2.00	9.59		
Ethylbenzene*	<0.050	0.050	05/13/2023	ND	1.96	97.9	2.00	8.96		
Total Xylenes*	<0.150	0.150	05/13/2023	ND	6.05	101	6.00	9.20		
Total BTEX	<0.300	0.300	05/13/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	05/12/2023	ND	400	100	400	3.92		

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	05/12/2023	ND	203	101	200	0.419	
DRO >C10-C28*	<10.0	10.0	05/12/2023	ND	194	96.9	200	5.98	
EXT DRO >C28-C36	<10.0	10.0	05/12/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/11/2023	Sampling Date:	05/11/2023
Reported:	05/16/2023	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY CO NM		

Sample ID: AH - 23 - 3 (0-1') (H232355-03)

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	05/13/2023	ND	1.96	98.0	2.00	9.62		
Toluene*	<0.050	0.050	05/13/2023	ND	2.01	100	2.00	9.59		
Ethylbenzene*	<0.050	0.050	05/13/2023	ND	1.96	97.9	2.00	8.96		
Total Xylenes*	<0.150	0.150	05/13/2023	ND	6.05	101	6.00	9.20		
Total BTEX	<0.300	0.300	05/13/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/12/2023	ND	400	100	400	3.92		

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	05/12/2023	ND	203	101	200	0.419	
DRO >C10-C28*	<10.0	10.0	05/12/2023	ND	194	96.9	200	5.98	
EXT DRO >C28-C36	<10.0	10.0	05/12/2023	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/11/2023	Sampling Date:	05/11/2023
Reported:	05/16/2023	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY CO NM		

Sample ID: AH - 23 - 4 (0-1') (H232355-04)

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	05/13/2023	ND	1.96	98.0	2.00	9.62		
Toluene*	<0.050	0.050	05/13/2023	ND	2.01	100	2.00	9.59		
Ethylbenzene*	<0.050	0.050	05/13/2023	ND	1.96	97.9	2.00	8.96		
Total Xylenes*	<0.150	0.150	05/13/2023	ND	6.05	101	6.00	9.20		
Total BTEX	<0.300	0.300	05/13/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	05/12/2023	ND	400	100	400	3.92	

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	05/12/2023	ND	203	101	200	0.419	
DRO >C10-C28*	<10.0	10.0	05/12/2023	ND	194	96.9	200	5.98	
EXT DRO >C28-C36	<10.0	10.0	05/12/2023	ND					

Surrogate: 1-Chlorooctane 75.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/11/2023	Sampling Date:	05/11/2023
Reported:	05/16/2023	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY CO NM		

Sample ID: AH - 23 - 5 (0-1') (H232355-05)

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	05/13/2023	ND	1.96	98.0	2.00	9.62		
Toluene*	<0.050	0.050	05/13/2023	ND	2.01	100	2.00	9.59		
Ethylbenzene*	<0.050	0.050	05/13/2023	ND	1.96	97.9	2.00	8.96		
Total Xylenes*	<0.150	0.150	05/13/2023	ND	6.05	101	6.00	9.20		
Total BTEX	<0.300	0.300	05/13/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/12/2023	ND	400	100	400	3.92		

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	05/12/2023	ND	203	101	200	0.419	
DRO >C10-C28*	<10.0	10.0	05/12/2023	ND	194	96.9	200	5.98	
EXT DRO >C28-C36	<10.0	10.0	05/12/2023	ND					

Surrogate: 1-Chlorooctane 85.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/11/2023	Sampling Date:	05/11/2023
Reported:	05/16/2023	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994	Sample Received By:	Tamara Oldaker
Project Location:	COP - EDDY CO NM		

Sample ID: AH - 23 - 6 (0-1') (H232355-06)

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	05/13/2023	ND	1.96	98.0	2.00	9.62		
Toluene*	<0.050	0.050	05/13/2023	ND	2.01	100	2.00	9.59		
Ethylbenzene*	<0.050	0.050	05/13/2023	ND	1.96	97.9	2.00	8.96		
Total Xylenes*	<0.150	0.150	05/13/2023	ND	6.05	101	6.00	9.20		
Total BTEX	<0.300	0.300	05/13/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/12/2023	ND	400	100	400	3.92		

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	05/12/2023	ND	203	101	200	0.419	
DRO >C10-C28*	<10.0	10.0	05/12/2023	ND	194	96.9	200	5.98	
EXT DRO >C28-C36	<10.0	10.0	05/12/2023	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech
Project Manager: Sam Abbott

Address: _____
City: _____ State: _____ Zip: _____
Phone #: _____ Fax #: _____

Project #: 212C-MD-02994 Project Owner: ConocoPhillips
Project Name: Waboy South State Can #001H
Project Location: Eddy County, NM
Sample Name: Water Breakthrough

P.O. #: _____
Company: Tetra Tech
Attn: Sam Abbott
Address: by email
City: _____ State: _____ Zip: _____
Phone #: _____ Fax #: _____

BILL TO

ANALYSIS REQUEST

Lab I.D. Sample I.D.

H232355

- 1 AA1-23-1 Co-1's
- 2 AA1-23-2 Co-1's
- 3 AA1-23-3 Co-1's
- 4 AA1-23-4 Co-1's
- 5 AA1-23-5 Co-1's
- 6 AA1-23-6 Co-1's

(G)RAB OR (C)OMP	
# CONTAINERS	
GROUNDWATER	
WASTEWATER	
SOIL	
OIL	
SLUDGE	
OTHER :	
ACID/BASE :	
ICE / COOL	
OTHER :	
DATE	<u>5/11/23</u>
TIME	

TPH
BTEX
Chlorides

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Relinquished By: Colb B
Date: 5/11/23
Time: 1200

Received By: Sam Abbott
Date: _____
Time: _____

Verbal Result: ☐ Yes ☒ No Add'l Phone #: _____
All Results are emailed. Please provide Email address: _____
REMARKS: Sam Abbott e tetra tech. com

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: _____
FOM#000 K33 077022

Observed Temp. °C: 5.2
Corrected Temp. °C: 4.6
Sample Condition: ☒ Cool ☐ Intact ☐ Yes ☐ No

CHECKED BY: (Initials) yo

Turnaround Time: _____ Standard ☒ Rush ☐
Thermometer ID #113
Correction Factor -0.6°C
Bacteria (only) Sample Condition: ☐ Cool ☐ Intact ☐ Yes ☐ No
Observed Temp. °C: _____ Corrected Temp. °C: _____

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

H/1



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

April 23, 2024

SAM ABBOTT

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: WAY SOUTH STATE COM #001H TINHORN RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 04/17/24 15:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	04/17/2024	Sampling Date:	04/17/2024
Reported:	04/23/2024	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H TINHOI	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994A	Sample Received By:	Shalyn Rodriguez
Project Location:	COP - EDDY CO., NM		

Sample ID: BG - 24 - 1 (0-1') (H242054-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1340	16.0	04/22/2024	ND	480	120	400	0.00	

Sample ID: BG - 24 - 1 (1'-2') (H242054-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5040	16.0	04/22/2024	ND	480	120	400	0.00	

Sample ID: BG - 24 - 1 (2'-3') (H242054-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	04/22/2024	ND	480	120	400	0.00	

Sample ID: BG - 24 - 1 (3'-4') (H242054-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	04/22/2024	ND	480	120	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	04/17/2024	Sampling Date:	04/17/2024
Reported:	04/23/2024	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H TINHOI	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994A	Sample Received By:	Shalyn Rodriguez
Project Location:	COP - EDDY CO., NM		

Sample ID: BG - 24 - 1 (4'-5') (H242054-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	04/22/2024	ND	480	120	400	0.00		

Sample ID: BG - 24 - 1 (5'-6') (H242054-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1330	16.0	04/22/2024	ND	448	112	400	6.90	QM-07	

Sample ID: BG - 24 - 1 (6'-7') (H242054-07)

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	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (7'-8') (H242054-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1760	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (8'-9') (H242054-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1570	16.0	04/22/2024	ND	448	112	400	6.90		

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Analytical Results For:

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

Received:	04/17/2024	Sampling Date:	04/17/2024
Reported:	04/23/2024	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H TINHOI	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994A	Sample Received By:	Shalyn Rodriguez
Project Location:	COP - EDDY CO., NM		

Sample ID: BG - 24 - 1 (9'-10') (H242054-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1520	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (10'-11') (H242054-11)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1390	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (11'-12') (H242054-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	04/22/2024	ND	448	112	400	6.90	

Sample ID: BG - 24 - 1 (12'-13') (H242054-13)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1470	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (13'-14') (H242054-14)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1440	16.0	04/22/2024	ND	448	112	400	6.90		

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Analytical Results For:

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

Received:	04/17/2024	Sampling Date:	04/17/2024
Reported:	04/23/2024	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H TINHOI	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994A	Sample Received By:	Shalyn Rodriguez
Project Location:	COP - EDDY CO., NM		

Sample ID: BG - 24 - 1 (14'-15') (H242054-15)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1650	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (15'-16') (H242054-16)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1630	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (16'-17') (H242054-17)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1520	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (17'-18') (H242054-18)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1390	16.0	04/22/2024	ND	448	112	400	6.90		

Sample ID: BG - 24 - 1 (18'-19') (H242054-19)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1230	16.0	04/22/2024	ND	448	112	400	6.90		

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Analytical Results For:

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

Received:	04/17/2024	Sampling Date:	04/17/2024
Reported:	04/23/2024	Sampling Type:	Soil
Project Name:	WAY SOUTH STATE COM #001H TINHOI	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02994A	Sample Received By:	Shalyn Rodriguez
Project Location:	COP - EDDY CO., NM		

Sample ID: BG - 24 - 1 (19'-20') (H242054-20)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	688	16.0	04/22/2024	ND	448	112	400	6.90		

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Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Tetra Tech Project Manager: Sam Abbott Address: 8911 Capital o Texas Hwy, Suite 2310 City: Austin State: TX Zip: _____ Phone #: (512)565-0190 Fax #: _____ Project #: 212C-MD-02994a Project Owner: ConocoPhillips Project Name: Way South State Com #001H Tlnhorn Release Project Location: Eddy County, New Mexico Sampler Name: Colton Bickersstaff Lab I.D.: H242054 Sample I.D.: _____				P.O. #: _____ Company: Tetra Tech Attn: Sam Abbott Address: EMAIL City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____				BILL TO				ANALYSIS REQUEST			
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24		Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp, °C Corrected Temp, °C: 2.8		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> No <input type="checkbox"/> No		CHECKED BY: (Initials) SB	
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Relinquished By: Colton Bickersstaff Date: 06/17/24		Received By: S. Bickersstaff Date: 6/25/24	
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APPENDIX G

NMSLO Seed Mixture Details



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

Way South State Com #001H Tin
Horn



December 1, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map


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

Custom Soil Resource Report
Soil Map

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit


 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 19, Sep 7, 2023

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

Date(s) aerial images were photographed: Nov 12, 2022—Dec 2, 2022

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

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CR	Cottonwood-Reeves loams, overflow, 0 to 3 percent slopes	0.2	100.0%
Totals for Area of Interest		0.2	100.0%

Map Unit Descriptions

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

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

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

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

Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

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Eddy Area, New Mexico**CR—Cottonwood-Reeves loams, overflow, 0 to 3 percent slopes****Map Unit Setting**

National map unit symbol: 1w47
Elevation: 3,000 to 4,300 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Cottonwood and similar soils: 60 percent
Reeves and similar soils: 35 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cottonwood**Setting**

Landform: Ridges, hills
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Side slope, head slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from gypsum

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 60 inches: bedrock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 3 to 12 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 20 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R070BB006NM - Gyp Upland
Hydric soil rating: No

Custom Soil Resource Report

Description of Reeves**Setting**

Landform: Plains, ridges, hills

Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope

Landform position (three-dimensional): Side slope, head slope, nose slope, crest

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Residuum weathered from gypsum

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 32 inches: clay loam

H3 - 32 to 60 inches: gypsiferous material

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Gypsum, maximum content: 20 percent

Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6w

Hydrologic Soil Group: B

Ecological site: R070BB006NM - Gyp Upland

Hydric soil rating: No

Minor Components**Unnamed soils**

Percent of map unit: 5 percent

Hydric soil rating: No

References

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

NMSLO Seed Mix**Loamy (L)****LOAMY (L) SITES SEED MIXTURE:**

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Black grama	VNS, Southern	1.0	D
Blue grama	Lovington	1.0	D
Sideoats grama	Vaughn, El Reno	4.0	F
Sand dropseed	VNS, Southern	2.0	S
Alkali sacaton	VNS, Southern	1.0	
Little bluestem	Cimarron, Pastura	1.5	F
Forbs:			
Firewheel (<i>Gaillardia</i>)	VNS, Southern	1.0	D
Shrubs:			
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F
Total PLS/acre		18.0	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box

VNS = Variety Not Stated, PLS = Pure Live Seed

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



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State of New Mexico
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Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS

Action 341128

QUESTIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
	Action Number:
	341128
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nAB1821441824
Incident Name	NAB1821441824 WAY SOUTH STATE COM #001H @ 30-015-37234
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-015-37234] WAY SOUTH STATE COM #001H

Location of Release Source	
Please answer all the questions in this group.	
Site Name	WAY SOUTH STATE COM #001H
Date Release Discovered	07/28/2018
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	Cause: Equipment Failure Valve Crude Oil Released: 0 BBL Recovered: 0 BBL Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Valve Produced Water Released: 72 BBL Recovered: 60 BBL Lost: 12 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, Page 2

Action 341128

QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
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[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: 05/06/2024
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Action 341128

QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
	Action Number:
	341128
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
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 1 and 100 (ft.)
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	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (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	High
A 100-year floodplain	Zero feet, overlying, or within area
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)	12400
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	44.3
GRO+DRO	(EPA SW-846 Method 8015M)	25.9
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	08/07/2024
On what date will (or did) the final sampling or liner inspection occur	08/14/2024
On what date will (or was) the remediation complete(d)	08/15/2024
What is the estimated surface area (in square feet) that will be reclaimed	530
What is the estimated volume (in cubic yards) that will be reclaimed	120
What is the estimated surface area (in square feet) that will be remediated	530
What is the estimated volume (in cubic yards) that will be remediated	120

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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Action 341128

QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:	229137
	Action Number:	341128
	Action Type:	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
<i>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.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(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	OWL LANDFILL JAL [fJEG1635837366]
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.
<i>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>	
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: 05/06/2024
<i>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.</i>	

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QUESTIONS, Page 5

Action 341128

QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 341128
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
<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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Action 341128

QUESTIONS (continued)

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID:
	229137
	Action Number:
	341128
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

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 341128

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 341128
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan is approved under the following conditions; 1. Based on the sampling conducted, only Total Petroleum Hydrocarbons (TPH) and chloride are required for laboratory analysis from this point forward. 2. Based on the most recent background boring in determining the closure standard for chloride, OCD approves administering 1,400 mg/Kg (averaged taken below 4 ft.) for soils greater than four (4) feet (ft.) below grade. 3. Remediation of the top 4 ft. must meet the reclamation standards of 600 mg/Kg for chloride and 100 mg/Kg for TPH. 4. Site reclamation and restoration plan as described in the report is approved.	5/9/2024
nvelez	5. Per 19.15.29.13E NMAC, if a reclamation and/or revegetation report has been submitted to the surface owner, it may be used if the requirements of the surface owner provide equal or better protection of freshwater, human health, and the environment. A copy of the approval of the reclamation and revegetation report from the surface owner and a copy of the approved reclamation and/or revegetation report will need to be submitted to the OCD via the Permitting website. 6. COP has 90-days (August 7, 2024) to submit to OCD its appropriate or final remediation closure report.	5/9/2024