



September 12, 2024

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

**Re: Remediation Work Plan  
ConocoPhillips Company (COG Production, LLC)  
Windward Federal #002H FL Release  
Unit Letter D, Section 30, Township 24 South, Range 32 East  
Lea County, New Mexico  
Incident ID# NAPP2413732369**

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (ConocoPhillips) to assess a COG Production, LLC (Concho) release that occurred at a water transfer line associated with the Windward Federal #002H (fAPP2132638253). The release footprint is located in Public Land Survey System (PLSS) Unit Letter D, Section 30, Township 24 South, Range 32 East, in Lea County, New Mexico (Site). The approximate release point occurred at coordinates 32.194511°, -103.719572° as shown on Figures 1 and 2.

## BACKGROUND

According to the New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the release was discovered on May 3, 2024 and caused by a hole in a water transfer line. The release consisted of 4.1217 barrels (bbls) of produced water, of which 0 bbls were reported recovered. The release occurred off pad. The NMOCD received the initial C-141 on May 16, 2024, and subsequently assigned the release the Incident ID nAPP2413732369. The initial C-141 form is included in Appendix A.

The May 2024 release partially overlaps a prior release that occurred on April 1, 2024. The April 2024 release is associated with the Windward West CTB and was assigned Incident ID nAPP2409948979. According to the NMOCD C-141 Initial Report, the nAPP2409948979 release was caused by a hole in a water transfer line and consisted of 12.7488 barrels (bbls) of produced water, of which 10 bbls were reported recovered.

A separate Release Characterization and Remediation Work Plan will be submitted to the NMOCD for Incident ID nAPP2409948979.

## LAND OWNERSHIP

According to the NMOCD Oil and Gas Map, the Site is located on federal lands managed by the Bureau of Land Management (BLM). This Work Plan will be provided to the BLM for review and approval prior to the commencement of remedial activities.

## SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, stream bodies, wetlands, incorporated

Tetra Tech

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municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of low karst potential.

According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there is one (1) water well located within ½ mile (800 meters) of the Site at a depth of 120 feet bgs with no groundwater elevation reported. This dry water well provides a reasonable determination to establish groundwater as greater than 100 bgs in the ½ mile radius. The minimum depth to groundwater based on data from one (1) well located approximately 1.26 miles (2,028 meters) away from the Site is 135 feet below ground surface (bgs). The site characterization data are presented in Appendix B.

## REGULATORY FRAMEWORK

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

Based on the site characterization, depth to groundwater, and in accordance with Table I of 19.15.29.12 NMAC, the recommended remedial action levels (RRALs) for the Site are as follows:

Constituent	Site RRALs
Chloride	20,000 mg/kg
TPH (GRO+DRO+ORO)	2,500 mg/kg
TPH (GRO+DRO)	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

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

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

## ASSESSMENT ACTIVITIES

Tetra Tech, on behalf of ConocoPhillips, conducted assessment sampling in the vicinity of the coincidental release extent to evaluate current soil concentration levels and guide the anticipated remediation. On July 24, 2024, Tetra Tech personnel oversaw the installation of six (6) boreholes (BH-1 through BH-6) and six (6) hand auger borings (AH-24-1 and H-1 through H-6) within and around the combined release extent. The July 2024 sampling locations are presented in Figure 3. Photographic documentation of the Site is included in Appendix C.

A total of thirty-four (34) soil samples were collected and sent to Cardinal Laboratories in Midland, Texas to be analyzed for chloride via Method SM4500Cl-B, TPH via EPA Method 8015M, and BTEX via EPA Method 8021B. A copy of the laboratory analytical report and chain-of-custody documentation are included in Appendix D.

Analytical results from the July 2024 soil assessment are summarized in Table 1. Chloride concentrations were detected in surface soils (0-4 feet bgs) at five boring locations at levels above the reclamation limit of 600 mg/kg. There were no analytical results exceeding the chloride RRAL of 20,000 mg/kg. All analytical results were below the reclamation limits and Site RRALs for all other constituents.

On behalf of ConocoPhillips, Tetra Tech requested a 90-day extension on August 1, 2024, to complete site characterization, additional sampling and reporting of assessment results for this incident. The extension request was approved by Shelly Wells on August 1, 2024, and the remediation due date was updated to October 30, 2024. A copy of the regulatory correspondence is included in Appendix E.

## REMEDATION WORK PLAN

As previously mentioned, the Windward Federal #002H (NAPP2413732369) footprint partially coincides with the previous Windward West CTB (NAPP2409948979) release footprint. Therefore, the following proposed remedial action will address both incidents.

Based on the collected analytical results, ConocoPhillips proposes to remove the impacted material as shown in Figure 4. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 4 feet below surface grade or until a representative sample from the excavation floor is below the applicable reclamation limits. Heavy equipment will be utilized to excavate areas outside the immediate vicinity of pressurized lines and will come no more than 4 feet from any pressurized lines. Impacted soils within the vicinity of the surface and subsurface lines will be removed to the maximum extent practicable using non-aggressive excavation methods.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. The responsible party will notify the OCD two (2) business days prior to conducting final confirmation sampling pursuant to 19.15.29.12.D(1)(a) NMAC, using a Notification of Sampling (C-141N) application. The estimated volume of material to be remediated is approximately 332 cubic yards.

## ALTERNATIVE CONFIRMATION SAMPLING PLAN

Confirmation bottom and sidewall samples representative of no more than 400 square feet will be collected and analyzed for TPH (Method 8015 modified), BTEX (Method 8021B), and chloride (Method SM4500CI-B) as shown in Figure 5. Six (6) confirmation floor samples and ten (10) confirmation sidewall samples for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 2,383 square feet. Once results are received, the excavation will then be backfilled with clean material to surface grade.

## SITE RECLAMATION AND MONITORING PLAN

Based on 19.15.29.13 NMAC, all areas disturbed by the remediation and closure will be reclaimed once confirmation sampling results below the reclamation requirements (or RRALs, respectively, for areas below 4 feet bgs) are received. Once acceptable confirmation sample results are received, the excavation will be backfilled with clean material to pre-release grade. In accordance with 19.15.29.12 NMAC, the reclaimed area will contain a minimum of 4 feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as verified by analysis of backfill source material via Method SM4500CI-B. The soil cover will include a top layer consisting of 1 foot of suitable material to establish vegetation at the site.

The backfilled areas in the pasture will be seeded following backfilling, to aid in revegetation. Based on the soils at the site, areas will be seeded with the BLM seed mixture for LPC Sand/Shinnery Sites 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.

Reclamation activities will be implemented in consultation with the BLM. ConocoPhillips will notify the BLM when reclamation and revegetation are complete.

Remediation Work Plan  
September 12, 2024

ConocoPhillips

## CONCLUSION

Based on the results of the July 2024 release assessment and characterization, ConocoPhillips will remediate soils within the release extent impacted above reclamation limits. The proposed remedial activities will be conducted within 120 days of NMOCD plan approval.

If you have any questions concerning the additional assessment activities for the Site or the proposed remediation work plan, please call me at (512) 596-8201 or Christian at (512) 338-2861.

Sincerely,

**Tetra Tech, Inc.**



Lisbeth Chavira  
Staff Geoscientist



Christian M. Llull, P.G.  
Program Manager

cc:

Mr. Ike Tavarez, RMR – ConocoPhillips  
Crisha Morgan, BLM

## LIST OF ATTACHMENTS

### Figures:

- Figure 1 – Overview Map
- Figure 2 – Topographic Map
- Figure 3 – Approximate Release Extent and Additional Assessment
- Figure 4 – Proposed Remediation
- Figure 5 – Proposed Remediation and Alternative Confirmation Sampling

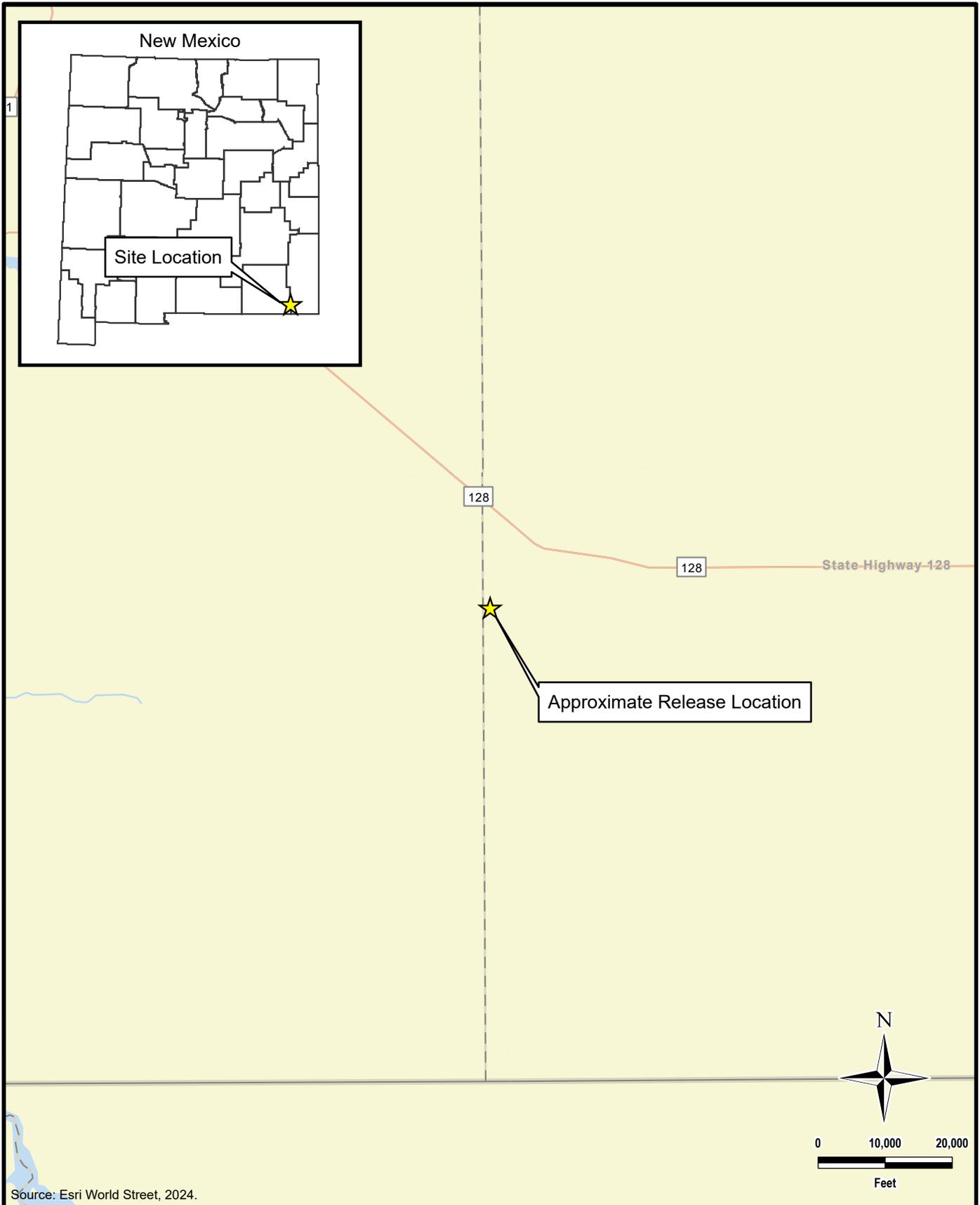
### Tables:

- Table 1 – Summary of Analytical Results – 2024 Soil Assessment

### Appendices:

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

# **FIGURES**



DOCUMENT PATH: Y:\CONOCOPHILLIPS\WINDWARD\_FED\_2\_FL\WINDWARD\_FED\_2\_FL.APRX

Source: Esri World Street, 2024.



**TETRA TECH**

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**CONOCOPHILLIPS**

NAPP2413732369  
(32.194511°, -103.719572°)  
LEA COUNTY, NEW MEXICO

**WINDWARD FEDERAL #002H FL RELEASE  
OVERVIEW MAP**

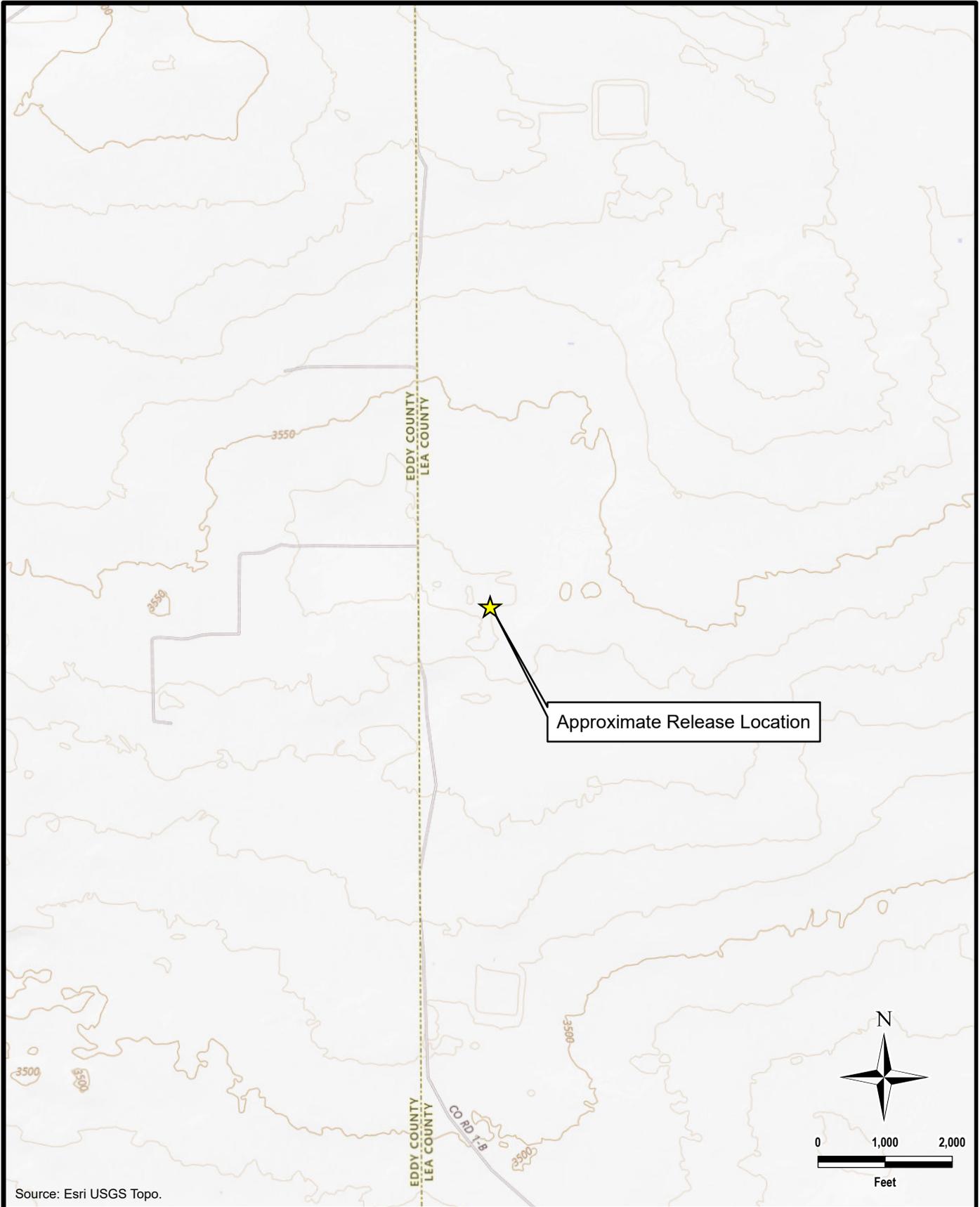
PROJECT NO.: 212C-MD-03441

DATE: AUGUST 12, 2024

DESIGNED BY: LMV

Figure No.

**1**



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Source: Esri USGS Topo.



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CONCOPHILLIPS

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 LEA COUNTY, NEW MEXICO

**WINDWARD FEDERAL #002H FL RELEASE  
 TOPOGRAPHIC MAP**

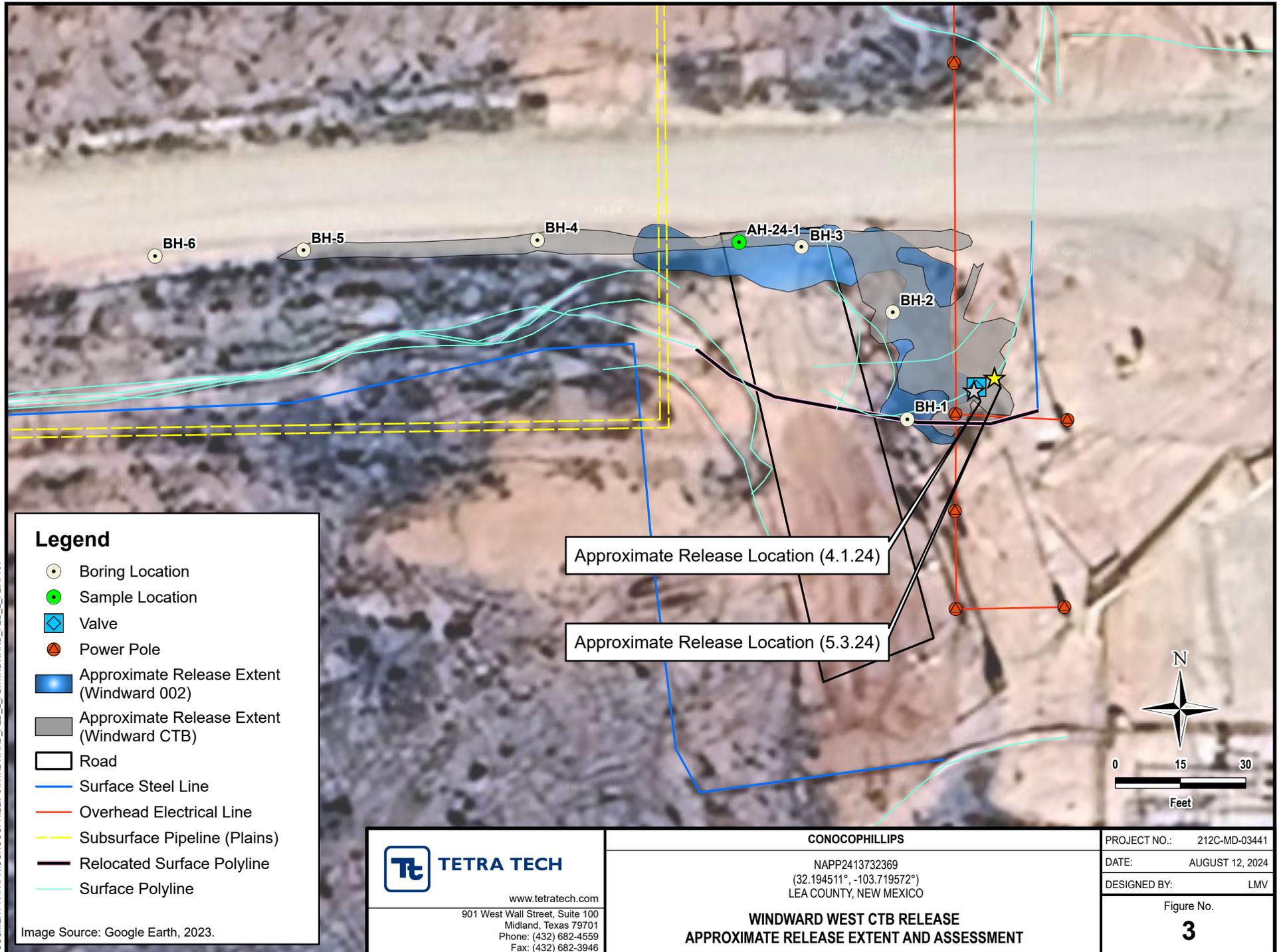
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DATE: AUGUST 12, 2024

DESIGNED BY: LMV

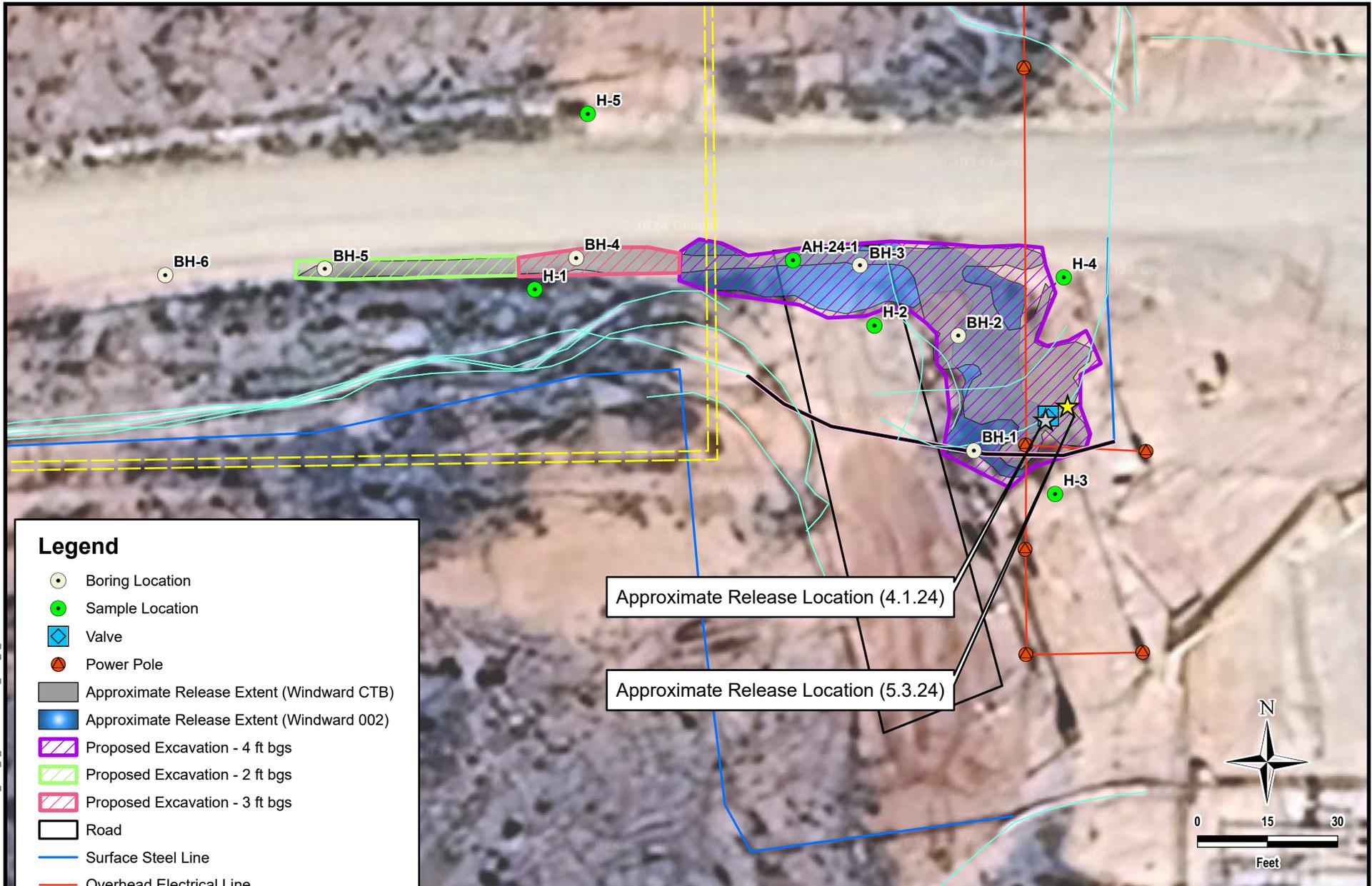
Figure No.

**2**



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Image Source: Google Earth, 2023.



**Legend**

- Boring Location
- Sample Location
- Valve
- Power Pole
- Approximate Release Extent (Windward CTB)
- Approximate Release Extent (Windward 002)
- Proposed Excavation - 4 ft bgs
- Proposed Excavation - 2 ft bgs
- Proposed Excavation - 3 ft bgs
- Road
- Surface Steel Line
- Overhead Electrical Line
- Subsurface Pipeline (Plains)
- Relocated Surface Polyline
- Surface Polyline

Approximate Release Location (4.1.24)

Approximate Release Location (5.3.24)



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CONOCOPHILLIPS

NAPP2413732369  
 (32.194511°, -103.719572°)  
 LEA COUNTY, NEW MEXICO

**WINDWARD FEDERAL #002H FL RELEASE  
 APPROXIMATE RELEASE EXTENT AND PROPOSED REMEDIATION**

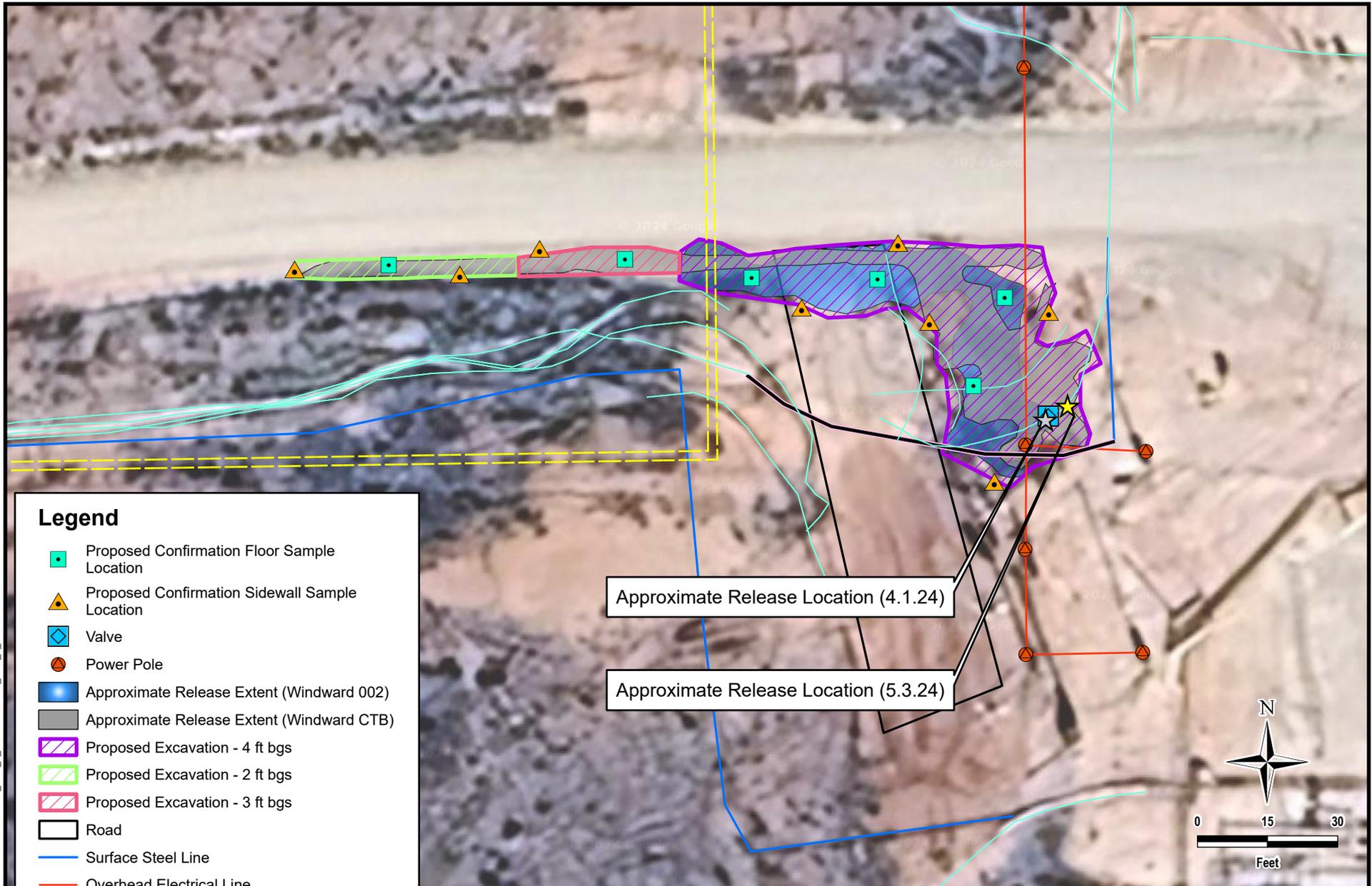
PROJECT NO.: 212C-MD-03441  
 DATE: AUGUST 21, 2024  
 DESIGNED BY: LMV

Figure No.

**4**

Image Source: Google Earth, 2023.

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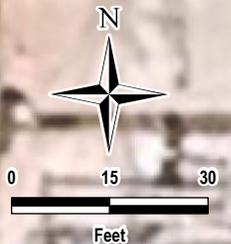


**Legend**

- Proposed Confirmation Floor Sample Location
- ▲ Proposed Confirmation Sidewall Sample Location
- ◊ Valve
- Power Pole
- Approximate Release Extent (Windward 002)
- Approximate Release Extent (Windward CTB)
- Proposed Excavation - 4 ft bgs
- Proposed Excavation - 2 ft bgs
- Proposed Excavation - 3 ft bgs
- Road
- Surface Steel Line
- Overhead Electrical Line
- Subsurface Pipeline (Plains)
- Relocated Surface Polyline
- Surface Polyline

Approximate Release Location (4.1.24)

Approximate Release Location (5.3.24)



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CONOCOPHILLIPS

NAPP2413732369  
 (32.194511°, -103.719572°)  
 LEA COUNTY, NEW MEXICO

**WINDWARD FEDERAL #002H FL RELEASE  
 PROPOSED REMEDIATION AND ALTERNATIVE CONFIRMATION SAMPLING**

PROJECT NO.: 212C-MD-03441  
 DATE: AUGUST 21, 2024  
 DESIGNED BY: LMV

Figure No.

**5**

Image Source: Google Earth, 2023.

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# **TABLES**

TABLE 1  
SUMMARY OF ANALYTICAL RESULTS  
SOIL ASSESSMENT- NAPP2413732369  
CONOCOPHILLIPS  
WINDWARD FEDERAL #002H FL RELEASE  
LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth ft. bgs	Field Screening Results		Chloride		BTEX <sup>2</sup>								TPH <sup>3</sup>								
			Chloride ppm	PID	Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO C <sub>6</sub> - C <sub>10</sub>		DRO > C <sub>10</sub> - C <sub>28</sub>		EXT DRO > C <sub>28</sub> - C <sub>36</sub>		Total TPH (GRO+DRO+EXT DRO) mg/kg		
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q			
<b>Reclamation Closure Criteria for Soils 0-4 ft bgs:</b>					<i>600 mg/kg</i>		<i>10 mg/kg</i>		--		--		<i>50 mg/kg</i>		--		--		<i>100 mg/kg</i>				
<b>Closure Criteria for Soils &gt;4 ft bgs (GW &gt;100 ft):</b>					<i>20,000 mg/kg</i>		<i>10 mg/kg</i>		--		--		<i>50 mg/kg</i>		--		--		<i>2,500 mg/kg</i>				
<b>VERTICAL DELINEATION</b>																							
BH-1	7/24/2024	0-1			<b>5,920</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		181		46.8		<b>227.8</b>
		2-3			<b>7,730</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		10.5		<10.5		10.5
		4-5			976		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-7			3,520		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		51.1		19.0		70.1
		9-10			3,760		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		35.9		12.0		47.9
		14-15	3,000		2,600		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		<10.0
		20-23	273		80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-2	7/24/2024	0-1			<b>12,800</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3			<b>5,300</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		4-5			3,840		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-7			3,240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		9-10	3,500		6,800		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		18.0		<10.0		18.0
		13	2,200		2,000		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		<10.0
		18-20	300		160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-24-1	7/24/2024	0-1	10,000		<b>9,200</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		11.9		<10.0		11.9
BH-3	7/24/2024	0-1	3,500		<b>7,200</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3	-		<b>848</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		43.2		<10.0		43.2
		4-5	800		2,240		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6-7	530		192		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		9-10	430		688		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-4	7/24/2024	0-1	10,000		<b>11,800</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2	-		<b>7,360</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		43.2		<10.0		-
		2-3	-		<b>3,680</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	68		320		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-5	7/24/2024	0-1	2,500		<b>2,080</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		1-2	-		<b>4,840</b>		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		43.2		<10.0		-
		2-3	-		384		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	543		400		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-6	7/24/2024	0-1	73		32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-

TABLE 1  
 SUMMARY OF ANALYTICAL RESULTS  
 SOIL ASSESSMENT- NAPP2413732369  
 CONOCOPHILLIPS  
 WINDWARD FEDERAL #002H FL RELEASE  
 LEA COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride		BTEX <sup>2</sup>								TPH <sup>3</sup>								
			Chloride	PID			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH (GRO+DRO+EXT DRO)
					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	
HORIZONTAL DELINEATION																							
H-1	7/24/2024	0-1			80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
H-2	7/24/2024	0-1			16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
H-3	7/24/2024	0-1			96.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
H-4	7/24/2024	0-1			32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
H-5	7/24/2024	0-1			16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-

NOTES:

- ft. Feet
- bgs Below ground surface
- mg/kg Milligrams per kilogram
- TPH Total Petroleum Hydrocarbons
- GRO Gasoline range organics
- DRO Diesel range organics
- 1 Method SM4500CI-B
- 2 Method 8021B
- 3 Method 8015M

***Bold and italicized values indicate exceedance of the applicable RRALs and/or Reclamation Requirements.***

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

# **APPENDIX A C-141 Forms**

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

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

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

Incident ID	nAPP2413732369
District RP	
Facility ID	fAPP2132638253
Application ID	

## Release Notification

### Responsible Party

Responsible Party	COG Production, LLC	OGRID	229137
Contact Name	Jacob Laird	Contact Telephone	(575) 703-5482
Contact email	Jacob.Laird@ConocoPhillips.com	Incident # (assigned by OCD)	nAPP2413732369
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

### Location of Release Source

Latitude 32.1945 Longitude -103.7195  
*(NAD 83 in decimal degrees to 5 decimal places)*

Site Name	Windward Federal 002H	Site Type	Tank Battery
Date Release Discovered	May 3, 2024	API# (if applicable)	

Unit Letter	Section	Township	Range	County
D	30	24S	32E	Lea

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <b>4.1217</b>	Volume Recovered (bbls) <b>0</b>
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

The release was caused by a hole in a water transfer line.

This release was off pad.

Evaluation will be made of the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2413732369
District RP	
Facility ID	fAPP2132638253
Application ID	

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

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: <u>Brittany N. Esparza</u> Title: <u>Environmental Technician</u> Signature: <u></u> Date: <u>5/16/2024</u> email: <u>Brittany.Esparza@ConocoPhillips.com</u> Telephone: <u>(432) 221-0398</u>
<b><u>OCD Only</u></b>  Received by: _____ Date: _____

Received by OCD: 9/12/2024 3:18:32 PM

Spill Calculation - Subsurface Spill - Rectangle

Remediation Recommendation

Page 18 of 104

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Average Depth (in.)	On/Off Pad (dropdown)	Soil Spilled-Fluid Saturation (%)	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Total Estimated Contaminated Soil, uncompacted, 25% (yd <sup>3</sup> .)	Current Rule of Thumb - RMR Handover Volume, (yd <sup>3</sup> .)
Rectangle A	25.0	15.0	3.0	Off-Pad	15.02%	16.69	2.51	4.34	750
Rectangle B	45.0	5.0	3.0	Off-Pad	15.02%	10.01	1.50	2.60	
Rectangle C	10.0	5.0	1.0	Off-Pad	15.02%	0.74	0.11	0.19	
Rectangle D				>		0.00		0.00	
Rectangle E				>		0.00		0.00	
Rectangle F				>		0.00		0.00	
Rectangle G				>		0.00		0.00	
Rectangle H				>		0.00		0.00	
Rectangle I				>		0.00		0.00	
Rectangle J				>		0.00		0.00	
Total Subsurface Volume Released:							4.1217	7.14	BU

Released to Imaging: 9/17/2024 4:11:50 PM

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

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

QUESTIONS

Action 345017

**QUESTIONS**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 345017
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2413732369
Incident Name	NAPP2413732369 WINDWARD FEDERAL 002H @ 0
Incident Type	Produced Water Release
Incident Status	Initial C-141 Received
Incident Facility	[fAPP2132638253] WINDWARD FED 2H - BATTERY

<b>Location of Release Source</b>	
<i>Please answer all the questions in this group.</i>	
Site Name	Windward Federal 002H
Date Release Discovered	05/03/2024
Surface Owner	Federal

<b>Incident Details</b>	
<i>Please answer all the questions in this group.</i>	
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

<b>Nature and Volume of Release</b>	
<i>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.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Flow Line - Injection   Produced Water   Released: 4 BBL   Recovered: 0 BBL   Lost: 4 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 345017

**QUESTIONS (continued)**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 345017
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>More info needed to determine if this will be treated as a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Unavailable.
Reasons why this would be considered a submission for a notification of a major release	Unavailable.

*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: Brittany Esparza Title: Environmental Technician Email: brittany.Esparza@ConocoPhillips.com Date: 05/16/2024
--	---

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**Santa Fe, NM 87505**

QUESTIONS, Page 3

Action 345017

**QUESTIONS (continued)**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955 Action Number: 345017 Action Type: [C-141] Initial C-141 (C-141-v-Initial)
--	--

**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)	Not answered.
What method was used to determine the depth to ground water	Not answered.
Did this release impact groundwater or surface water	Not answered.
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Not answered.
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Not answered.
An occupied permanent residence, school, hospital, institution, or church	Not answered.
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Not answered.
Any other fresh water well or spring	Not answered.
Incorporated municipal boundaries or a defined municipal fresh water well field	Not answered.
A wetland	Not answered.
A subsurface mine	Not answered.
An (non-karst) unstable area	Not answered.
Categorize the risk of this well / site being in a karst geology	Not answered.
A 100-year floodplain	Not answered.
Did the release impact areas not on an exploration, development, production, or storage site	Not answered.

<b>Remediation Plan</b>	
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	No
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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**Santa Fe, NM 87505**

CONDITIONS

Action 345017

**CONDITIONS**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 345017
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

**CONDITIONS**

Created By	Condition	Condition Date
nvelez	None	5/16/2024

Incident ID	
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

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

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

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

**OCD Only**

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

Incident ID	
District RP	
Facility ID	
Application ID	

## Remediation Plan

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

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

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

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Signature:  \_\_\_\_\_ Date: \_\_\_\_\_  
 email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**OCD Only**

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

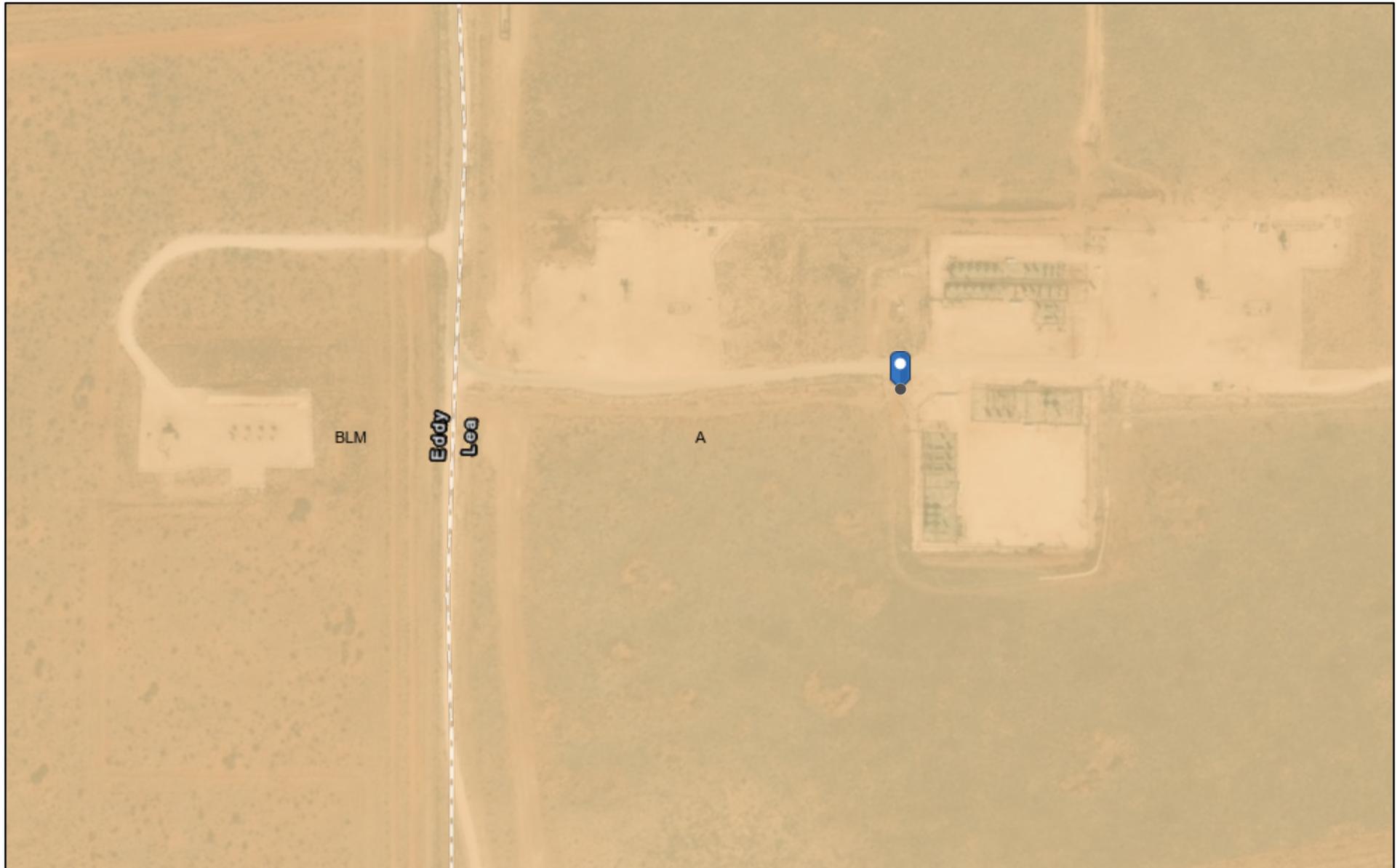
- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

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

# **APPENDIX B**

## **Site Characterization Data**

# OCD Land ownership



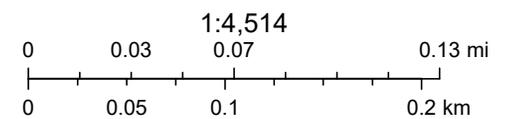
7/16/2024, 9:58:44 AM

Mineral Ownership

Land Ownership

A-All minerals are owned by U.S.

BLM



U.S. BLM, Esri, HERE, Garmin, iPC, Maxar



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

(quarters are 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
<a href="#">C 04665</a>	CUB	LE		1	1	2	30	24S	32E	621350	3562798	663	120		
<a href="#">C 04654 POD1</a>	CUB	ED		3	3	4	25	24S	31E	619764	3561226	1753	55		
<a href="#">C 04636 POD1</a>	CUB	ED		3	4	3	25	24S	31E	619200	3561279	2070			
<a href="#">C 04643 POD1</a>	C	ED		4	2	2	05	23S	27E	619200	3561279	2070	305	135	170

Average Depth to Water: **135 feet**

Minimum Depth: **135 feet**

Maximum Depth: **135 feet**

Record Count: 4

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 620691.62

**Northing (Y):** 3562714.68

**Radius:** 3000

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.

# National Flood Hazard Layer FIRMette



103°43'29"W 32°11'55"N



## Legend

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

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



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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/16/2024 at 11:02 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

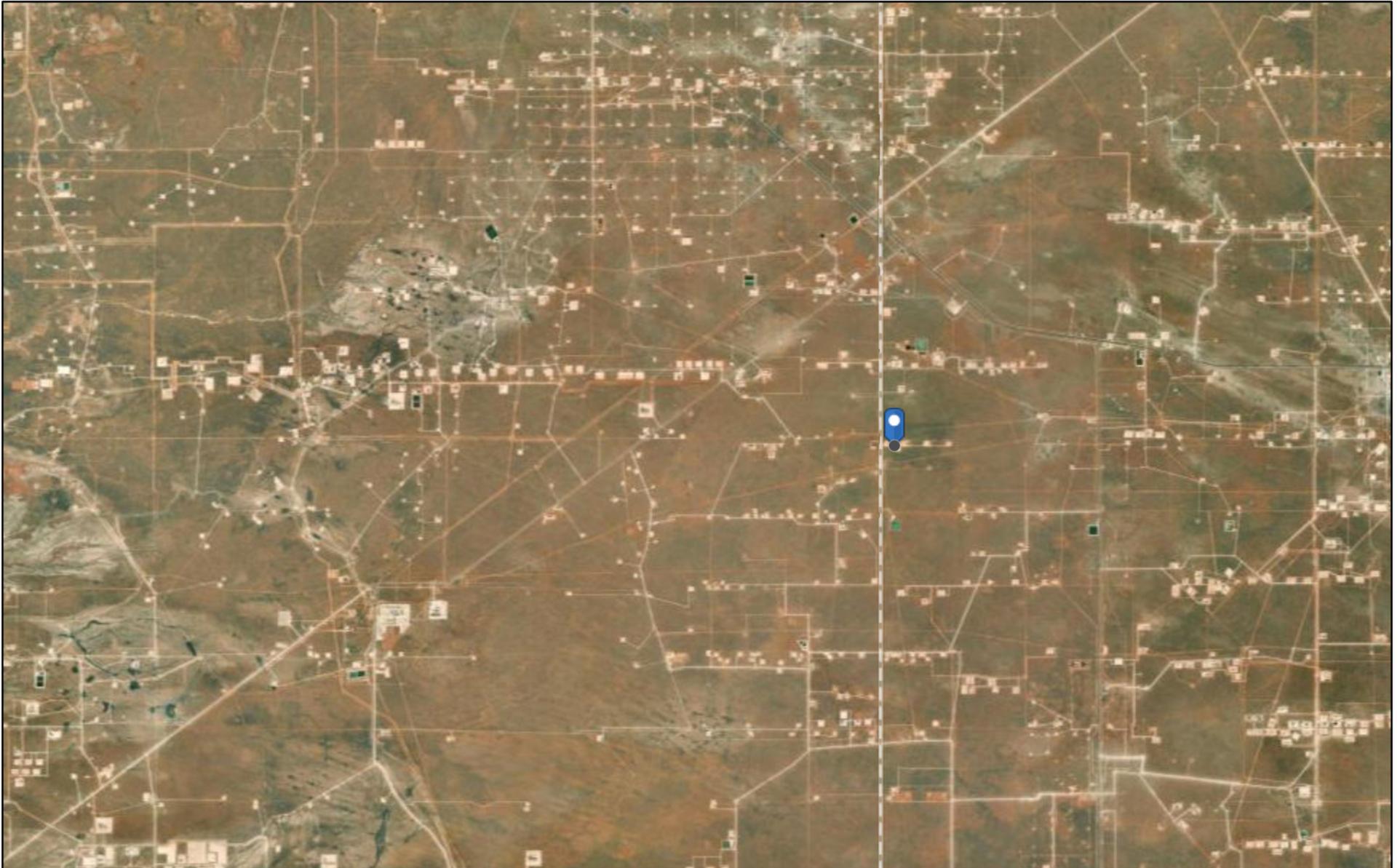
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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



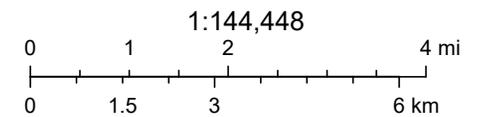
1:6,000

103°42'52"W 32°11'25"N

# OCD Water Bodys



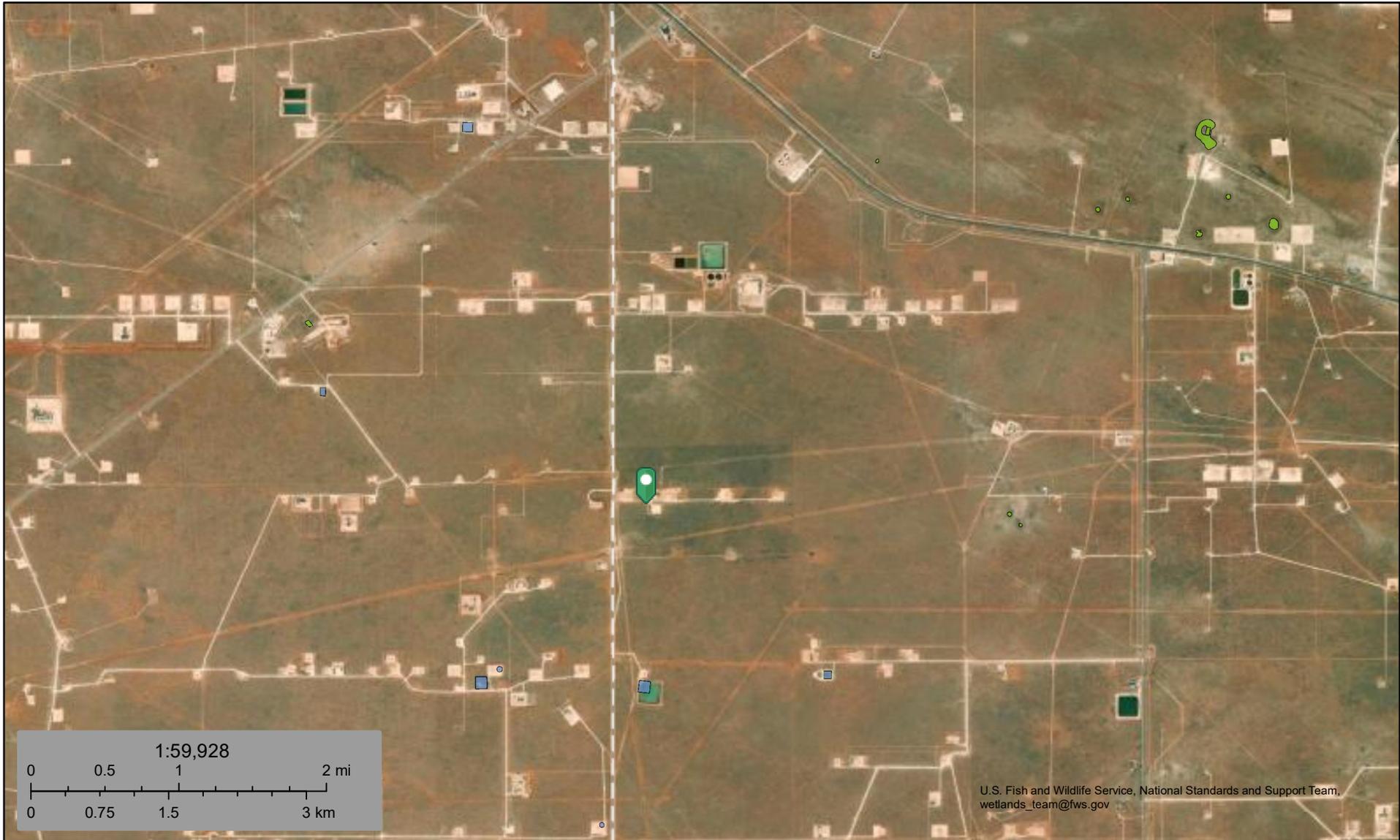
7/16/2024, 10:00:32 AM



Esri, HERE, Garmin, Earthstar Geographics



# National Wetlands Inventory



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands\_team@fws.gov

July 16, 2024

### Wetlands

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

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

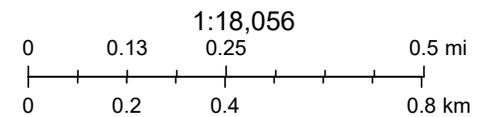
# OCD Karst Areas



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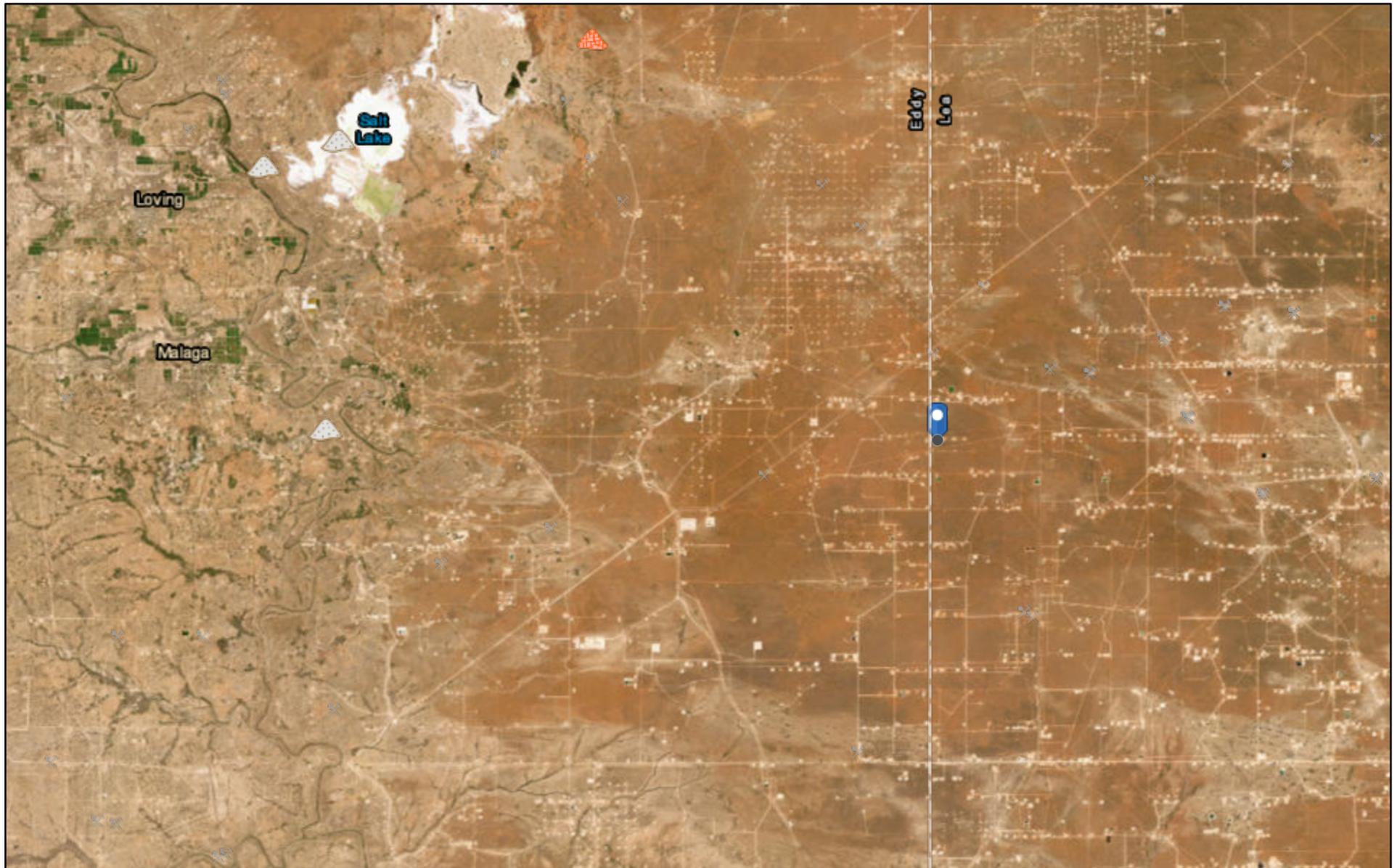
Karst Occurrence Potential

 Low



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

# EMNRD Active Mines



7/16/2024, 10:51:13 AM

Registered Mines

x Aggregate, Stone etc.

x

Aggregate, Stone etc.



Potash

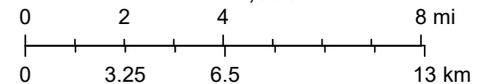
x

Aggregate, Stone etc.



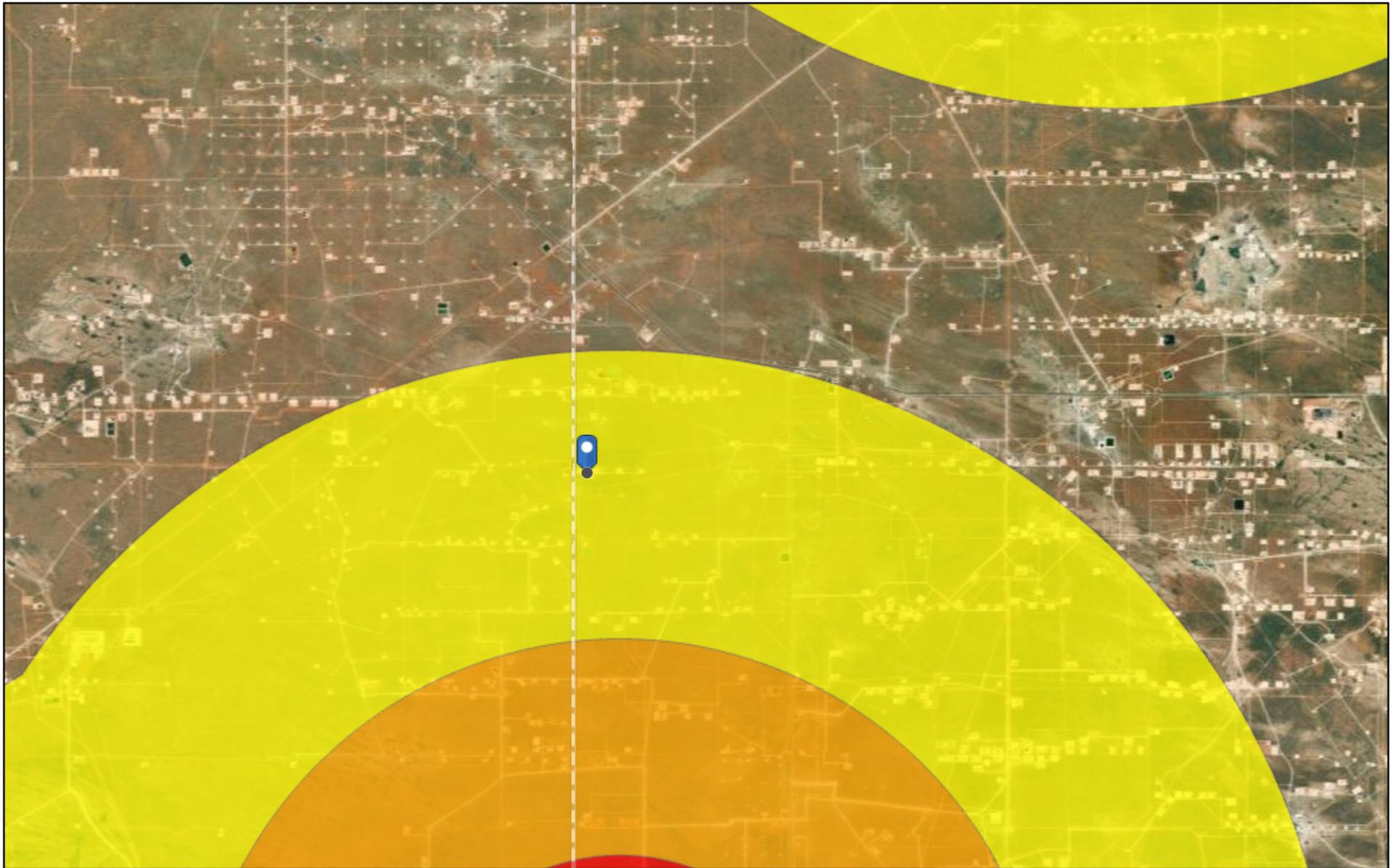
Salt

1:288,895



Esri, HERE, Garmin, Earthstar Geographics

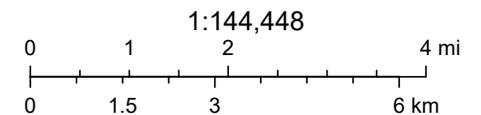
# OCD Induced Seismicity Area



7/16/2024, 10:08:42 AM

Seismic Response 3.0 to 3.4

	3 mi.		6 mi.
	10 mi.		



Oil Conservation Division (OCD), Energy, Minerals and Natural Resources Department (EMNRD), Esri, HERE, Garmin, Earthstar Geographics

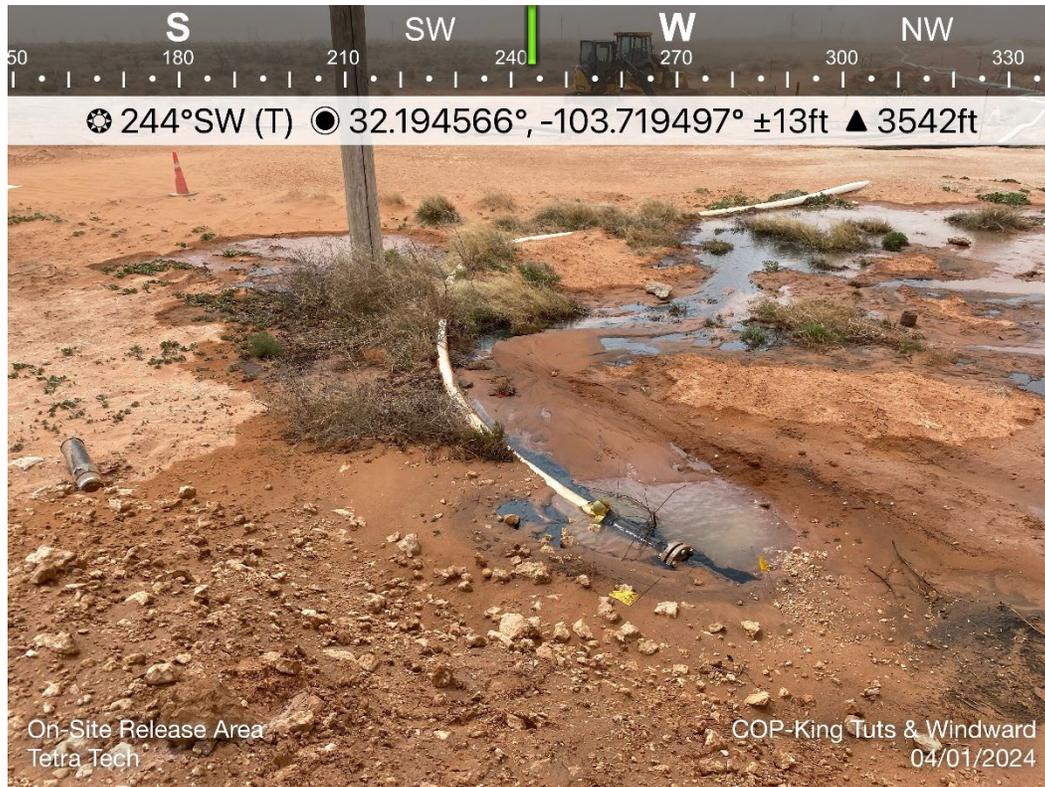
New Mexico Oil Conservation Division

# **APPENDIX C**

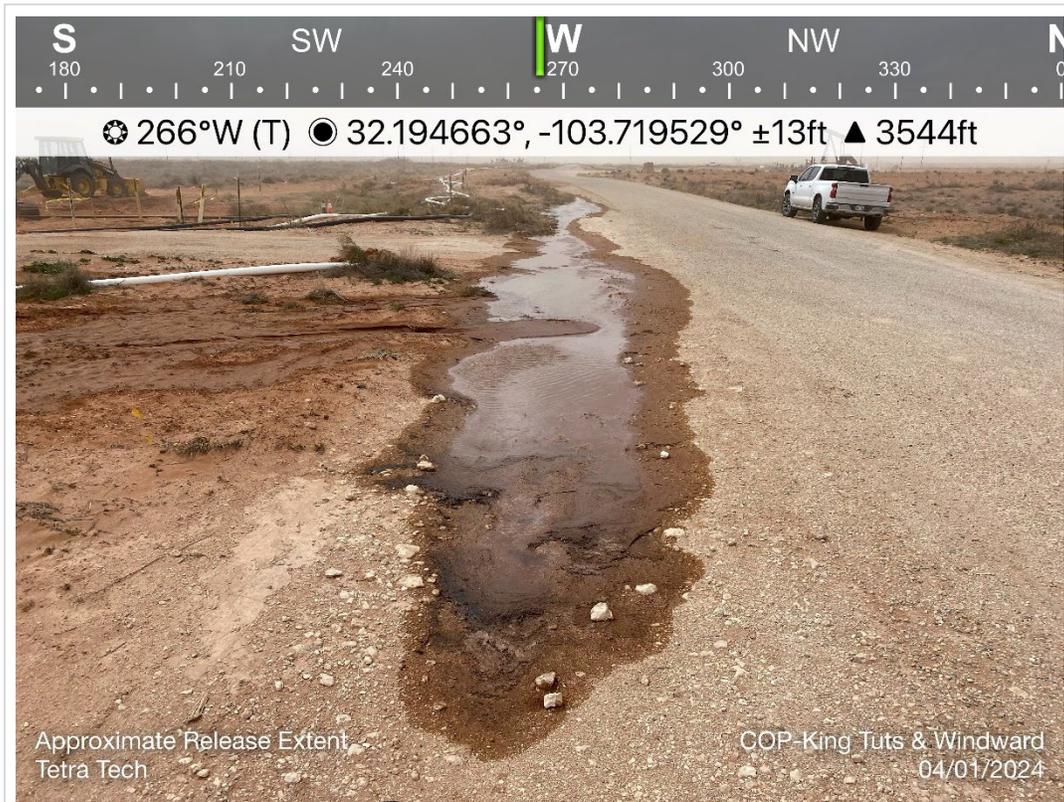
## **Photographic Documentation**



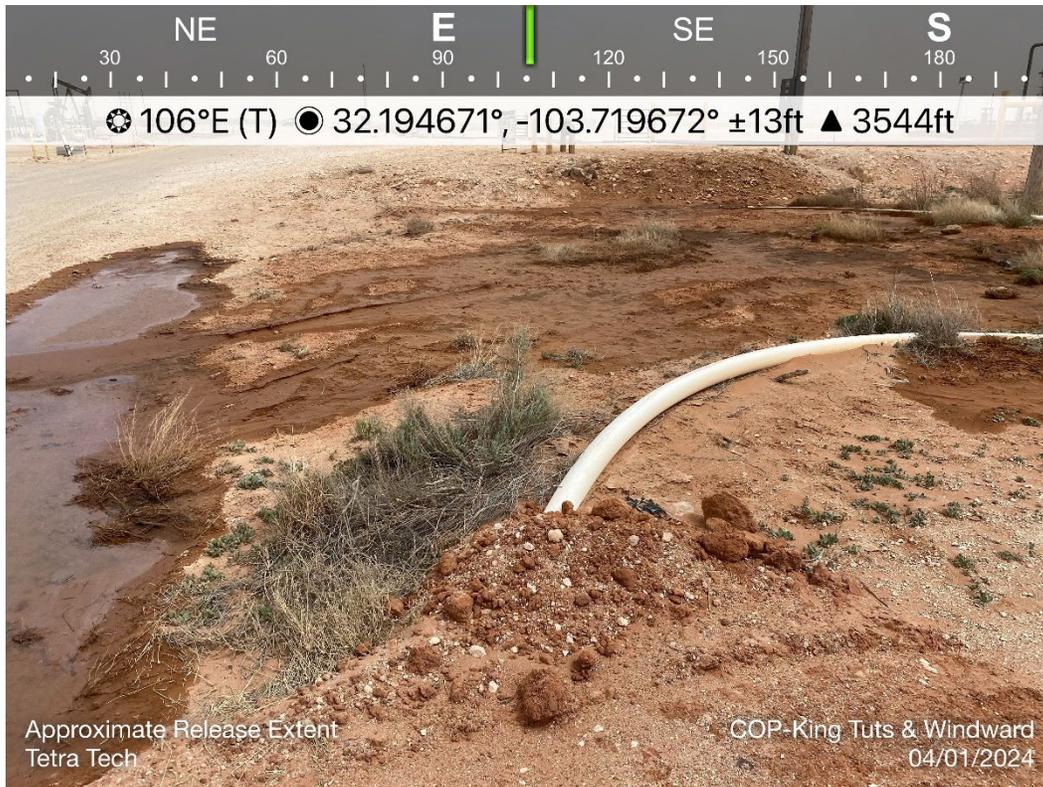
TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View of release point for the Woodward West CTB Release (NAPP2409948979).	1
	SITE NAME	Woodward West CTB & Woodward Federal #002H Releases	4/1/2024



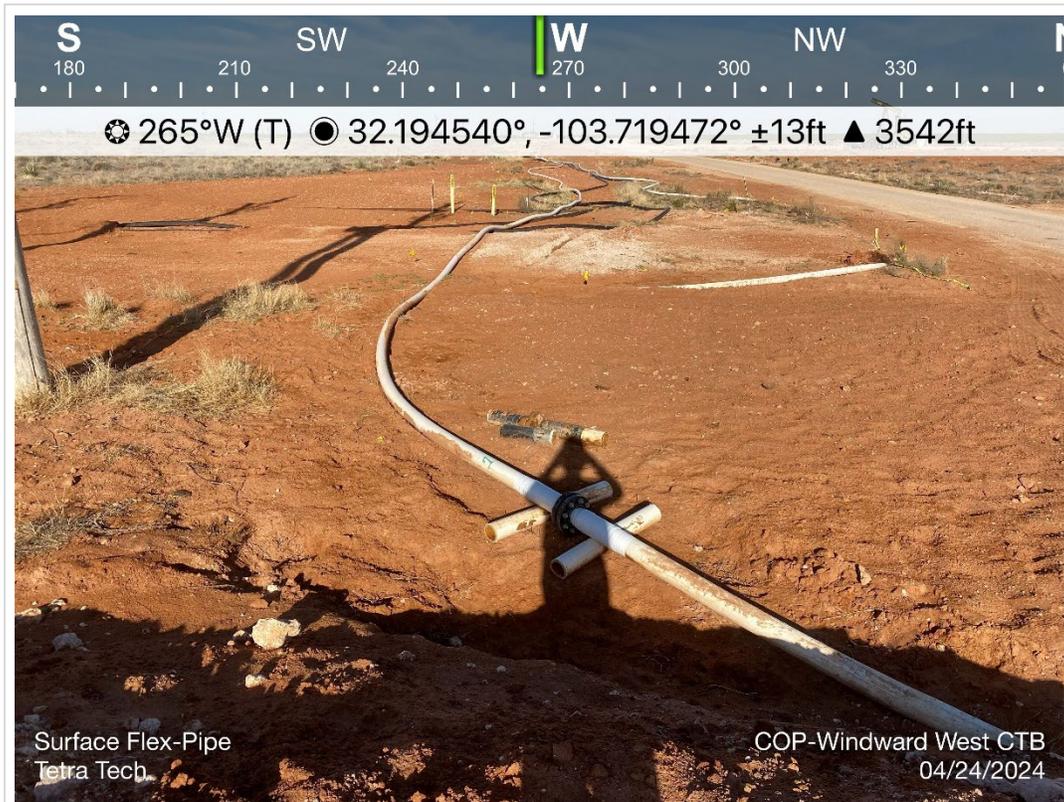
TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View southwest. View of the release area associated with Woodward West CTB Release (NAPP2409948979).	2
	SITE NAME	Woodward West CTB & Woodward Federal #002H Releases	4/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View west. View of the release area associated with Windward West CTB Release (NAPP2409948979).	3
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View east. View of the release area associated with Windward West CTB Release (NAPP2409948979).	4
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/1/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View west. View of the release after initial remedial activities occurred associated with NAPP2409948979.	5
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/24/2024



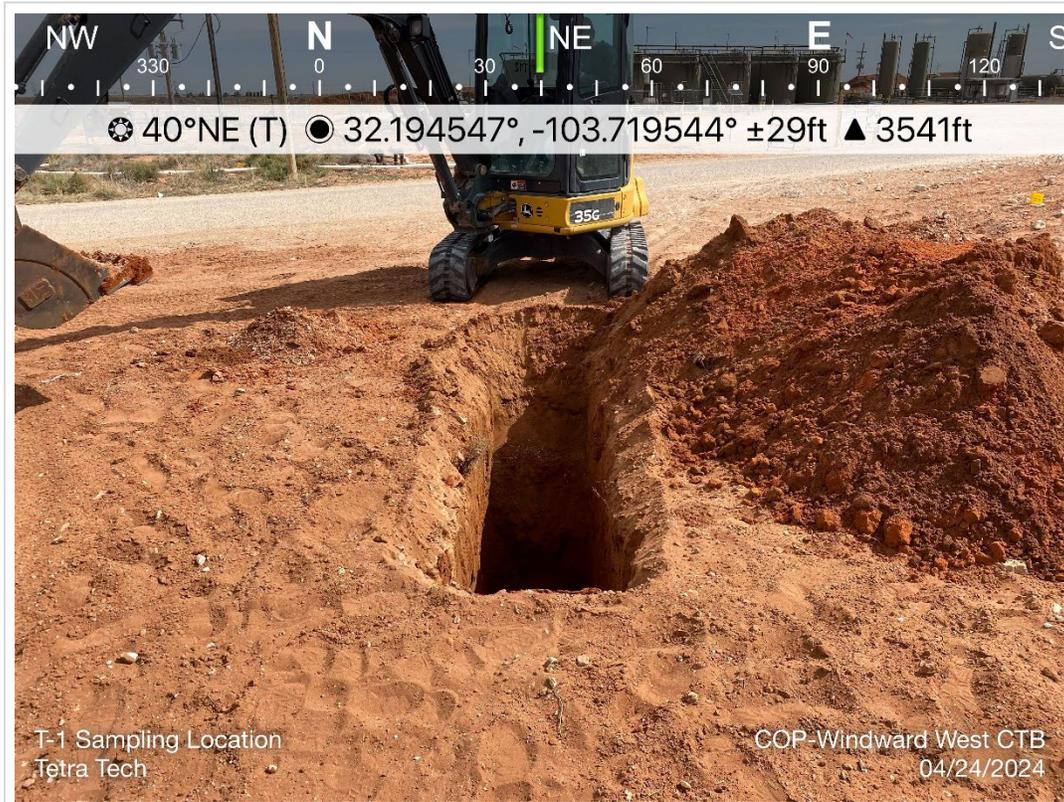
TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View east. View of the release area after initial remedial activities occurred associated with NAPP2409948979.	6
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/24/2024



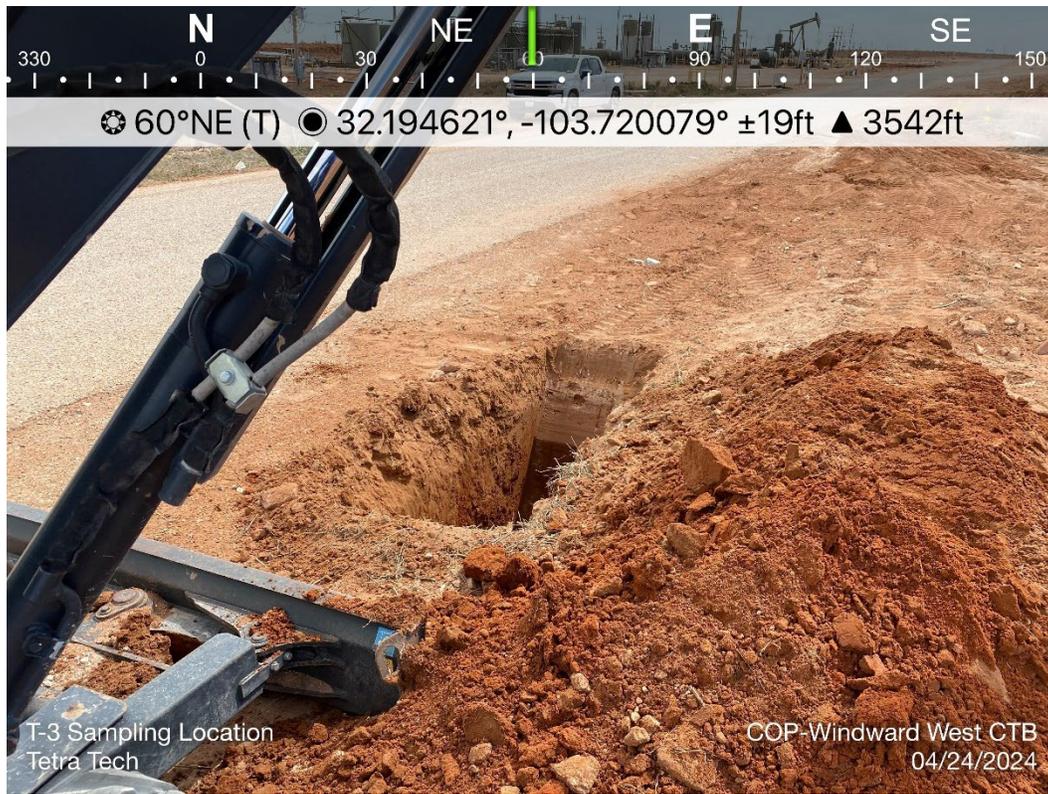
TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View east. View of the release area after initial remedial activities occurred associated with NAPP2409948979	7
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03341	DESCRIPTION	View west. View of the release area after initial remedial activities occurred associated with NAPP2409948979	8
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View east. View the initial site assessment activities associated with NAPP2409948979.	9
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03341	DESCRIPTION	View east. View the initial site assessment activities associated with NAPP2409948979.	10
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	4/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03341	DESCRIPTION	View south. View of the release area associated with Windward Federal #002H (NAPP2413732369).	11
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	5/4/2024



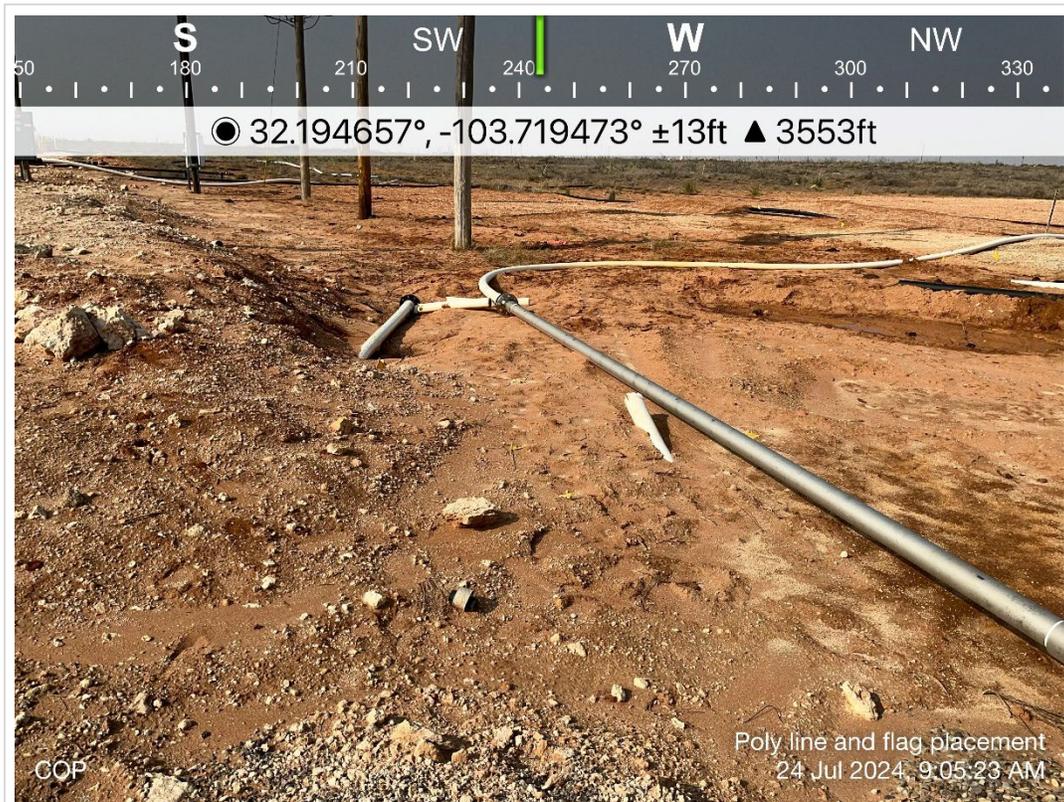
TETRA TECH, INC. PROJECT NO. 212C-MD-03341	DESCRIPTION	View west. View of the release area associated with Windward Federal #002H (NAPP2413732369).	12
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	5/4/2024



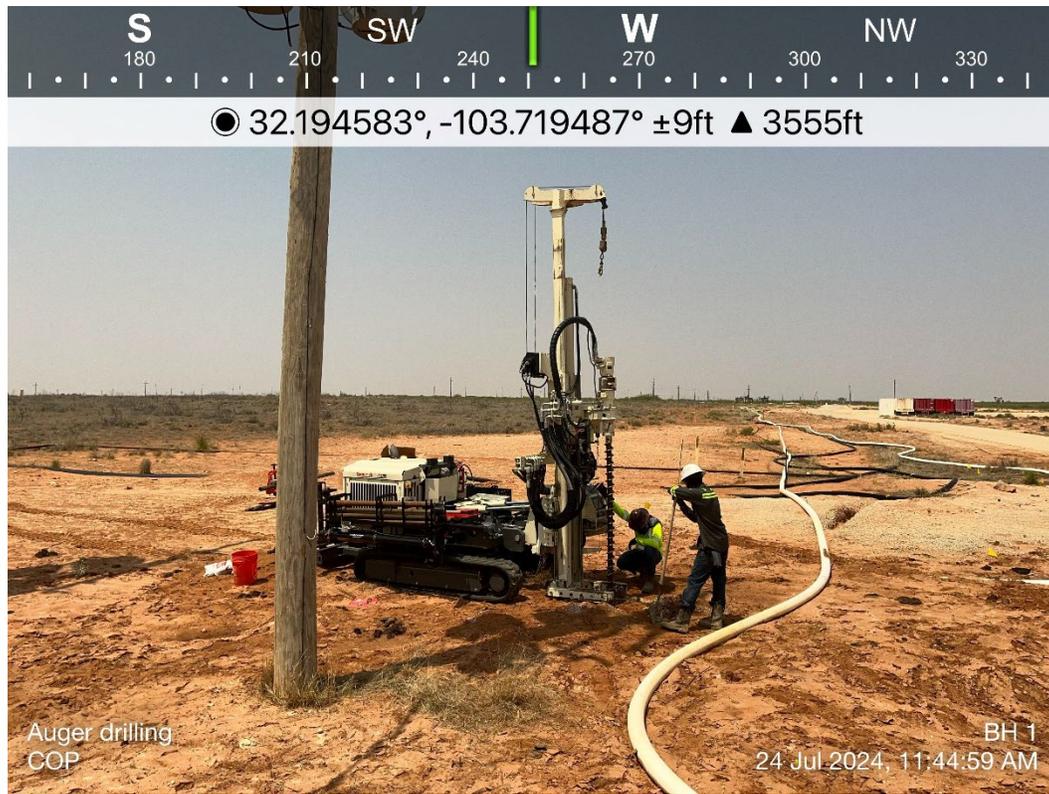
TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View southeast. View of the release point associated with Windward Federal #002H (NAPP2413732369).	13
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	5/4/2024



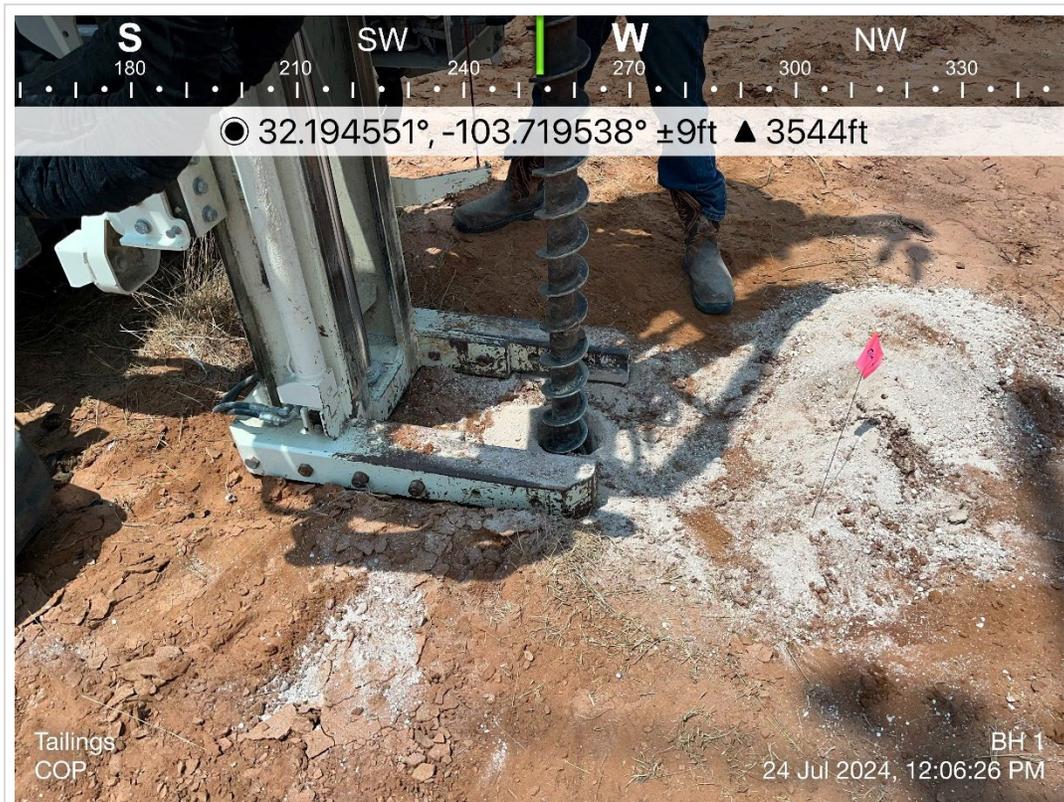
TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View southwest. View of the release area associated with Windward Federal #002H (NAPP2413732369).	14
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	5/4/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View south. View of current site conditions. View of steel line and power poles.	15
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	7/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-03441	DESCRIPTION	View west. View of additional assessment activities for combined releases.	16
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	7/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-02832	DESCRIPTION	View west. View of additional assessment activities for combined releases.	17
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	7/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-02832	DESCRIPTION	View west. View of release areas. View of polylines.	18
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	7/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-02832	DESCRIPTION	View southwest-west. View of surface steel lines and polylines.	19
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	7/24/2024



TETRA TECH, INC. PROJECT NO. 212C-MD-02832	DESCRIPTION	View north. View of release area. View of electrical pole and surface polylines.	20
	SITE NAME	Windward West CTB & Windward Federal #002H Releases	7/24/2024

# **APPENDIX D**

## **Laboratory Analytical Data**



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

August 13, 2024

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: WINDWARD WEST CTB / WINDWARD FED #002

Enclosed are the results of analyses for samples received by the laboratory on 07/25/24 11:47.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH 1 ( 0-1' )	H244430-01	Soil	24-Jul-24 07:00	25-Jul-24 11:47
BH 1 ( 2-3' )	H244430-02	Soil	24-Jul-24 07:05	25-Jul-24 11:47
BH 1 ( 4-5' )	H244430-03	Soil	24-Jul-24 07:10	25-Jul-24 11:47
BH 1 ( 6-7' )	H244430-04	Soil	24-Jul-24 07:15	25-Jul-24 11:47
BH 1 ( 9-10' )	H244430-05	Soil	24-Jul-24 07:20	25-Jul-24 11:47
BH 1 ( 14-15' )	H244430-06	Soil	24-Jul-24 07:25	25-Jul-24 11:47
BH 1 ( 20-23' )	H244430-07	Soil	24-Jul-24 07:30	25-Jul-24 11:47
BH 2 ( 0-1' )	H244430-08	Soil	24-Jul-24 07:35	25-Jul-24 11:47
BH 2 ( 2-3' )	H244430-09	Soil	24-Jul-24 07:40	25-Jul-24 11:47
BH 2 ( 4-5' )	H244430-10	Soil	24-Jul-24 07:45	25-Jul-24 11:47
BH 2 ( 6-7' )	H244430-11	Soil	24-Jul-24 07:50	25-Jul-24 11:47
BH 2 ( 9-10' )	H244430-12	Soil	24-Jul-24 08:10	25-Jul-24 11:47
BH 2 ( 13' )	H244430-13	Soil	24-Jul-24 08:20	25-Jul-24 11:47
BH 2 ( 18-20' )	H244430-14	Soil	24-Jul-24 08:25	25-Jul-24 11:47
BH 3 ( 0-1' )	H244430-15	Soil	24-Jul-24 08:30	25-Jul-24 11:47
BH 3 ( 2-3' )	H244430-16	Soil	24-Jul-24 08:40	25-Jul-24 11:47
BH 3 ( 4-5' )	H244430-17	Soil	24-Jul-24 08:50	25-Jul-24 11:47
BH 3 ( 6-7' )	H244430-18	Soil	24-Jul-24 08:55	25-Jul-24 11:47
BH 3 ( 9-10' )	H244430-19	Soil	24-Jul-24 09:00	25-Jul-24 11:47
BH 4 ( 0-1' )	H244430-20	Soil	24-Jul-24 09:15	25-Jul-24 11:47
BH 4 ( 1-2' )	H244430-21	Soil	24-Jul-24 10:00	25-Jul-24 11:47
BH 4 ( 2-3' )	H244430-22	Soil	24-Jul-24 10:35	25-Jul-24 11:47
BH 4 ( 3-4' )	H244430-23	Soil	24-Jul-24 10:45	25-Jul-24 11:47
BH 5 ( 0-1' )	H244430-24	Soil	24-Jul-24 11:00	25-Jul-24 11:47
BH 5 ( 1-2' )	H244430-25	Soil	24-Jul-24 11:15	25-Jul-24 11:47
BH 5 ( 2-3' )	H244430-26	Soil	24-Jul-24 11:30	25-Jul-24 11:47
BH 5 ( 3-4' )	H244430-27	Soil	24-Jul-24 11:45	25-Jul-24 11:47

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\*=Accredited Analyte

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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 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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BH 6 ( 0-1' )	H244430-28	Soil	24-Jul-24 11:50	25-Jul-24 11:47
AH - 24 - 1 ( 0-1' )	H244430-32	Soil	24-Jul-24 13:15	25-Jul-24 11:47
H - 1 AH - 5 ( 0-1' )	H244430-33	Soil	24-Jul-24 14:15	25-Jul-24 11:47
H - 2 AH - 6 ( 0-1' )	H244430-34	Soil	24-Jul-24 15:15	25-Jul-24 11:47
H - 3 AH - 7 ( 0-1' )	H244430-35	Soil	24-Jul-24 16:15	25-Jul-24 11:47
H - 4 AH - 8 ( 0-1' )	H244430-36	Soil	24-Jul-24 17:15	25-Jul-24 11:47
H - 5 AH - 9 ( 0-1' )	H244430-37	Soil	24-Jul-24 17:30	25-Jul-24 11:47

08/13/24 - Client changed sample ID on -32 and the project number (see COC). This is the revised report and will replace the one sent on 07/30/24.

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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 1 ( 0-1' )  
H244430-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>5920</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	QM-07
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	QM-07
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			130 %	71.5-134		4072534	JH	26-Jul-24	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072528	MS	26-Jul-24	8015B	
DRO >C10-C28*	<b>181</b>		10.0	mg/kg	1	4072528	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<b>46.8</b>		10.0	mg/kg	1	4072528	MS	26-Jul-24	8015B	
Surrogate: 1-Chlorooctane			99.9 %	48.2-134		4072528	MS	26-Jul-24	8015B	
Surrogate: 1-Chlorooctadecane			115 %	49.1-148		4072528	MS	26-Jul-24	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 1 ( 2-3' )  
H244430-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	7730		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			130 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	10.5		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			114 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			139 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 1 ( 4-5' )  
H244430-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	976		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			125 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			118 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			142 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 1 ( 6-7' )  
H244430-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Inorganic Compounds**

<b>Chloride</b>	<b>3520</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			127 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
<b>DRO &gt;C10-C28*</b>	<b>51.1</b>		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>19.0</b>		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			112 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			140 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 1 ( 9-10' )  
H244430-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>3760</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			129 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

**S-04**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
<b>DRO &gt;C10-C28*</b>	<b>35.9</b>		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>12.0</b>		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			120 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			151 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 1 ( 14-15' )**

**H244430-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>2600</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			122 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			114 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			134 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 1 ( 20-23' )**

**H244430-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			119 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			110 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			129 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 2 ( 0-1' )  
H244430-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>12800</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

**S-04**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			138 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			109 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			129 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 2 ( 2-3' )  
H244430-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>5300</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			125 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			106 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			128 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 2 ( 4-5' )  
H244430-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	3840		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			131 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			117 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			141 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 2 ( 6-7' )  
H244430-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	3240		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			132 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			115 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			142 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 2 ( 9-10' )  
H244430-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>6800</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			132 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	29-Jul-24	8015B	
<b>DRO &gt;C10-C28*</b>	<b>18.0</b>		10.0	mg/kg	1	4072523	MS	29-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	29-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			91.2 %	48.2-134		4072523	MS	29-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			111 %	49.1-148		4072523	MS	29-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 2 ( 13' )  
H244430-13 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	2000		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			132 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			122 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			145 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 2 ( 18-20' )**

**H244430-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	160		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			122 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			118 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			145 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 3 ( 0-1' )  
H244430-15 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	7200		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			129 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	29-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	29-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	29-Jul-24	8015B	

Surrogate: 1-Chlorooctane			97.0 %	48.2-134		4072523	MS	29-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			120 %	49.1-148		4072523	MS	29-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 3 ( 2-3' )  
H244430-16 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>848</b>		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

**S-04**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			135 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
<b>DRO &gt;C10-C28*</b>	<b>43.2</b>		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			109 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			130 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 3 ( 4-5' )  
H244430-17 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	2240		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			133 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			110 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			129 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 3 ( 6-7' )  
H244430-18 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	192		16.0	mg/kg	4	4072636	HM	26-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			129 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			107 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			125 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 3 ( 9-10' )  
H244430-19 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>688</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			134 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			111 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			131 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 4 ( 0-1' )  
H244430-20 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>11800</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

**S-04**

Benzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072534	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072534	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			142 %	71.5-134		4072534	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			116 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			140 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 4 ( 1-2' )  
H244430-21 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	7360		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			111 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072523	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			118 %	48.2-134		4072523	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			142 %	49.1-148		4072523	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 4 ( 2-3' )  
H244430-22 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	3680		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			110 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			103 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			103 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 4 ( 3-4' )  
H244430-23 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>320</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			111 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			100 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			99.0 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 5 ( 0-1' )  
H244430-24 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>2080</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			111 %		71.5-134	4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			99.7 %		48.2-134	4072533	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			98.6 %		49.1-148	4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 5 ( 1-2' )  
H244430-25 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	4840		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			110 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			98.6 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			97.7 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 5 ( 2-3' )  
H244430-26 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	384		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			98.1 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			95.1 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 5 ( 3-4' )  
H244430-27 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>400</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			110 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			97.3 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			94.0 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**BH 6 ( 0-1' )  
H244430-28 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	32.0		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			112 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			89.5 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			87.8 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**AH - 24 - 1 ( 0-1' )**

**H244430-32 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>9200</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			109 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
<b>DRO &gt;C10-C28*</b>	<b>11.9</b>		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			92.8 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			91.7 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**H - 1 AH - 5 ( 0-1' )  
H244430-33 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			112 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			84.5 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			82.3 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**H - 2 AH - 6 ( 0-1' )  
H244430-34 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			115 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			93.0 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			91.3 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**H - 3 AH - 7 ( 0-1' )**

**H244430-35 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	96.0		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			112 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			81.5 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			78.8 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**H - 4 AH - 8 ( 0-1' )**

**H244430-36 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	32.0		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			115 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

Surrogate: 1-Chlorooctane			78.2 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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Surrogate: 1-Chlorooctadecane			74.8 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**H - 5 AH - 9 ( 0-1' )  
H244430-37 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	4072626	AC	29-Jul-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4072535	JH	26-Jul-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4072535	JH	26-Jul-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			113 %	71.5-134		4072535	JH	26-Jul-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4072533	MS	26-Jul-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			81.9 %	48.2-134		4072533	MS	26-Jul-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			77.8 %	49.1-148		4072533	MS	26-Jul-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4072626 - 1:4 DI Water**

<b>Blank (4072626-BLK1)</b>		Prepared & Analyzed: 26-Jul-24								
Chloride	ND	16.0	mg/kg							
<b>LCS (4072626-BS1)</b>		Prepared & Analyzed: 26-Jul-24								
Chloride	448	16.0	mg/kg	400		112	80-120			
<b>LCS Dup (4072626-BSD1)</b>		Prepared & Analyzed: 26-Jul-24								
Chloride	448	16.0	mg/kg	400		112	80-120	0.00	20	

**Batch 4072636 - 1:4 DI Water**

<b>Blank (4072636-BLK1)</b>		Prepared & Analyzed: 26-Jul-24								
Chloride	ND	16.0	mg/kg							
<b>LCS (4072636-BS1)</b>		Prepared & Analyzed: 26-Jul-24								
Chloride	416	16.0	mg/kg	400		104	80-120			
<b>LCS Dup (4072636-BSD1)</b>		Prepared & Analyzed: 26-Jul-24								
Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	

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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4072534 - Volatiles**

**Blank (4072534-BLK1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0603		mg/kg	0.0500		121	71.5-134			

**LCS (4072534-BS1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

Benzene	2.20	0.050	mg/kg	2.00		110	82.8-130			
Toluene	2.60	0.050	mg/kg	2.00		130	86-128			BS-3
Ethylbenzene	2.63	0.050	mg/kg	2.00		132	85.9-128			BS1
m,p-Xylene	5.51	0.100	mg/kg	4.00		138	89-129			BS1
o-Xylene	2.70	0.050	mg/kg	2.00		135	86.1-125			BS1
Total Xylenes	8.22	0.150	mg/kg	6.00		137	88.2-128			BS1
Surrogate: 4-Bromofluorobenzene (PID)	0.0617		mg/kg	0.0500		123	71.5-134			

**LCS Dup (4072534-BSD1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

Benzene	2.13	0.050	mg/kg	2.00		107	82.8-130	2.96	15.8	
Toluene	2.34	0.050	mg/kg	2.00		117	86-128	10.4	15.9	
Ethylbenzene	2.33	0.050	mg/kg	2.00		116	85.9-128	12.2	16	
m,p-Xylene	4.83	0.100	mg/kg	4.00		121	89-129	13.1	16.2	
o-Xylene	2.38	0.050	mg/kg	2.00		119	86.1-125	12.8	16.7	
Total Xylenes	7.21	0.150	mg/kg	6.00		120	88.2-128	13.0	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0577		mg/kg	0.0500		115	71.5-134			

**Batch 4072535 - Volatiles**

**Blank (4072535-BLK1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4072535 - Volatiles**

**Blank (4072535-BLK1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0568		mg/kg	0.0500		114	71.5-134			

**LCS (4072535-BS1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

Benzene	2.30	0.050	mg/kg	2.00		115	82.8-130			
Toluene	2.35	0.050	mg/kg	2.00		117	86-128			
Ethylbenzene	2.52	0.050	mg/kg	2.00		126	85.9-128			
m,p-Xylene	5.05	0.100	mg/kg	4.00		126	89-129			
o-Xylene	2.51	0.050	mg/kg	2.00		125	86.1-125			
Total Xylenes	7.55	0.150	mg/kg	6.00		126	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0515		mg/kg	0.0500		103	71.5-134			

**LCS Dup (4072535-BSD1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

Benzene	2.16	0.050	mg/kg	2.00		108	82.8-130	6.25	15.8	
Toluene	2.18	0.050	mg/kg	2.00		109	86-128	7.32	15.9	
Ethylbenzene	2.34	0.050	mg/kg	2.00		117	85.9-128	7.72	16	
m,p-Xylene	4.67	0.100	mg/kg	4.00		117	89-129	7.79	16.2	
o-Xylene	2.32	0.050	mg/kg	2.00		116	86.1-125	7.78	16.7	
Total Xylenes	6.99	0.150	mg/kg	6.00		116	88.2-128	7.78	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0514		mg/kg	0.0500		103	71.5-134			

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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**Petroleum Hydrocarbons by GC FID - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4072523 - General Prep - Organics**

<b>Blank (4072523-BLK1)</b>		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	49.1		mg/kg	50.0		98.1	48.2-134			
Surrogate: 1-Chlorooctadecane	57.7		mg/kg	50.0		115	49.1-148			

<b>LCS (4072523-BS1)</b>		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	183	10.0	mg/kg	200		91.7	66.4-123			
DRO >C10-C28	180	10.0	mg/kg	200		90.1	66.5-118			
Total TPH C6-C28	364	10.0	mg/kg	400		90.9	77.6-123			
Surrogate: 1-Chlorooctane	52.8		mg/kg	50.0		106	48.2-134			
Surrogate: 1-Chlorooctadecane	62.2		mg/kg	50.0		124	49.1-148			

<b>LCS Dup (4072523-BSD1)</b>		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	191	10.0	mg/kg	200		95.7	66.4-123	4.26	17.7	
DRO >C10-C28	186	10.0	mg/kg	200		92.8	66.5-118	2.99	21	
Total TPH C6-C28	377	10.0	mg/kg	400		94.2	77.6-123	3.64	18.5	
Surrogate: 1-Chlorooctane	55.6		mg/kg	50.0		111	48.2-134			
Surrogate: 1-Chlorooctadecane	66.6		mg/kg	50.0		133	49.1-148			

**Batch 4072528 - General Prep - Organics**

<b>Blank (4072528-BLK1)</b>		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	46.2		mg/kg	50.0		92.5	48.2-134			
Surrogate: 1-Chlorooctadecane	47.1		mg/kg	50.0		94.3	49.1-148			

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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**Petroleum Hydrocarbons by GC FID - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4072528 - General Prep - Organics**

LCS (4072528-BS1)		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	195	10.0	mg/kg	200		97.7	66.4-123			
DRO >C10-C28	184	10.0	mg/kg	200		91.8	66.5-118			
Total TPH C6-C28	379	10.0	mg/kg	400		94.8	77.6-123			
Surrogate: 1-Chlorooctane	50.1		mg/kg	50.0		100	48.2-134			
Surrogate: 1-Chlorooctadecane	50.6		mg/kg	50.0		101	49.1-148			

LCS Dup (4072528-BSD1)		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	197	10.0	mg/kg	200		98.6	66.4-123	0.931	17.7	
DRO >C10-C28	187	10.0	mg/kg	200		93.3	66.5-118	1.59	21	
Total TPH C6-C28	384	10.0	mg/kg	400		95.9	77.6-123	1.25	18.5	
Surrogate: 1-Chlorooctane	51.7		mg/kg	50.0		103	48.2-134			
Surrogate: 1-Chlorooctadecane	51.8		mg/kg	50.0		104	49.1-148			

**Batch 4072533 - General Prep - Organics**

Blank (4072533-BLK1)		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	44.7		mg/kg	50.0		89.4	48.2-134			
Surrogate: 1-Chlorooctadecane	43.9		mg/kg	50.0		87.9	49.1-148			

LCS (4072533-BS1)		Prepared: 25-Jul-24 Analyzed: 26-Jul-24								
GRO C6-C10	183	10.0	mg/kg	200		91.7	66.4-123			
DRO >C10-C28	178	10.0	mg/kg	200		88.9	66.5-118			
Total TPH C6-C28	361	10.0	mg/kg	400		90.3	77.6-123			
Surrogate: 1-Chlorooctane	47.6		mg/kg	50.0		95.2	48.2-134			
Surrogate: 1-Chlorooctadecane	45.1		mg/kg	50.0		90.2	49.1-148			

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**Analytical Results For:**

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: WINDWARD WEST CTB / WINDWA Project Number: 212C - MD - 03441 Project Manager: CHRISTIAN LLULL Fax To: (432) 682-3946	Reported: 13-Aug-24 12:14
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**Petroleum Hydrocarbons by GC FID - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4072533 - General Prep - Organics**

**LCS Dup (4072533-BSD1)**

Prepared: 25-Jul-24 Analyzed: 26-Jul-24

GRO C6-C10	185	10.0	mg/kg	200		92.3	66.4-123	0.648	17.7	
DRO >C10-C28	174	10.0	mg/kg	200		86.9	66.5-118	2.25	21	
Total TPH C6-C28	358	10.0	mg/kg	400		89.6	77.6-123	0.767	18.5	
Surrogate: 1-Chlorooctane	49.0		mg/kg	50.0		98.0	48.2-134			
Surrogate: 1-Chlorooctadecane	46.9		mg/kg	50.0		93.7	49.1-148			

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
BS1 Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
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, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

p. 1 of 4

Company Name: <b>TetraTech</b>		P.O. #:	
Project Manager: <b>Christian Lull</b>		Company:	
Address: <b>901 West Wall Ste 1</b>		Attn:	
City: <b>Midland</b>		Address:	
State: <b>TX</b> Zip: <b>79701</b>		City:	
Phone #: <b>432-682-4559</b> Fax #: <b>432-682-4554</b>		State:	
Project #: <b>212e-MD-0044</b> Project Owner: <b>CD</b>		Phone #:	
Project Name: <b>Windward West Gb/Windward Fed Hoo ZK</b>		Zip:	
Project Location: <b>Eddy Co, NM</b>		Fax #:	
Sampler Name: <b>AG</b>			

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.			DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:			
<b>H244430</b>	BH1 (6-1')	G	1			X						X	7/24/24	7:00	X Chlorides
	(2-3')													7:05	X TPH
	(4-5')													7:10	X BTEX
	(6-7')													7:15	
	(9-10')													7:20	
	(14-15')													7:25	
	(20-25')													7:30	
	BH 2 (0-1')													7:35	
	(2-3')													7:40	
	(4-5')													7:45	

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Relinquished By: **Osman Davis** Date: **7/25/24** Time: **10:30**

Received By: **Maria [Signature]** Date: **7/25/24** Time: **7:47**

Delivered By: (Circle One)  UPS  Bus  Other

Observed Temp. °C: **01** Corrected Temp. °C: **01**

Turnaround Time: **Standard**  Rush

Bacteria (only) Sample Condition:  Cool  Intact  Yes  No  Corrected Temp. °C: **01**

REMARKS: **\* Cust. suggested project # changes. 8/13/24**

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



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**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

p 2 of 4

<b>Company Name:</b> Tetra Tech <b>Project Manager:</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
<b>Address:</b> City: State: Zip:		<b>P.O. #:</b> Company:			
<b>Phone #:</b> Fax #:		<b>Attn:</b> Address:			
<b>Project #:</b> Project Owner:		<b>City:</b> State: Zip:			
<b>Project Location:</b>		<b>Phone #:</b> Fax #:			
<b>Sampler Name:</b>		<b>FOR LAB USE ONLY</b>			
<b>Lab I.D.</b>		<b>Sample I.D.</b>			
11 BH 2 (6-7') 12 (9-10') 13 (13') 14 (18-20') 15 BH 3 (0-1) 16 (2-3') 17 (4-5') 18 (6-7') 19 (9-10') 20 BH 4 (0-1)		(G) GRAB OR (C) OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:		DATE TIME	
		MATRIX SOIL <input checked="" type="checkbox"/> OIL SLUDGE OTHER:		DATE TIME	
		PRESERV ACID/BASE: ICE / COOL OTHER:		DATE TIME	
		SAMPLING		DATE TIME	
		CHLORIDES TPL BTEX			

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Relinquished By: *[Signature]* Date: 7/25/24 Time: 10/30  
 Received By: *[Signature]* Date: 7/25/24 Time: 11:47

Delivered By: (Circle One) Observed Temp. °C: 0.1 Corrected Temp. °C: *[Signature]*  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: *[Signature]*

Turnaround Time: Standard  Rush   
 Bacteria (only) Sample Condition: Cool Intact  Yes  No  Observed Temp. °C:  Yes  No  Corrected Temp. °C:  Yes  No



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

p 3 of 4

**Company Name:** Tetra Tech  
**Project Manager:**  
**Address:**  
**City:** State: Zip:  
**Phone #:** Fax #:  
**Project #:** Project Owner:  
**Project Location:**  
**Sampler Name:**  
 FOR LAB USE ONLY

**BILL TO**  
**P.O. #:**  
**Company:**  
**Attn:**  
**Address:**  
**City:** State: Zip:  
**Phone #:**  
**Fax #:**

**ANALYSIS REQUEST**

Lab I.D.	Sample I.D.	(G) GRAB OR (C) OMP.	# CONTAINERS	MATRIX	PRESERV	DATE	TIME	ANALYSIS	REMARKS
424430	BH 4	(1-2)	1	SOIL	X	7/24/24	10:00	Chloride	
21	BH 4	(1-2)	1	SOIL	X	7/24/24	10:35	BTEX	
22	BH 4	(2-3)	1	SOIL	X	7/24/24	10:45	TPH	
23	BH 5	(3-4)	1	SOIL	X	7/24/24	11:00		
24	BH 5	(0-1)	1	SOIL	X	7/24/24	11:15		
25	BH 5	(1-2)	1	SOIL	X	7/24/24	11:30		
26	BH 5	(2-3)	1	SOIL	X	7/24/24	11:45		
27	BH 5	(3-4)	1	SOIL	X	7/24/24	11:50		
28	BH 6	(0-1)	1	SOIL	X	7/24/24	12:00		
29	BH 6	(1-2)	1	SOIL	X	7/24/24	12:10		
30	BH 6	(2-3)	1	SOIL	X	7/24/24	12:10		HOLD

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**Relinquished By:** [Signature] Date: 7/25/24 Time: 10:30  
**Received By:** [Signature] Date: 7/25/24 Time: 10:30

**Delivered By:** (Circle One) Observed Temp. °C: 0.1 Corrected Temp. °C: [ ]  
 Sampler - UPS - Bus - Other: [ ] Cool Intact: [ ] Sample Condition: [ ]  
 Checked By: [Signature] (Initials) [ ]  
 Turnaround Time: [ ] Standard: [ ] Bacteria (only) Sample Condition: [ ]  
 Thermometer ID #140 Correction Factor °C: [ ] Rush: [ ] Cool Intact: [ ] Observed Temp. °C: [ ]  
 Bacteria (only) Sample Condition: [ ] Corrected Temp. °C: [ ]

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



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**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

P 4 of 4

Company Name: <u>Extra Tech</u>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager:		Company:					
Address:		Attn:					
City:		Address:					
State:		City:					
Zip:		State:					
Phone #:		Address:					
Fax #:		City:					
Project #:		State:					
Project Owner:		Zip:					
Project Location:		Phone #:					
Fax #:							
Sampler Name:		PRESERV:					
FOR LAB USE ONLY		ICE / COOL					
		OTHER:					
		DATE					
		TIME					
Lab I.D.		SAMPLING					
Sample I.D.							
31 BH (3-4) *		(G)RAB OR (C)OMP.					
32 AH (10-1)		# CONTAINERS					
33 H-1 (0-1)		GROUNDWATER					
34 H-2 (0-1)		WASTEWATER					
35 H-3 (0-1)		SOIL					
36 H-4 (0-1)		OIL					
37 H-5 (0-1)		SLUDGE					
		OTHER:					
		ACID/BASE:					
		ICE / COOL					
		OTHER:					
		DATE					
		TIME					
		X		Chlode			
		X		pH			
		X		BIX			
		HOLD					

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Relinquished By: Oliver Pan Date: 7-26-24 Received By: [Signature]  
 Date: 7-26-24 Time: 10:30 Received By: [Signature]

Delivered By: (Circle One) UPS Observed Temp. °C: 0.1 Sample Condition: Intact CHECKED BY: [Signature]  
 Corrected Temp. °C: 0.1 Sample Condition: Intact Cool Intact: Yes Bacteria (only) Sample Condition: Intact  
 Corrected Temp. °C: 0.1 Cool Intact: Yes Bacteria (only) Sample Condition: Intact

# **APPENDIX E**

## **Regulatory Correspondence**

**Chavira, Lisbeth**

---

**From:** Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>  
**Sent:** Thursday, August 1, 2024 4:55 PM  
**To:** Chavira, Lisbeth  
**Cc:** Llull, Christian; Abbott, Sam; Bratcher, Michael, EMNRD  
**Subject:** RE: [EXTERNAL] Extension Request - Windward Federal #002H FL Release (NAPP2413732369)

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

Good afternoon Lisbeth,

The extension request for NAPP2413732369 WINDWARD FEDERAL 002H is approved. The new due date to submit your remediation closure report to the OCD is October 30, 2024. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Kind regards,

Shelly

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

---

**From:** Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>  
**Sent:** Thursday, August 1, 2024 3:25 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Llull, Christian <Christian.Llull@tetrattech.com>; Abbott, Sam <Sam.Abbott@tetrattech.com>  
**Subject:** [EXTERNAL] Extension Request - Windward Federal #002H FL Release (NAPP2413732369)

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

To Whom it May Concern,

On behalf of ConocoPhillips, Tetra Tech is requesting a 90-day extension (until October 30, 2024) to complete result evaluation and reporting for the Windward Federal #002H FL Release (**NAPP2413732369**).

The Initial C-141 was submitted via the OCD portal system on May 16, 2024.

According to the NMOCD C-141, the date of the release was May 3, 2024. The release was reportedly caused by a hole in a water transfer line.

Approximately 4.1217 bbls of produced water were reported released, of which none were recovered.

For this release, ConocoPhillips immediately commenced pursuing a 90-day (August 1, 2024) release characterization and closure per 19.15.29.11(A) NMAC.

This release footprint is largely coincident with a previous release in this vicinity, the Windward West CTB Release - NAPP2409948979.

On April 24, 2024, Tetra Tech personnel were on Site to assess the previous Windward West CTB - NAPP2409948979 release via a combination of trenching and hand auger borings.

During the assessment, a hard caliche lithified layer at 8 ft bgs was encountered, and further vertical delineation was not feasible due to the equipment limitations.

The subject line Windward Federal 002H Release (NAPP2413732369) occurred after these assessment activities, on May 3, 2024, in the same relative release footprint as the prior Windward West CTB Release - NAPP2409948979.

Due to numerous subsurface and surface lines and additional overhead powerlines in close proximity of the release a traditional drilling rig could not be used for vertical delineation due to concerns for a possible line strike.

Given the numerous hazards at the Site, these releases are now being handled by the ConocoPhillips Risk Management group.

After site evaluation, and in lieu of a traditional rig, a track-mounted Geoprobe rig was instead utilized. On July 24, 2024, Tetra Tech personnel were on Site to conduct additional assessment of the area with the direct push rig.

A total of six (6) bore holes and six (6) hand auger borings were installed around and within the release for vertical and horizontal delineation. Analytical results for the release were received on July 30, 2024.

Thus, Tetra Tech is requesting additional time to tabulate and evaluate the results and complete the release characterization and associated reporting which will be submitted to the OCD.

Thank you in advance.

**Lisbeth Chavira** | Geoscientist

Direct Mobile +1 (512) 596-8201 | [Lisbeth.chavira@tetratech.com](mailto:Lisbeth.chavira@tetratech.com)

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8911 N. Capital of Texas Highway | Bldg. 2, Suite 2310 | Austin, TX 78759 | [tetratech.com](http://tetratech.com)

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

QUESTIONS

Action 383265

**QUESTIONS**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 383265
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2413732369
Incident Name	NAPP2413732369 WINDWARD FEDERAL 002H @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Facility	[fAPP2132638253] WINDWARD FED 2H - BATTERY

<b>Location of Release Source</b>	
<i>Please answer all the questions in this group.</i>	
Site Name	WINDWARD FEDERAL 002H
Date Release Discovered	05/03/2024
Surface Owner	Federal

<b>Incident Details</b>	
<i>Please answer all the questions in this group.</i>	
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

<b>Nature and Volume of Release</b>	
<i>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.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion   Flow Line - Injection   Produced Water   Released: 4 BBL   Recovered: 0 BBL   Lost: 4 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 383265

**QUESTIONS (continued)**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 383265
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>More info needed to determine if this will be treated as a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Unavailable.
Reasons why this would be considered a submission for a notification of a major release	Unavailable.

*With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.*

**Initial Response**

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

*Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.*

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

I hereby agree and sign off to the above statement	Name: Christian LLuLL Title: Project Manager Email: christian.llull@tetratech.com Date: 09/12/2024
--	---

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**Santa Fe, NM 87505**

QUESTIONS, Page 3

Action 383265

**QUESTIONS (continued)**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 383265
	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 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 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 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

**Remediation Plan**  
*Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

Requesting a remediation plan approval with this submission	Yes
<i>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.</i>	
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)	12800
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	227
GRO+DRO (EPA SW-846 Method 8015M)	181
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	12/09/2024
On what date will (or did) the final sampling or liner inspection occur	12/11/2024
On what date will (or was) the remediation complete(d)	12/13/2024
What is the estimated surface area (in square feet) that will be reclaimed	2383
What is the estimated volume (in cubic yards) that will be reclaimed	332
What is the estimated surface area (in square feet) that will be remediated	2383
What is the estimated volume (in cubic yards) that will be remediated	332

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

QUESTIONS, Page 4

Action 383265

**QUESTIONS (continued)**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 383265
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

**Remediation Plan (continued)**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

**This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:**

(Select all answers below that apply.)

(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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

I hereby agree and sign off to the above statement	Name: Christian LLuLL Title: Project Manager Email: christian.llull@tetrattech.com Date: 09/12/2024
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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.

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 5

Action 383265

**QUESTIONS (continued)**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 383265
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

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

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QUESTIONS, Page 6

Action 383265

**QUESTIONS (continued)**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 383265
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

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

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

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CONDITIONS

Action 383265

**CONDITIONS**

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 383265
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**CONDITIONS**

Created By	Condition	Condition Date
scwells	Remediation plan approved with conditions. Confirmation samples are to be collected at a frequency of every 200 square feet from the base and walls of the excavation. Submit remediation closure report to the OCD by 12/16/2024.	9/17/2024