TETRA TECH

July 19, 2024

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

Re: Site Characterization and Remediation Work Plan
BTA Oil Producers, LLC
Harroun Ranch West Flowline Release
Unit Letter O, Section 20, Township 23 South, Range 29 East
Eddy County, New Mexico
NMOCD Incident ID# nAPP2416548667

Dear Sir or Madam,

Tetra Tech, Inc. (Tetra Tech) was contracted by BTA Oil Producers, LLC (BTA) to assist with the management of releases of oil and produced water as the result of a release of produced water from a flowline on the south side of the Harroun Ranch West Tank Battery, Unit Letter O, Section 20, Township 23 South, Range 29 East, in Eddy County, New Mexico, at coordinates 32.284965°, -104.006619° (Site). The location is shown in **Figure 1** and **Figure 2**.

BACKGROUND

On June 12, 2024, an operator switched production to an open-ended line that had been cut due to a recent fire reported under a separate incident at Site. The open-ended line released approximately 15 barrels (bbls) of produced water before the operator switched over to an uncut line. BTA dispatched vacuum trucks immediately to begin recovering released fluids. Approximately 7 bbls of produced water were recovered during the initial response activities. The release notification was submitted to NMOCD on June 13, 2024, and subsequently assigned the release Incident Identification (ID) nAPP2416548667. The release extent is shown in **Figure 3**.

SITE CHARACTERIZATION

Receptors

Tetra Tech performed a site characterization for the release location and did not identify any watercourses, sinkholes, playas, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains within the distances specified in 19.15.29.11 New Mexico Administrative Code (NMAC). Based on a review of the NMOCD Mapper, the site is in an area of medium karst potential. The site characterization data is included in **Attachment 1**.

Depth to Groundwater

According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are no water wells within ½ mile of the Site. The nearest well is approximately 0.85 miles away to the east-northeast with no depth to water listed. The next nearest well is approximately 1.13 miles away with a depth to water of 44 feet bgs. Based on the Site Assessment and remediation work conducted at the Harroun Ranch West Battery Fire under incident ID nAPPO2411724780 (200 feet north of the Site) the depth to groundwater at the Site is approximately 11 feet below ground surface (bgs). The groundwater site characterization data is included in **Attachment 1**.

Tetra Tech, Inc.
1500 CityWest Boulevard, Suite 1000, Houston, Texas 77042
Tel +1.832.251.5160 | tetratech.com/oga | tetratech.com

Soils

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the Site is mapped as having Upton soils, 0 to 1 percent slopes, which is classified as a Loam soil type. The USDA NCRS Soil Map and soil profile are provided in **Attachment 1**.

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 for Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), Total Petroleum Hydrocarbons (TPH) in soil.

TPH, BTEX, and Benzene Reclamation Requirements

Based on the site characterization and in accordance with Table I of 19.15.29.12 NMAC, the remediation RRALs for the Site default to Reclamation Requirements for groundwater less than 50 feet bgs due to the proximity of inferred shallow groundwater estimated as less than 25 feet belong ground surface. Reclamation Requirements are as follows:

Reclamation Requirements

Constituent	Remediation RRAL
TPH (GRO+DRO+ORO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

Chloride Background Assessment

A historical aerial imagery review of Google Earth imagery indicates that the playa lake just over 300 feet north of the Site is saline and has historically encroached or overflowed over the current release area and Site prior to the construction of the levy north of the Site between 2014 and 2016. Field screening of the playa water indicated elevated total dissolved solids concentrations and apparent salts are visible in the bottom of the playa when dry in 2005, 2011, 2012, 2013, 2014, 2017, 2019, and 2023 aerial images.

In accordance with 19.15.29 Table I Closure Criteria for Soils Impacted by a release, the prescribed Closure Criteria may be substituted for natural background levels if greater than the Closure Criteria. The State of New Mexico Energy Minerals and Natural Resources Department *Notice Process Updates re: Submissions of Form C-141 Release Notification and Corrective Actions, Dated December 1, 2023*, states that when determining background limits, grab samples should be gathered in endemic areas undisturbed by oil and gas activities, nominally uphill from the release area, no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release's impact or disturbed areas.

Background samples were collected as part of the Harroun Ranch West Battery Fire release under incident ID nAPPO2411724780 which are also applicable to this release that occurred approximately 200 feet south of the Harroun Ranch West Battery facility pad in the pasture. Background sampling and results are discussed below, completed in accordance with the December 1, 2023, Notice to document background chloride concentrations, determine the range of background chloride concentrations in the vicinity, and establish the Remediation Criteria for chloride at the Site Based on the NMOCD direction that statistical analysis of background concentrations is unsuitable and an average must be used, as discussed below.

Chloride Remediation Criteria

Constituent	Remediation RRAL
Chloride	3,080 mg/kg

INITIAL RESPONSE AND ASSESSMENT ACTIVITIES

Subsequent to the April 25, 2024 fire that consumed the Harroun Ranch West facility, an operator caused this secondary release by switching over produced water flow to a cut flowline associated with the former tank battery. Once all free fluids were recovered, BTA began immediately excavating the release footprint down to a depth of 4 feet bgs.

SITE ASSESSMENT SUMMARY

Soil Assessment Sampling

BTA conducted hand auger assessment sampling from the bottom of the initial excavation and surrounding the release footprint to laterally and vertically delineate the release extents on July 15, 2024. A total of seven (7) surface lateral delineation samples were collected from the upper one foot and four (4) hand auger samples were advanced to depths of 5.5 feet bgs within the release footprint. Soils at the Site consist of light brown sandy loam with gravel. Soil assessment location locations are depicted in **Figure 3** and Site Assessment location coordinates are provided in **Table 1**.

Soils were field screened for salinity using an ExTech EC400 ExStik to determine sampling intervals. A total of 11 samples were collected from assessment locations and submitted to Cardinal Laboratory in Hobbs, New Mexico (Cardinal) for analysis of BTEX by Method 8021B, TPH by Method 8015M, and chloride by Method SM4500Cl-B.

Soil Assessment Results

Analytical results for the submitted lateral delineation and vertical delineation samples reported BTEX and TPH concentrations at non-detect concentrations with reporting limits less than respective Reclamation Requirements. Chloride analytical results reported concentrations between 80 mg/kg and 1,600 mg/kg, less than the proposed background chloride concentrations. Laboratory analytical results are summarized in **Table 3** screened against Reclamation Requirements and the proposed background chloride concentration. Laboratory analytical data packages including chain of custody documentation are provided in **Attachment 2**.

CHLORIDE SOIL BACKGROUND ASSESSMENT

On May 14, 2024, BTA conducted test pitting in the vicinity of the Site to conduct background soil sampling for the Harroun Ranch West Battery Fire assessment under incident ID nAPPO2411724780 to support a determination of elevated background chloride concentrations in accordance with 19.15.29 NMAC and the State of New Mexico Energy, Minerals and Natural Resources Department *Notice Process Updates re: Submissions of Form C-141 Release Notification and Corrective Actions*, Dated December 1, 2023.

BTA collected seven (7) grab background samples from approximately 4 feet below ground surface (bgs) from areas undisturbed by oil and gas activities surrounding the Harroun Ranch West Battery Site and in the vicinity of this release Site. Background samples are representative of the entire horizontal and vertical extent of the release area. The background sample locations are presented in **Table 2** and **Figure 4**.

Background soil sample concentrations ranged from 288 mg/kg at Background - BG 7 @ 4' sample to 6,880 mg/kg at Background - BG 4 @ 4'. Soil background sample laboratory analytical results are summarized in **Table 4**. The laboratory analytical data packages are included in **Attachment 2**.

Background Chloride Concentration Analysis

BTA proposes to establish the background chloride concentration at 3,080 mg/kg for the remediation and reclamation criteria at the Site. The proposed concentration represents an average of the seven (7) background samples discussed above and is in alignment with the background chloride concentration established for this area under Incident ID nAPPO2411724780.

REMEDIATION WORK PLAN

Based on the analytical results from the assessment, BTA proposes to remove the impacted material within the release extent as shown in **Figure 4**. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to an approximate depth of 5 feet below the surrounding surface, or until representative samples from the excavation sidewalls and the floor of the excavation report concentrations of constituents as less than Site Reclamation Requirements or the established soil chloride background concentration. Heavy equipment will come no more than two feet from any pressurized lines. Impacted soils within the vicinity of the surface and subsurface lines that intersect the release footprint will be excavated with hydro-vac excavation or dug by hand to the maximum extent practicable.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. Sampling notification will be submitted to the NMOCD in accordance with 19.15.29.12 NMAC. Once final analytical results are received demonstrating clean margins the excavation will then be backfilled with clean material to surface grade sourced from a local supplier. The estimated remediation area is approximately 13,600 square feet with a volume of material to be remediated approximately 2,518 cubic yards.

Remediation at the site has already begun and the majority of the excavation is complete as of the date of this report. Remediation is anticipated to be complete within 2 weeks of NMOCD remediation work plan approval.

ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, BTA requests an alternative confirmation sampling plan to adhere to NMOCD requirements that includes sidewall and base confirmation sampling representative of 400 square feet of excavation base or sidewall area. BTA proposes to submit samples to Cardinal Laboratory for analysis of BTEX by Method 8260B , TPH by Method 8015 modified, and chloride by Method 4500CL-B. Once results are received, the excavation will then be backfilled with clean soil to surface grade.

CONCLUSION

Based on the results of the soil assessment sampling, the impacted soil within the release footprint TPH, BTEX, and chloride concentrations greater than Reclamation Requirements or proposed background concentrations have been laterally and vertically delineated. The chloride background concentration for the purposes of remediation has been proposed as 3,080 mg/kg, subject to NMOCD approval. If you have any questions concerning the remediation activities for the Site, please email Charles Terhune at chuck.terhune@tetratech.com or telephone at (832) 252-2093.

Sincerely,

Chris Straub
Project Manager
Tetra Tech, Inc.

Charles H. Terhune IV, P.G.
Program Manager
Tetra Tech, Inc.

cc: Ray Ramos, BTA Oil Producers, LLC
Bureau of Land Management

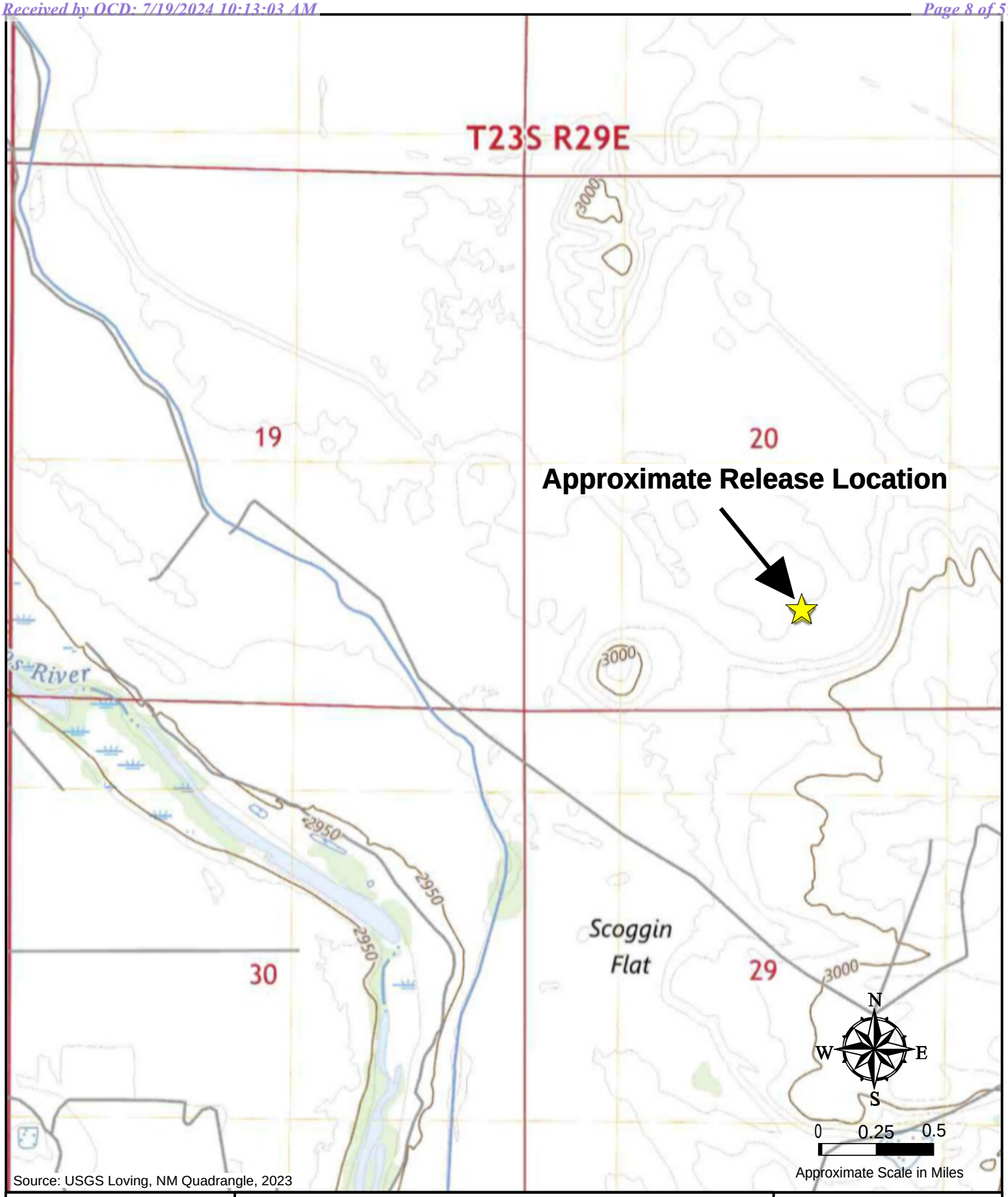
LIST OF ATTACHMENTS

Figures

Tables

Attachments

FIGURES



Source: USGS Loving, NM Quadrangle, 2023

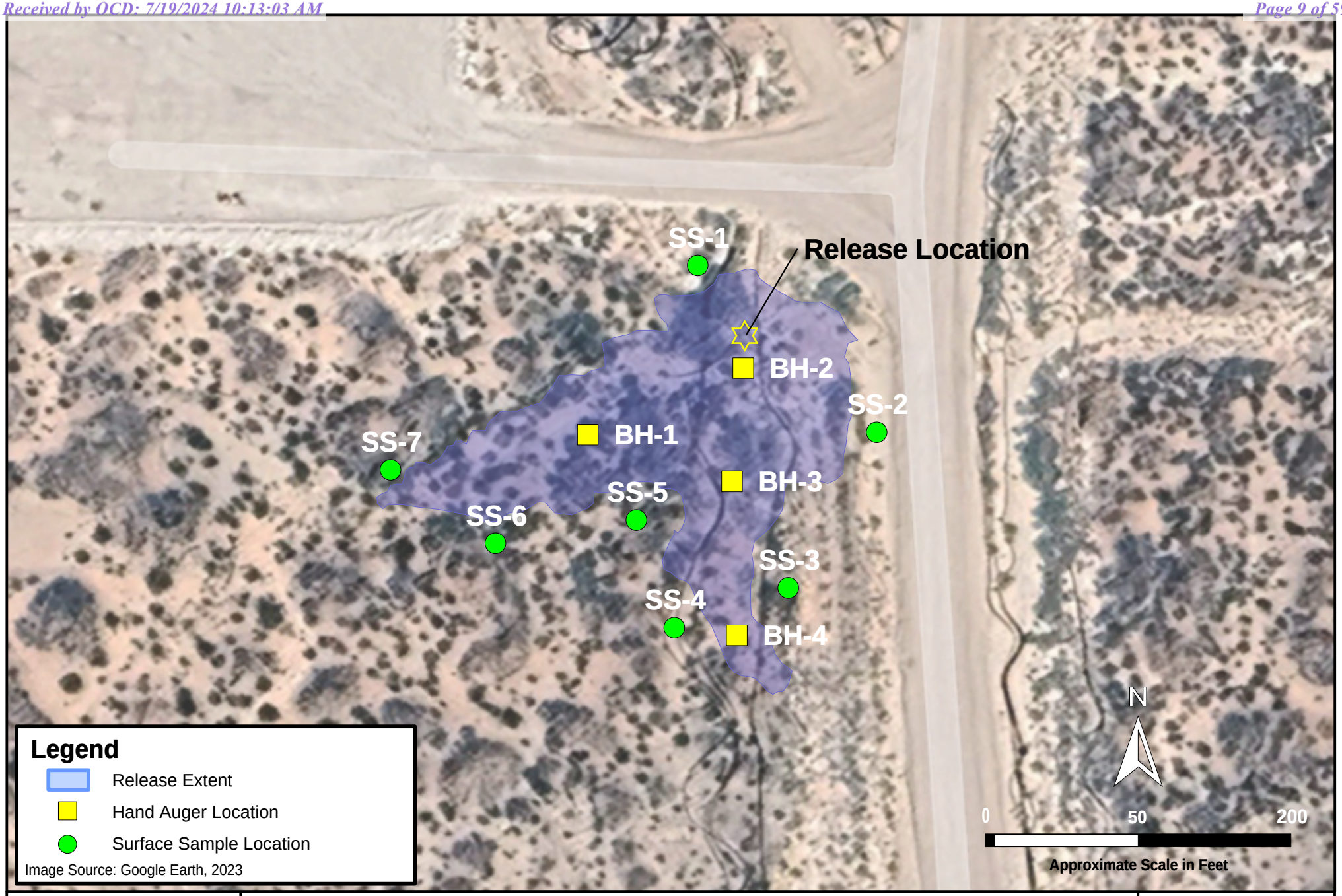
TETRA TECH

1500 CityWest Boulevard
Suite 1000
Houston, Texas 77042

BTA OIL PODUCERS, LLC
NAPP2416548667
32.284965°, -104.006619°
EDDY COUNTY, NEW MEXICO
HARROUN RANCH WEST BATTERY FLOWLINE RELEASE
SITE LOCATION MAP

PROJECT NO: 212C-MD-03560
DATE: 07/17/2024
DESIGNED BY: CHT

Figure 1



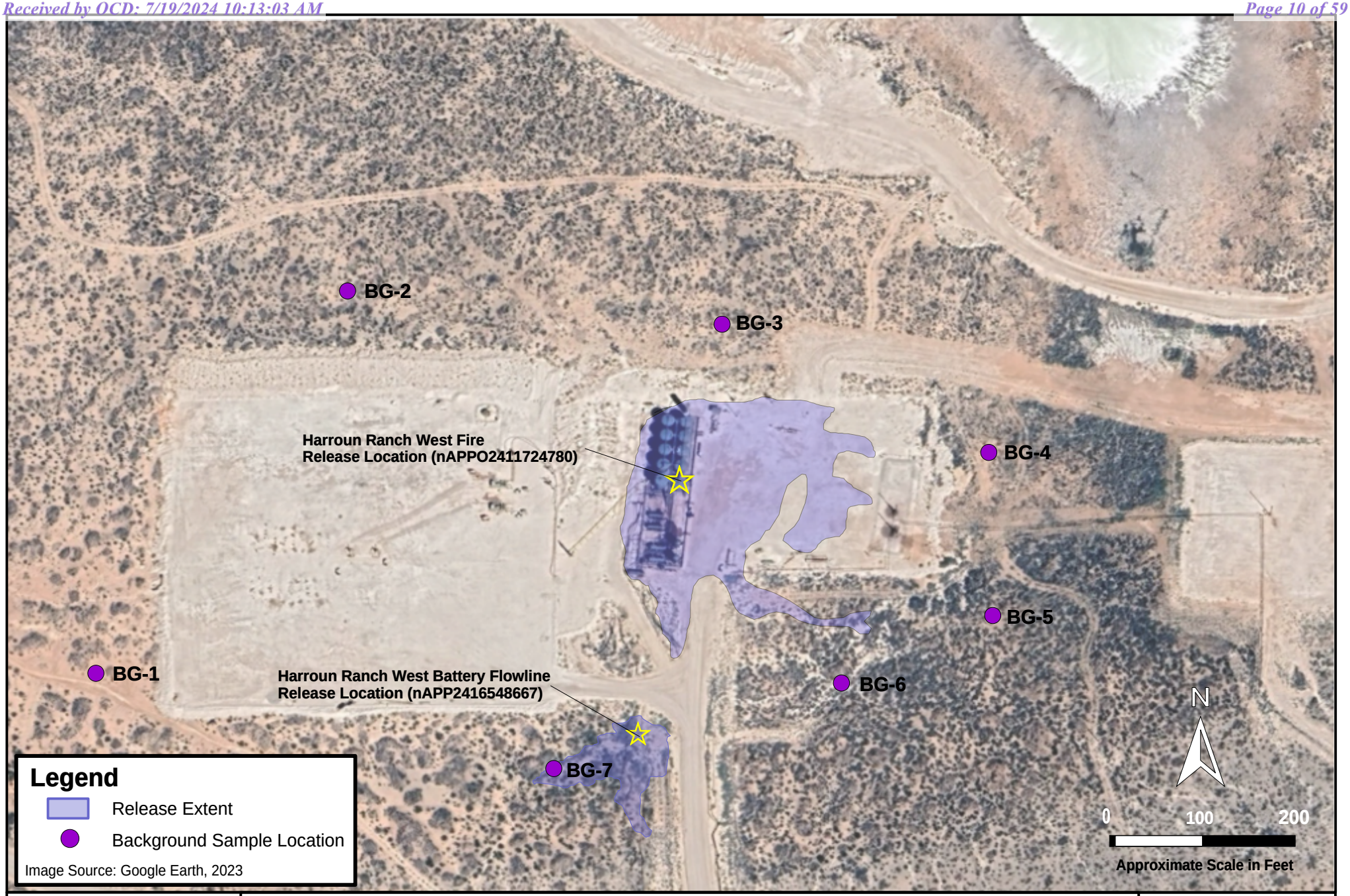
TETRA TECH

1500 CityWest Boulevard
Suite 1000
Houston, Texas 77042

BTA OIL PRODUCERS, LLC
nAPP2416548667
32.284965°, -104.006619°
LEA COUNTY, NEW MEXICO
HARROUN RANCH WEST BATTERY FLOWLINE RELEASE
APPROXIMATE RELEASE EXTENT AND SITE ASSESSMENT MAP

PROJECT NO: 212C-MD-03560
DATE: July 17, 2024
DESIGNED BY: CHT

Figure
2



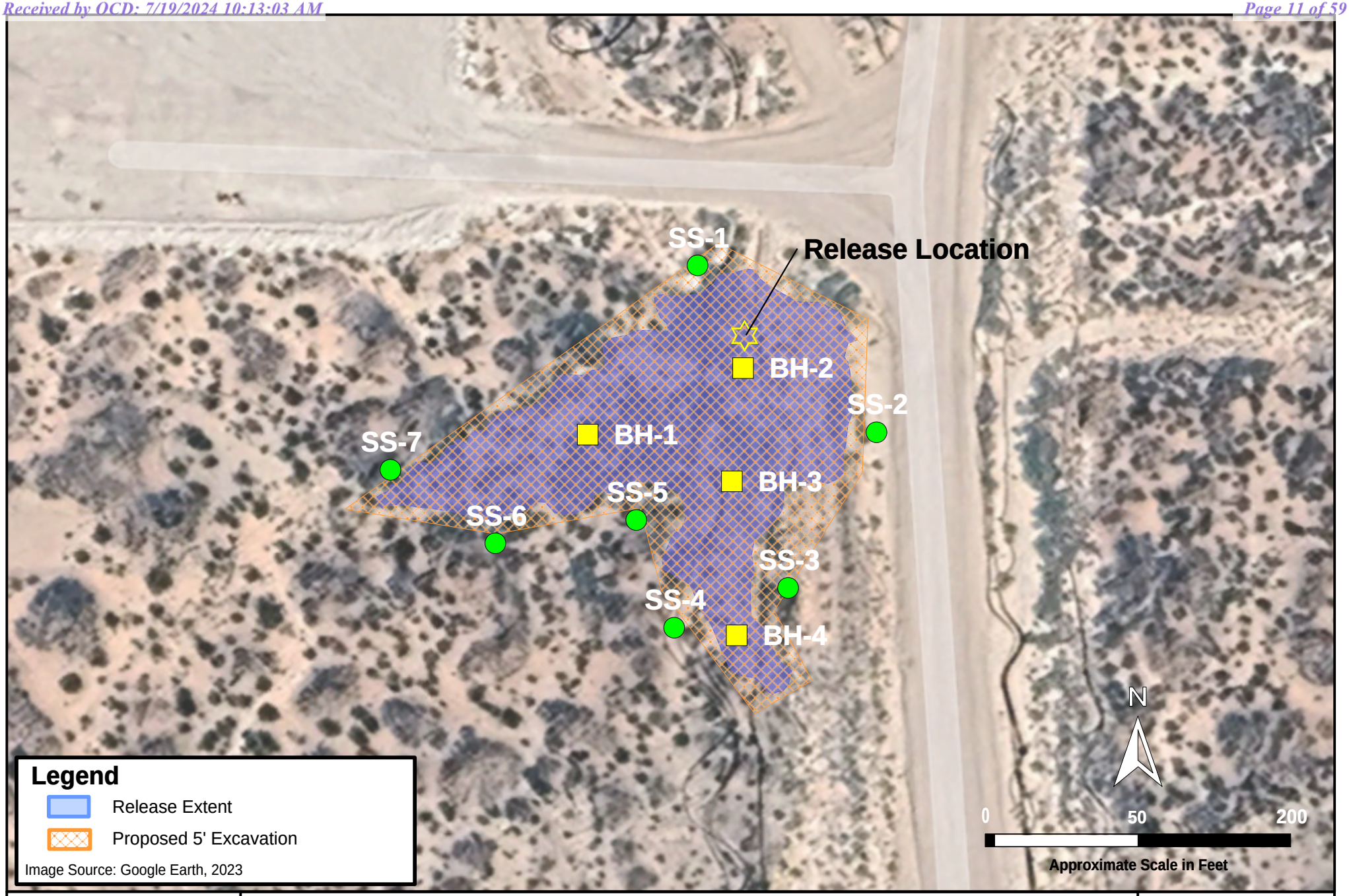
TETRA TECH

1500 CityWest Boulevard
Suite 1000
Houston, Texas 77042

BTA OIL PRODUCERS, LLC
nAPP2416548667
32.284965°, -104.006619°
LEA COUNTY, NEW MEXICO
HARROUN RANCH WEST BATTERY FLOWLINE RELEASE
BACKGROUND SAMPLE LOCATION MAP

PROJECT NO: 212C-MD-03560
DATE: JULY 17, 2024
DESIGNED BY: CHT

Figure No.
3



TETRA TECH
1500 CityWest Boulevard
Suite 1000
Houston, Texas 77042

BTA OIL PRODUCERS, LLC
nAPP2416548667
32.284965°, -104.006619°
LEA COUNTY, NEW MEXICO
HARROUN RANCH WEST BATTERY FLOWLINE RELEASE
PROPOSED REMEDIATION EXTENT MAP

PROJECT NO: 212C-MD-03560
DATE: July 17, 2024
DESIGNED BY: CHT

Figure
4

TABLES

TETRA TECH

TABLE 1
SOIL ASSESSMENT LOCATIONS
INCIDENT ID NAPP2416548667
BTA OIL PRODUCERS, LLC
HARROUN RANCH WEST FLOWLINE RELEASE
EDDY COUNTY, NEW MEXICO

Boring ID	Date	Latitude	Longitude
BH-1	7/15/2024	32.284861	-104.006784
BH-2	7/15/2024	32.284931	-104.006621
BH-3	7/15/2024	32.284812	-104.006632
BH-4	7/15/2024	32.284651	-104.006627
SS-1	7/15/2024	32.285039	-104.006668
SS-2	7/15/2024	32.284864	-104.006481
SS-3	7/15/2024	32.284700	-104.006573
SS-4	7/15/2024	32.284659	-104.006693
SS-5	7/15/2024	32.284772	-104.006733
SS-6	7/15/2024	32.284747	-104.006881
SS-7	7/15/2024	32.284824	-104.006991

TETRA TECH

TABLE 2
BACKGROUND ASSESSMENT LOCATIONS
INCIDENT ID NAPP2416548667
BTA OIL PRODUCERS, LLC
HARROUN RANCH WEST FLOWLINE RELEASE
EDDY COUNTY, NEW MEXICO

Test Pit Locatoin	Date	Latitude	Longitude
Background BG-1	5/14/2024	32.286109	-104.006241
Background BG-2	5/14/2024	32.286059	-104.006032
Background BG-3	5/14/2024	32.285842	-104.006017
Background BG-4	5/14/2024	32.285572	-104.006117
Background BG-5	5/14/2024	32.285345	-104.006038
Background BG-6	5/14/2024	32.285345	-104.006038
Background BG-7	5/14/2024	32.285392	-104.005908

TETRA TECH

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT SAMPLING - INCIDENT NAPP2416548667
BTA OIL PRODUCERS, LLC
HARROUN RANCH WEST BATTERY FLOWLINE RELEASE
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]								TPH[3]							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH (GRO+DRO+EXT DRO)
															C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{36}		
		feet bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
Reclamation Requirements (19.15.29 NMAC)			**6,880**		**10**								**50**								**100**
BH - 1 @ 5-5.5'	7/15/2024	5.0 - 5.5	1,300		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH - 2 @ 5-5.5'	7/15/2024	5.0 - 5.5	880		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH - 3 @ 5-5.5'	7/15/2024	5.0 - 5.5	1,220		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH - 4 @ 5-5.5'	7/15/2024	5.0 - 5.5	624		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SS - 1 (0-1')	7/15/2024	0.0 - 1.0	1,600		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SS - 2 (0-1')	7/15/2024	0.0 - 1.0	208		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SS - 3 (0-1')	7/15/2024	0.0 - 1.0	576		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SS - 4 (0-1')	7/15/2024	0.0 - 1.0	1,540		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SS - 5 (0-1')	5/21/2024	0.0 - 1.0	288		<0.051		<0.050		<0.050		<0.150		<0.300		<49.9		<49.9		<49.9		-
SS - 6 (0-1')	7/15/2024	0.0 - 1.0	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SS - 7 (0-1')	7/15/2024	0.0 - 1.0	80		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SS - 8 (0-1')	7/15/2024	0.0 - 1.0	411		<0.050		<0.050		<0.050		<0.150		<0.300		<49.9		<49.9		<49.9		-

NOTES:

bgs: Below ground surface
mg/kg: Milligrams per kilogram
TPH: Total Petroleum Hydrocarbons
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
EXT DRO: Oil Range Organics
1: Method SM4500Cl-B
2: Method 8021B
3: Method 8015M

Bold and highlighted values indicate exceedance of Reclamation Requirements (19.15.29 NMAC) or the proposed chloride background concentration.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS
SOIL BACKGROUND ASSESSMENT SAMPLING - INCIDENT NAPP2416548667
BTA OIL PRODUCERS, LLC
HARROUN RANCH WEST BATTERY FLOWLINE RELEASE
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride[1]	
		feet bgs	mg/kg	Q
Reclamation Requirements (19.15.29 NMAC)			**600**	
BACKGROUND - BG 1 @ 4'	5/14/2024	4.0 - 4.5	3,280	
BACKGROUND - BG 2 @ 4'	5/14/2024	4.0 - 4.5	1,630	
BACKGROUND - BG 3 @ 4'	5/14/2024	4.0 - 4.5	1,960	
BACKGROUND - BG 4 @ 4'	5/14/2024	4.0 - 4.5	6,880	
BACKGROUND - BG 5 @ 4'	5/14/2024	4.0 - 4.5	4,800	
BACKGROUND - BG 6 @ 4'	5/14/2024	4.0 - 4.5	2,720	
BACKGROUND - BG 7 @ 4'	5/14/2024	4.0 - 4.5	288	

NOTES:

bgs: Below ground surface

mg/kg: Milligrams per kilogram

1: Method SM4500Cl-B

ATTACHMENT 1 – SITE CHARACTERIZATION DATA

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02613	CUB	ED	4	4	2	20	23S	29E	594203	3573176*	895	400		
C 03587 POD2	CUB	ED	1	2	4	19	23S	29E	592213	3572706	1350	77	16	61
C 02721	CUB	ED		2	3	21	23S	29E	594915	3572879*	1397	150		
C 03057 EXPLORE	CUB	ED	4	1	1	21	23S	29E	594605	3573586*	1469	150		
C 02720	CUB	ED		2	1	21	23S	29E	594911	3573690*	1766	150		
C 03587 POD1	CUB	ED	1	4	3	29	23S	29E	593338	3570754	1815	99	44	55
C 02608	CUB	ED	3	1	4	17	23S	29E	593598	3574387*	1829	400		
C 03059 EXPLORE	CUB	ED	4	1	3	17	23S	29E	592993	3574378*	1905		65	
C 02182	C	ED			4	30	23S	29E	592328	3571048*	1945	75	30	45

Average Depth to Water: **38 feet**

Minimum Depth: **16 feet**

Maximum Depth: **65 feet**

Record Count: 9

UTMNAD83 Radius Search (in meters):

Easting (X): 593555 **Northing (Y):** 3572557.6 **Radius:** 2000

***UTM location was derived from PLSS - see Help**

National Flood Hazard Layer FIRMette

FEMA

104°0'43"W 32°17'22"N

104°0'6"W 32°16'52"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 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

N

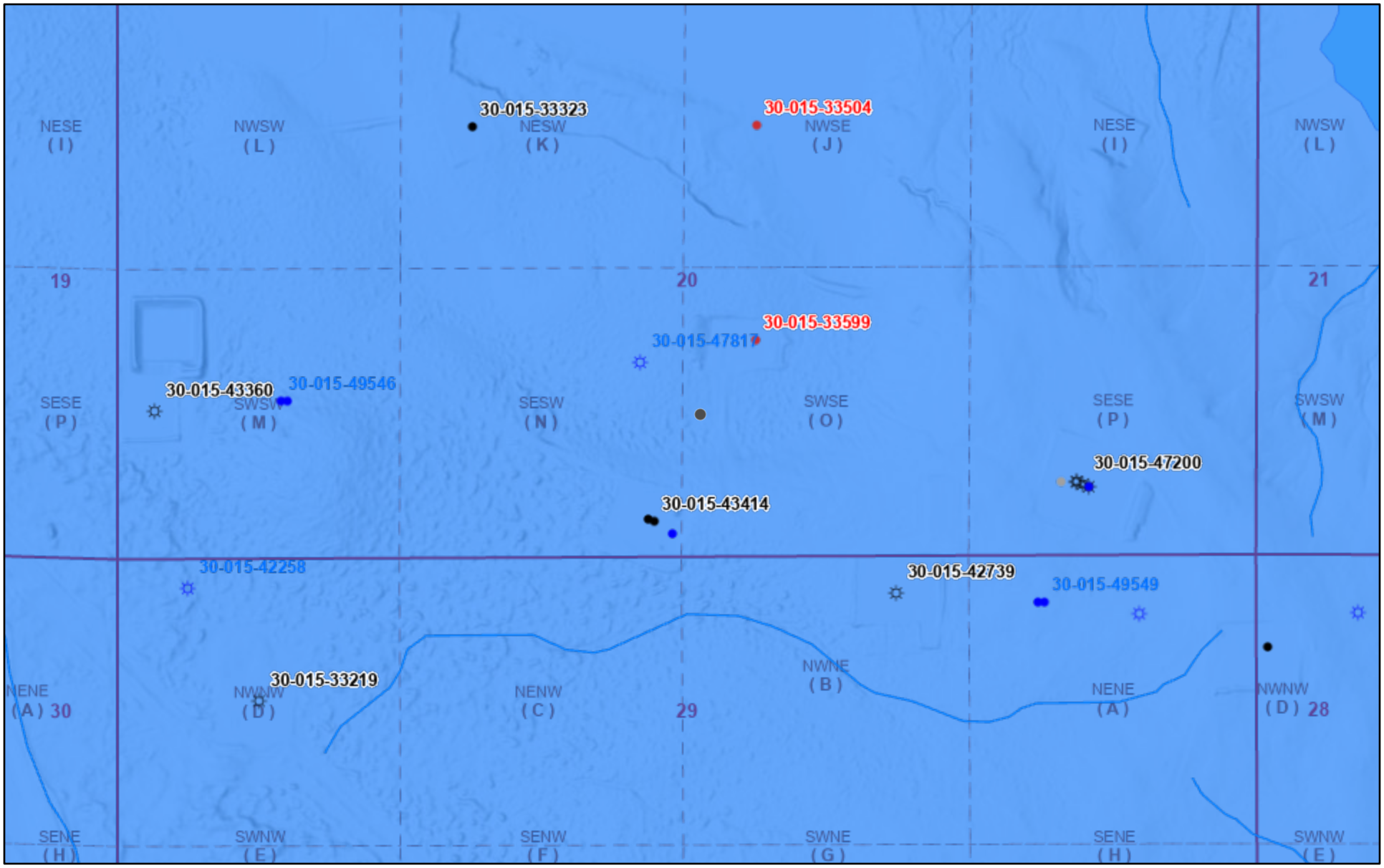
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 6/13/2024 at 3:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

OCD Well Locations



6/13/2024, 2:37:33 PM

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Wells - Large Scale
- Gas, Active
- Gas, New
- Oil, Active
- Oil, Cancelled
- Oil, New
- Oil, Plugged

Karst Occurrence Potential
- Medium
- OSW Water Bodys
- OSE Streams

- PLSS Second Division
- PLSS First Division

BLM, OCD, New Mexico Tech, Esri, NASA, NGA, USGS, FEMA, Oil Conservation Division of the New Mexico Energy, Minerals and Natural

New Mexico Oil Conservation Division

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Harroun Battery West Wetlands

June 13, 2024

Wetlands

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

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

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Soil Map—Eddy Area, New Mexico
(Harroun Ranch West)

Map Scale: 1:2,560 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 35 70 140 210

Feet
0 100 200 400 600

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

Soil Map—Eddy Area, New Mexico
(Harroun Ranch West)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
An	Arno silty clay loam, 0 to 1 percent slopes	0.0	0.1%
SM	Simona-Bippus complex, 0 to 5 percent slopes	13.3	56.5%
Up	Upton soils, 0 to 1 percent slopes	10.2	43.4%
Totals for Area of Interest		**23.6**	**100.0%**

Eddy Area, New Mexico

Up—Upton soils, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w68
Elevation: 1,100 to 4,400 feet
Mean annual precipitation: 7 to 14 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Upton and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Upton

Setting

Landform: Ridges, fans
Landform position (three-dimensional): Side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone

Typical profile

H1 - 0 to 8 inches: gravelly loam
H2 - 8 to 18 inches: gravelly loam
H3 - 18 to 40 inches: cemented
H4 - 40 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 75 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Minor Components

Upton
Percent of map unit: 1 percent
Ecological site: R070BC025NM - Shallow
Hydric soil rating: No

Atoka
Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Data Source Information

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

ATTACHMENT 2 – LABORATORY ANALYTICAL DATA

CARDINAL Laboratories

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

May 20, 2024

RAY RAMOS

BTA Oil Producers

104 South Pecos

Midland, TX 79701

RE: HARROUN WEST BATTERY - FIRE

Enclosed are the results of analyses for samples received by the laboratory on 05/15/24 8:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	05/15/2024	Sampling Date:	05/14/2024
Reported:	05/20/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: BACKGROUND - BG 1 @ 4' (H242657-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3280**	16.0	05/16/2024	ND	416	104	400	7.41	

Sample ID: BACKGROUND - BG 2 @ 4' (H242657-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1630**	16.0	05/16/2024	ND	416	104	400	7.41	

Sample ID: BACKGROUND - BG 3 @ 4' (H242657-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1960**	16.0	05/16/2024	ND	416	104	400	7.41	

Sample ID: BACKGROUND - BG 4 @ 4' (H242657-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6880**	16.0	05/16/2024	ND	416	104	400	7.41	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	05/15/2024	Sampling Date:	05/14/2024
Reported:	05/20/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: BACKGROUND - BG 5 @ 4' (H242657-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4800**	16.0	05/16/2024	ND	416	104	400	7.41	

Sample ID: BACKGROUND - BG 6 @ 4' (H242657-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2720**	16.0	05/16/2024	ND	416	104	400	7.41	

Sample ID: BACKGROUND - BG 7 @ 4' (H242657-07)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	05/16/2024	ND	416	104	400	7.41	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BTA Oil Producers	**BILL TO**	
Project Manager:	Ray Ramos	P.O. #:	
Address:	104 S Pecos St	Company:	BTA
City:	Midland	State: TX Zip: 79701	Attn:
Phone #:	(432) 312-1288	Fax #:	Address:
Project #:	Incident 148	Project Owner: Ray Ramos	City:
Project Name:	Herrera West Battery - Fire		State: Zip:
Project Location:	Loving, NM		Phone #:
Sampler Name:	Ray Ramos		Fax #:

ANALYSIS REQUEST: Chlorides

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST
H26126457	Background - BG1 @ 4'					X					✓		5/14	8:20	X
2	Background - BG2 @ 4'													8:58	
3	Background - BG3 @ 4'													9:37	
4	Background - BG4 @ 4'													10:00	
5	Background - BG5 @ 4'													10:28	
6	Background - BG6 @ 4'													11:00	
7	Background - BG7 @ 4'													11:49	

Relinquished By:	Date: 5/15/24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 8:46am		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 1.4°C	Sample Condition Cool Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C	☑ Yes ☑ Yes ☐ No ☐ No	AP	Thermometer ID #140 Correction Factor 0°C

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

FORM-006 R 3.4 07/11/23

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

CARDINAL Laboratories

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

July 17, 2024

RAY RAMOS

BTA Oil Producers

104 South Pecos

Midland, TX 79701

RE: HARROUN WEST BATTERY - FIRE

Enclosed are the results of analyses for samples received by the laboratory on 07/16/24 8:40.

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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Water
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: BH - 1 - GW (H244218-01)

BTEX 8021B mg/L Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.060**	0.001	07/16/2024	ND	0.019	95.0	0.0200	0.875	QM-07
Toluene*	**0.052**	0.001	07/16/2024	ND	0.018	91.1	0.0200	1.11	QM-07
Ethylbenzene*	**0.002**	0.001	07/16/2024	ND	0.018	91.7	0.0200	1.12	
Total Xylenes*	**0.019**	0.003	07/16/2024	ND	0.053	88.9	0.0600	0.509	
Total BTEX	**0.132**	0.006	07/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.4 %* *77.5-125*

Chloride, SM4500Cl-B (Water) mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**38500**	4.00	07/16/2024	ND	100	100	100	0.00	

TPH 8015M mg/L Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<1.00	1.00	07/16/2024	ND	51.4	103	50.0	0.599	
DRO >C10-C28*	<1.00	1.00	07/16/2024	ND	50.0	100	50.0	0.0920	
EXT DRO >C28-C36	<1.00	1.00	07/16/2024	ND					

Surrogate: 1-Chlorooctane *87.6 %* *71.5-140*

Surrogate: 1-Chlorooctadecane *96.7 %* *60.4-151*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

BTA Oil Producers, LLC
104 S. Pecos Street
Midland, Texas 79701

Client Name:	BTA Oil Producers, LLC	**Site Manager:**	Ray Ramos
Project Name:	Harroun Ranch Battery West Fire		432-313-1288
Project Location: (county, state)	Loving, Lea County, NM	**Project #:**	Incident 148
Invoice to:	Ray Ramos, Incident ~~148~~ 223	**Sampler Name:**	Gilberto Sanchez
Receiving Laboratory:	Cardinal Laboratory	**Sampler Signature:**	
Comments:	Reference Incident ~~148~~ 223 on invoice		

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2024 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B	TPH 8015M (GRO - DRO - ORO - MRO)	Chloride	Hold
H24~~9~~225														
1	BH-1-GW	7.15.24		X				X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	

ANALYSIS REQUEST

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Gilberto Sanchez	7.16.24		ADAMS	7.16.24	845
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.4°C

#148

REMARKS: Standard TAT

☒ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

CARDINAL Laboratories

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

July 17, 2024

RAY RAMOS

BTA Oil Producers

104 South Pecos

Midland, TX 79701

RE: HARROUN WEST BATTERY - FIRE

Enclosed are the results of analyses for samples received by the laboratory on 07/16/24 8:40.

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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: BH - 1 @ 5-5.5' (H244219-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1300**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

Surrogate: 1-Chlorooctane *98.6 %* *48.2-134*

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: BH - 2 @ 5-5.5' (H244219-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**880**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

Surrogate: 1-Chlorooctane *96.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *117 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: BH - 3 @ 5-5.5' (H244219-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1220**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

Surrogate: 1-Chlorooctane *99.9 %* *48.2-134*

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: BH - 4 @ 5-5.5' (H244219-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**624**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

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

Surrogate: 1-Chlorooctadecane *120 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 1 (0-1') (H244219-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1600**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 2 (0-1') (H244219-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

Surrogate: 1-Chlorooctane *93.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *113 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 3 (0-1') (H244219-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**576**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

Surrogate: 1-Chlorooctane *93.2 %* *48.2-134*

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 4 (0-1') (H244219-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1060**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	206	103	200	6.82	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	179	89.6	200	9.62	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

Surrogate: 1-Chlorooctane *99.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *122 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 5 (0-1') (H244219-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *71.5-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	181	90.4	200	5.61	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	182	90.8	200	9.61	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

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

Surrogate: 1-Chlorooctadecane *116 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 6 (0-1') (H244219-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	181	90.4	200	5.61	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	182	90.8	200	9.61	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 7 (0-1') (H244219-11)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	181	90.4	200	5.61	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	182	90.8	200	9.61	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

Surrogate: 1-Chlorooctane *99.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *111 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

BTA Oil Producers
RAY RAMOS
104 South Pecos
Midland TX, 79701
Fax To: (432) 683-0312

Received:	07/16/2024	Sampling Date:	07/15/2024
Reported:	07/17/2024	Sampling Type:	Soil
Project Name:	HARROUN WEST BATTERY - FIRE	Sampling Condition:	Cool & Intact
Project Number:	INCIDENT 148	Sample Received By:	Alyssa Parras
Project Location:	LOVING, NM		

Sample ID: SS - 8 (0-1') (H244219-12)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/16/2024	ND	2.09	105	2.00	3.18	
Toluene*	<0.050	0.050	07/16/2024	ND	2.18	109	2.00	1.64	
Ethylbenzene*	<0.050	0.050	07/16/2024	ND	2.28	114	2.00	2.45	
Total Xylenes*	<0.150	0.150	07/16/2024	ND	7.14	119	6.00	3.35	
Total BTEX	<0.300	0.300	07/16/2024	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	07/16/2024	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2024	ND	181	90.4	200	5.61	
DRO >C10-C28*	<10.0	10.0	07/16/2024	ND	182	90.8	200	9.61	
EXT DRO >C28-C36	<10.0	10.0	07/16/2024	ND					

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

BTA Oil Producers, LLC
104 S. Pecos Street
Midland, Texas 79701

Client Name:	BTA Oil Producers, LLC	**Site Manager:**	Ray Ramos
Project Name:	Harroun Ranch Battery West Fire		432-313-1288
Project Location: (county, state)	Loving, Lea County, NM	**Project #:**	Incident 148
Invoice to:	Ray Ramos, Incident ~~148~~ 223	**Sampler Name:**	Gilberto Sanchez
Receiving Laboratory:	Cardinal Laboratory	**Sampler Signature:**	
Comments:	Reference Incident ~~148~~ 223 on invoice		

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2024 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST BTEX 8021B	TPH 8015M (GRO - DRO - ORO - MRO)	Chloride	Hold
H244229																	
1	BH-1 @ 5-5.5'	7.15.24			X				X			1		X	X	X	
2	BH-2 @ 5-5.5'	7.15.24			X				X			1		X	X	X	
3	BH-3 @ 5-5.5'	"			X				X			1		X	X	X	
4	BH-4 @ 5-5.5'	"			X				X			1		X	X	X	
5	SS-1 (0-1')	"			X				X			1		X	X	X	
6	SS-2 (0-1')	"			X				X			1		X	X	X	
7	SS-3 (0-1')	"			X				X			1		X	X	X	
8	SS-4 (0-1')	"			X				X			1		X	X	X	
9	SS-5 (0-1')	"			X				X			1		X	X	X	
10	SS-6 (0-1')	"			X				X			1		X	X	X	

Relinquished by: Gilberto Sanchez	Date: 7.16.24	Time:	Received by: apaniag
Relinquished by:	Date:	Time:	Received by: Date: 7.16.24 Time: 840
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.9°C

#140

REMARKS: Standard TAT

☒ **RUSH:** Same Day (24 hr) 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

Page 2 of 2

BTA Oil Producers, LLC
104 S. Pecos Street
Midland, Texas 79701

Client Name:	BTA Oil Producers, LLC	**Site Manager:**	Ray Ramos
Project Name:	Harroun Ranch Battery West Fire		432-313-1288
Project Location: (county, state)	Loving, Lea County, NM	**Project #:**	Incident 148
Invoice to:	Ray Ramos, Incident ~~148~~ 223	**Sampler Name:**	Gilberto Sanchez
Receiving Laboratory:	Cardinal Laboratory	**Sampler Signature:**	
Comments:	Reference Incident ~~148~~ 223 on invoice		

ANALYSIS REQUEST

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B	TPH 8015M (GRO - DRO - ORO - MRO)	Chloride	Hold
H244219		YEAR: 2024												
11	SS-7 (0-1')	7.15.24			X			X	1		X	X	X	
12	SS-8 (0-1')	"			X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	
					X			X	1		X	X	X	

Relinquished by: Gilberto Sanchez	Date: 7.16.24	Time:	Received by: Cardinal	Date: 7.16.24	Time: 8:40
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.9°C

140

REMARKS: Standard TAT

☒ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

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

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

QUESTIONS

Action 365664

QUESTIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 365664
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2416548667**
Incident Name	**NAPP2416548667 HARROUN RANCH WEST TB RELEASE @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Received**
Incident Facility	**[fAPP2129830694] Harroun Ranch East**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Harroun Ranch West TB Release
Date Release Discovered	06/12/2024
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Human Error | Flow Line - Production | Produced Water | Released: 15 BBL | Recovered: 7 BBL | Lost: 8 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)	on June 12, 2024, an operator switched production to an open-ended line that had been cut due to a recent fire reported under a separate incident at the facility. The open-ended line released approximately 15 bbls of produced water before the operator switched over to an uncut line.

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 (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 365664
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
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: Chuck Terhune Title: Program Manager Email: chuck.terhune@tetratech.com Date: 06/13/2024

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

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

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 365664
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Less than or equal 25 (ft.)
What method was used to determine the depth to ground water	Estimate or Other
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 500 and 1000 (ft.)
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 ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
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	Medium
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1600
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
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	06/14/2024
On what date will (or did) the final sampling or liner inspection occur	08/05/2024
On what date will (or was) the remediation complete(d)	08/04/2024
What is the estimated surface area (in square feet) that will be reclaimed	13600
What is the estimated volume (in cubic yards) that will be reclaimed	2518
What is the estimated surface area (in square feet) that will be remediated	13600
What is the estimated volume (in cubic yards) that will be remediated	2518
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.	

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 (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 365664
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Chuck Terhune Title: Program Manager Email: chuck.terhune@tetratech.com Date: 07/19/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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 (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 365664
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

District I
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 (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 365664
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**365684**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**07/25/2024**
What was the (estimated) number of samples that were to be gathered	**5**
What was the sampling surface area in square feet	**1000**

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

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

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

CONDITIONS

Action 365664

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 365664
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan is approved under the following conditions; 1. OCD accepts BTA's background level for chloride of 3,080 mg/Kg. 2. OCD approves the increase of the sampling frequency from 200 to 400 square feet per one (1) five (5) point composite sample for the excavation base and 200 square feet for the horizontal extent. 3. BTA has 90-days (October 22, 2024) to submit to OCD its appropriate or final remediation closure report.	7/24/2024