



December 14, 2023

Ms. Brittany Hall
Projects Environmental Specialist
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

**Re: Release Characterization and Remediation Work Plan – Revision 2
ConocoPhillips (Heritage COG Operating LLC)
Louise Fee #002 Battery Release
Unit Letter E, Section 10, Township 22 South, Range 27 East
Eddy County, New Mexico
Incident ID# nAB1819154956**

Ms. Hall,

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips Company (ConocoPhillips) to assess a historic release and subsequent assessment completed at the Louise Fee #002 (API No. 30-015-20264) Battery. The release footprint is located in Public Land Survey System (PLSS) Unit Letter E, Section 10, Township 22 South, Range 27 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.4090958°, -104.1837769°, as shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the release was discovered on July 7, 2018. The release consisted of 6 barrels (bbls) of oil and 6 bbls of produced water, of which 2 bbls of oil and 2 bbls of produced water were recovered. The release was caused by a hole in the fire tube. During initial response activities, free standing fluids were recovered utilizing a vacuum truck. The NMOCD approved the initial C-141 on July 9, 2018, and subsequently assigned the release the Incident ID nAB1819154956. The initial C-141 form is included in Appendix A.

This incident is included in an Agreed Compliance Order-Releases (ACO-R) between COG Operating LLC (Concho) and the NMOCD signed on November 20 and 26, 2018, respectively.

SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, wetlands, incorporated municipal boundaries, or subsurface mines are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The site is located approximately 250 feet north of the Pecos River. The Site is located within a FEMA Zone A floodplain. The Site is in an area of medium karst potential.

There are no water wells with groundwater data less than 25 years old listed in the New Mexico Office of the State Engineer (NMOSE) database located within approximately ½ mile (800 meters) of the site. According to data from one (1) water well listed in the NMOSE database within approximately 0.73 miles (1,177 meters) of the site, the minimum depth to groundwater is 18 feet bgs. The site characterization data is presented in Appendix B.

Tetra Tech

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REGULATORY FRAMEWORK

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

Based on the site characterization conducted by Tetra Tech and in accordance with Table I of 19.15.29.12 NMAC, the RRALs for the Site are as follows:

Constituent	Site RRAL
Chloride	600 mg/kg
TPH (GRO+DRO+MRO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

INITIAL SITE ASSESSMENT SUMMARY

BBC International (BBC) conducted the initial site assessment on July 7, 2018, on behalf of COG Operating LLC (Concho). Three (3) soil borings (SP1 through SP3) were installed to depths of 6 feet bgs within the release extent to achieve vertical delineation. Four (4) sample borings (North, East, South, and West) were installed along the perimeter of the release to achieve horizontal delineation. Figure 3 shows the approximate release extent and sample locations from the initial assessment. The results of the initial soil assessment are summarized in Table 1.

BBC submitted a Delineation Work Plan (Work Plan) dated April 9, 2019, which described the initial site assessment activities and a remediation plan. The Work Plan requested a deferment of full remediation activities until the decommissioning of this facility due to the existing production equipment and piping preventing full access. However, the Work Plan proposed performing a partial remediation to excavate the entire leak area to a depth of 1 foot bgs. The estimated volume of material proposed for removal was 30 cubic yards.

The Delineation Work Plan Report was rejected by NMOCD on November 30, 2022, with the following comments:

- *“Workplan and deferral request denied. Due to the shallow depth of groundwater, the site being located in a floodplain, and it’s close proximity to the Pecos River: a deferral of the release could cause an imminent risk to human health, the environment, or ground water.*
- *2RP-4847 closed. Please refer to incident #NAB1819154956 for all future communication.*
- *Please submit a complete report through the OCD Permitting website by 3/3/2023.”*

An extension request for a due date of June 1, 2023, was approved via email on Tuesday, February 28, 2023. A copy of the extension request can be found in the regulatory correspondence included in Appendix C.

ADDITIONAL SITE ASSESSMENT

In March and April 2023 Tetra Tech completed additional site assessment activities at the Louise Fee #002 Release Site. Assessment activities consisted of advancing nine (9) soil borings (AH-23-1 through AH-23-9) via hand auger to better discern the footprint of the release and evaluate current concentrations of TPH, BTEX, and chloride. Borings AH-23-1 through AH-23-3 were installed to depths of 5 feet bgs, and boring AH-23-4 was installed to a depth of 6 feet bgs in an attempt to obtain vertical delineation. Borings AH-23-5 through AH-23-9 were installed to depths of 1-foot bgs to further delineate the release horizontally.

A total of twenty-two (22) samples were submitted to Cardinal Laboratories in Hobbs, New Mexico (Cardinal) to be analyzed for TPH by EPA Method 8015 modified, BTEX by EPA Method 8021B, and chloride by Standard Method SM4500Cl-B. The analytical results associated with boring locations AH-23-1, AH-23-2, AH-23-3, and AH-23-8 were above the TPH RRAL of 100 mg/kg in the 0-1 foot sample interval. The analytical results associated with boring location AH-23-4 exceeded the TPH RRAL in all sampling intervals to the total depth of 6 feet bgs.

A second 90-day extension was requested via email on June 6, 2023, and was approved by NMOCD for a due date of August 30, 2023. A copy of the extension request can be found in the Regulatory correspondence included in Appendix C.

ADDITIONAL DELINEATION

On June 21, 2023, Tetra Tech re-mobilized to the site with a truck-mounted air rotary drilling rig to attempt to vertically define the location of AH-23-4. Due to the presence of numerous lines and active production equipment on-site, the drilling rig access was limited. One boring (BH-1) was installed approximately 13 feet northeast of the previously sampled AH-23-4 location. Boring BH-1 was installed to an approximate depth of 6 feet bgs. Four (4) soil samples were collected from the boring and submitted to Cardinal for analysis. Analytical results associated with the 0-1 foot bgs sampling interval at BH-1 were above the TPH RRAL. The remainder of the analytical samples from the boring were below the proposed RRALs.

As the larger truck-mounted drilling had difficulty accessing the area of AH-23-4, Tetra Tech personnel returned to the site on September 14, 2023 with a smaller direct push Geoprobe unit to install an additional boring (BH-2) and three (3) additional hand auger borings (AH-23-10 through AH-23-12). The purpose of the additional assessment was to further define the vertical extent of soil impacts. Boring BH-2 was installed to a total depth of 17 feet bgs in the area of AH-23-4. Hand auger borings AH-23-10 through AH-23-12 were installed to depths of 3 feet bgs to further define the release extent. The boring log for BH-2 is included as Appendix D.

A total of twelve (12) samples were collected from the four (4) additional assessment borings and submitted to Cardinal for analysis. Analytical results associated with the 0-1 foot sample at AH-23-10 exceeded the chloride RRAL of 600 mg/kg. Analytical results associated with the 2-3 foot sample interval at AH-23-12 and in samples collected from the top 10 feet of boring BH-2 exceeded the TPH RRAL of 100 mg/kg. Vertical delineation of TPH impacts above the RRAL (100 mg/kg) was achieved in boring BH-2 at 11 feet bgs. The release footprint is now both horizontally and vertically delineated.

All sample locations are shown on Figure 4. The results of the 2023 soil assessment activities are summarized in Table 2. Photographic documentation of the 2023 soil assessment is presented in Appendix E. Copies of the laboratory analysis and chain-of-custody documentation are included in Appendix F.

A third 90-day extension was requested via email on September 28, 2023, which was approved by NMOCD for November 28, 2023. A copy of the extension request can be found in the Regulatory Correspondence included in Appendix B.

VARIANCE REQUEST AND NMOCD REJECTION

In a Revised Release Characterization and Remediation Work Plan dated November 17, 2023, ConocoPhillips proposed to remediate the release extent to the maximum extent practicable. The revised plan included a variance request to leave impacted soils (with concentrations greater than those specified in Table I) located below 6 feet bgs in place out of safety concerns and to place a liner throughout the base of the excavation at 4 feet bgs. The reasons for the variance request included the following:

- The release impact is fully delineated, and the release footprint is located in areas immediate around active tank battery production equipment where any further excavation could cause a major facility deconstruction, and/or additional unwanted impact to the environment.

- Soils at the site are primarily sands and sandy clays, and deepening the excavation immediately around the in-place production equipment compromises the equipment foundations and poses a significant safety hazard.
- The proposed remediation extents will remove all soils impacted above the Site RRALs with one exception; the 9-10 foot interval in boring BH-2 had a TPH result of 142.9 mg/kg, slightly exceeding the RRAL of 100 mg/kg.
- The sampling intervals both above (7-8 feet bgs) and below (11-12 feet bgs) this interval had TPH results which were below the reporting limit of 10 mg/kg for each of the TPH fractions.

The NMOCD rejected the variance request via email on November 20, 2023 for the following reasons:

- *“Variance request denied. Due to the shallow depth of groundwater, the site being located in a floodplain, and it's close proximity to the Pecos River; a variance proposed to leave contaminants in place could cause an imminent risk to human health, the environment, or groundwater. Downward migration of remaining contaminants due to infiltration of surface water is not the only mechanism that can lead to impacts to freshwater.*
- *OCD is requesting a soil boring be drilled as close as possible to the release area in order to determine an accurate depth to groundwater. If groundwater is encountered in the boring, a sample will need to be collected and analyzed. In lieu of drilling a soil boring, the area of the release will need to be remediated to the most stringent standards.*
- *Submit a complete report through the OCD Permitting website by 1/1/2023.”*

A copy of the regulatory correspondence is included in Appendix B.

REMEDIATION WORK PLAN

Based on the site characterization, the collected analytical results, and the NMOCD rejection of the 2019 deferral request and 2023 work plan, ConocoPhillips proposes to remove the impacted material as indicated in Figure 5. Soils in the area of AH-23-4/BH-2, located between the horizontal separator and the vertical heater treater, will be excavated to a depth of 10 feet bgs to remove all soils with contaminant concentrations exceeding the RRALs. The surrounding areas will be excavated to 3 to 4 feet bgs. The remaining release extent around the vessels will be excavated to 1-foot bgs.

Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 10 feet below surface grade or until a representative sample from the excavation floor is below the RRALs of 600 mg/kg for chloride and 100 mg/kg for TPH. Based on OSHA regulations, benching protection systems will be utilized in the central excavation as it is greater than 5 feet in depth. The sides of the excavation will be benched to form a series of horizontal levels, with near-vertical surfaces between levels. The release area footprint around AH-23-4 will be remediated via a benched excavation to a total depth of 10 feet bgs. Heavy equipment (backhoe and trackhoe) 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. In accordance with subsection D of 19.15.29.12 NMAC, the responsible party will notify the appropriate division district office prior to conducting confirmation sampling. Confirmation bottom and sidewall samples representative of no more than 200 square feet will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 56 cubic yards.

CONCLUSION

Existing historical impacts from the documented release have been fully delineated following the additional assessment and sampling activities. The release impacts are located in an active tank battery facility.

Release Characterization and Remediation Work Plan – Revision 2
December 14, 2023

ConocoPhillips

Based on the results of the assessment, ConocoPhillips will remediate impacted areas to depths ranging from 1 to 10 feet bgs to remove the elevated TPH in the subsurface soils, as indicated in Figure 5.

Remediation activities at the Site are proposed to begin within 90 days of NMOCD plan approval. Upon completion of the proposed work, a final closure report detailing the remediation activities and the results of the confirmation sampling will be submitted to NMOCD. If you have any questions concerning the additional soil assessment or the proposed remediation activities for the Site, please call me at (512) 338-2861.

Sincerely,
Tetra Tech, Inc.



Samantha K. Abbott, P.G.
Project Geologist



Christian M. Llull, P.G.
Program Manager

cc:
Mr. Ike Tavarez, RMR – ConocoPhillips

LIST OF ATTACHMENTS

Figures:

- Figure 1 – Overview Map
- Figure 2 – Topographic Map
- Figure 3 – Inferred Release Extent and Site Assessment (BBC)
- Figure 4 – Inferred Release Extent and Additional Assessment (Tetra Tech)
- Figure 5 – Proposed Remediation (Revised)

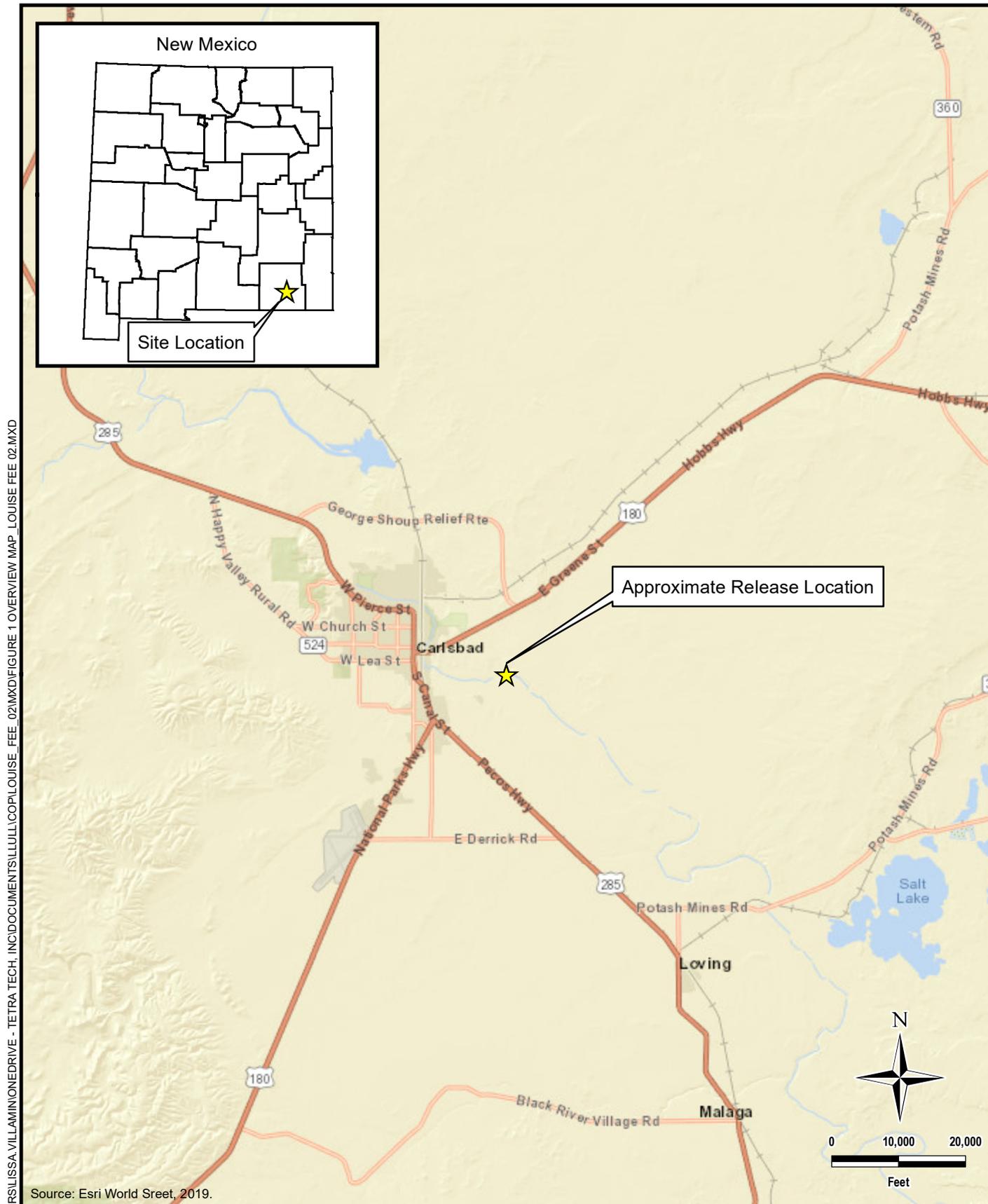
Tables:

- Table 1 – Summary of Analytical Results – 2019 BBC Initial Soil Assessment
- Table 2 – Summary of Analytical Results – 2023 Additional Soil Assessment

Appendices:

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

FIGURES



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Source: Esri World Street, 2019.



TETRA TECH

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CONOCOPHILLIPS

NAB1819154956
(32.4090958°, -104.1837769°)
EDDY COUNTY, NEW MEXICO
DOR 7/7/2018

**LOUISE FEE #002
OVERVIEW MAP**

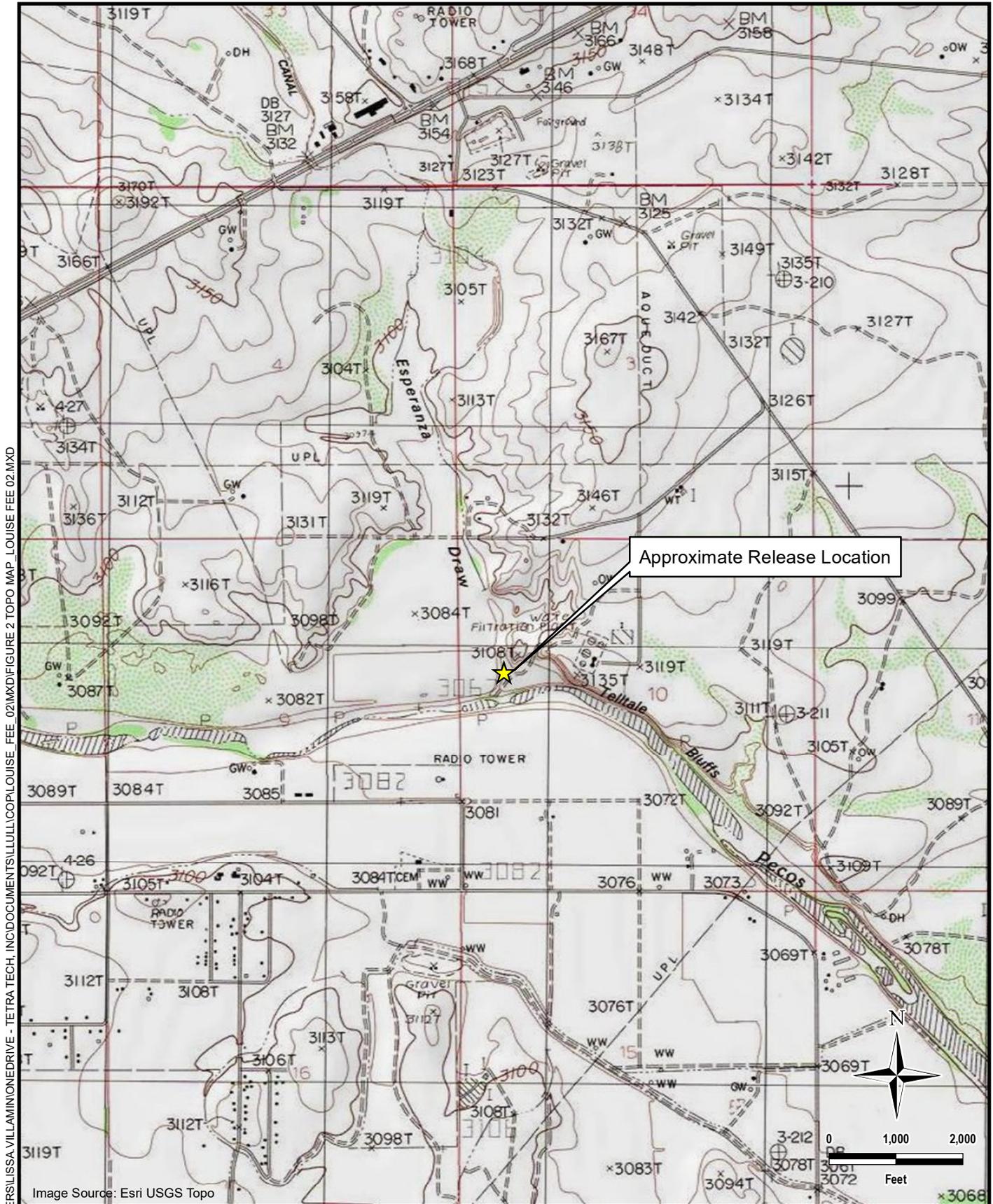
PROJECT NO.: 212C-MD-02993

DATE: APRIL 18, 2023

DESIGNED BY: LMV

Figure No.

1



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Image Source: Esri USGS Topo



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EDDY COUNTY, NEW MEXICO
DOR 7/7/2018

**LOUISE FEE #002
TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-02993

DATE: APRIL 18, 2023

DESIGNED BY: LMV

Figure No.

2

DOCUMENT PATH: C:\USERS\LISSA.VILLAMONEDRIVE - TETRA TECH\INCIDENTS\ILLULLI\COPI\LOUISE_FEE_02\MXD\FIGURE 3 INFERRED RELEASE & SITE ASSESS_LOUISE_FEE_02.MXD



Legend

- Soil Sample location (BBC)
- Power Pole
- Inferred Release Extent (BBC)
- Facility Structures
- Observed Bermed Area
- Surface Production Lines
- Overhead Powerlines

Source: Google Earth.



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NAB1819154956
(32.4090958°, -104.1837769°)
EDDY COUNTY, NEW MEXICO
DOR: 7/7/2018

LOUISE FEE #002
INFERRED RELEASE EXTENT AND SITE ASSESSMENT (BBC)

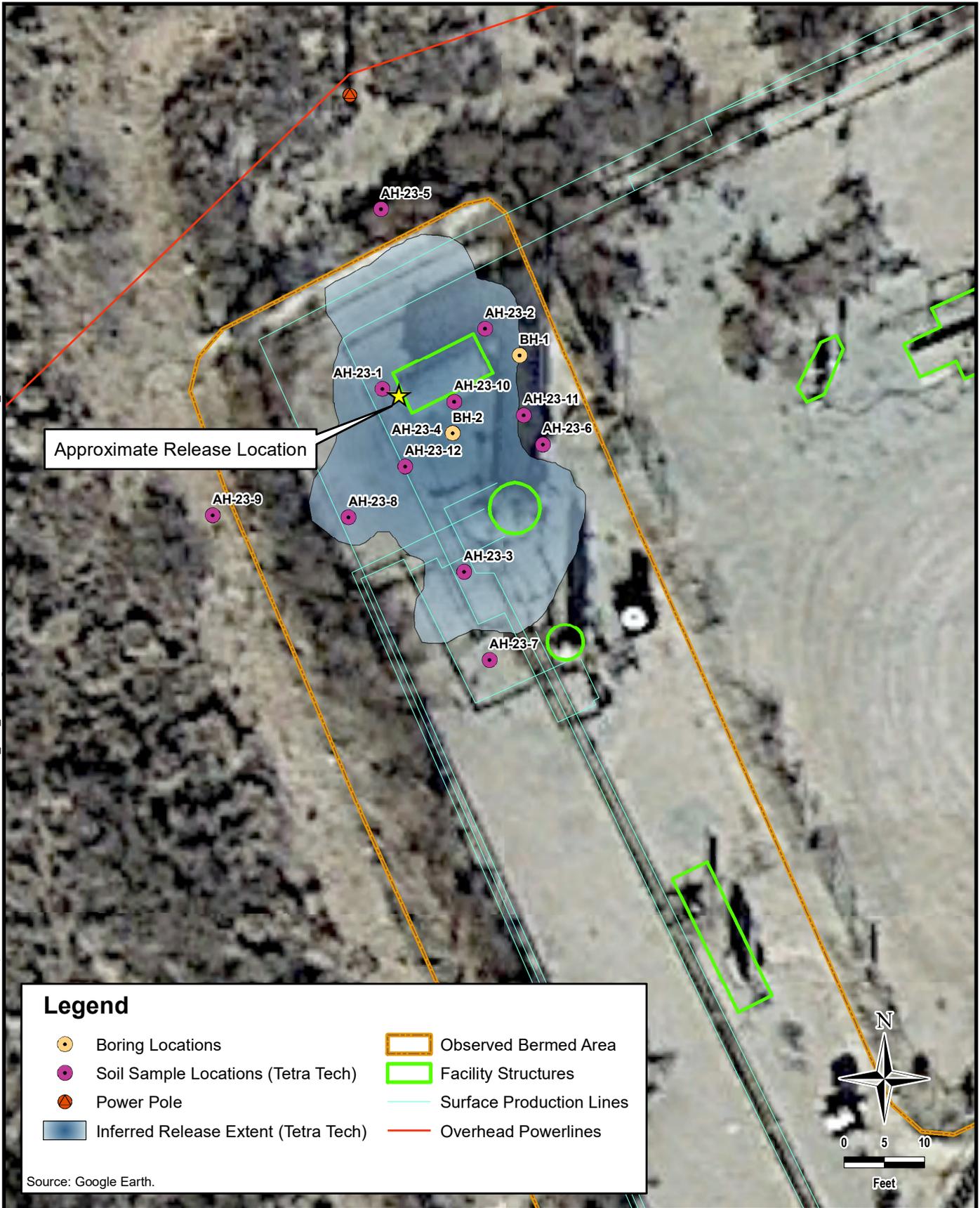
PROJECT NO.: 212C-MD-02993

DATE: APRIL 18, 2023

DESIGNED BY: LMV

Figure No.
3

DOCUMENT PATH: C:\USERS\LISSA.VILLAMINIONEDRIVE - TETRA TECH\INCIDOCUMENTS\ILLULLICOPILOUSE_FEE_02\MXD\FIGURE 4 INFERRED RELEASE & ADD'L ASSESS TT_LOUISE FEE 02.MXD

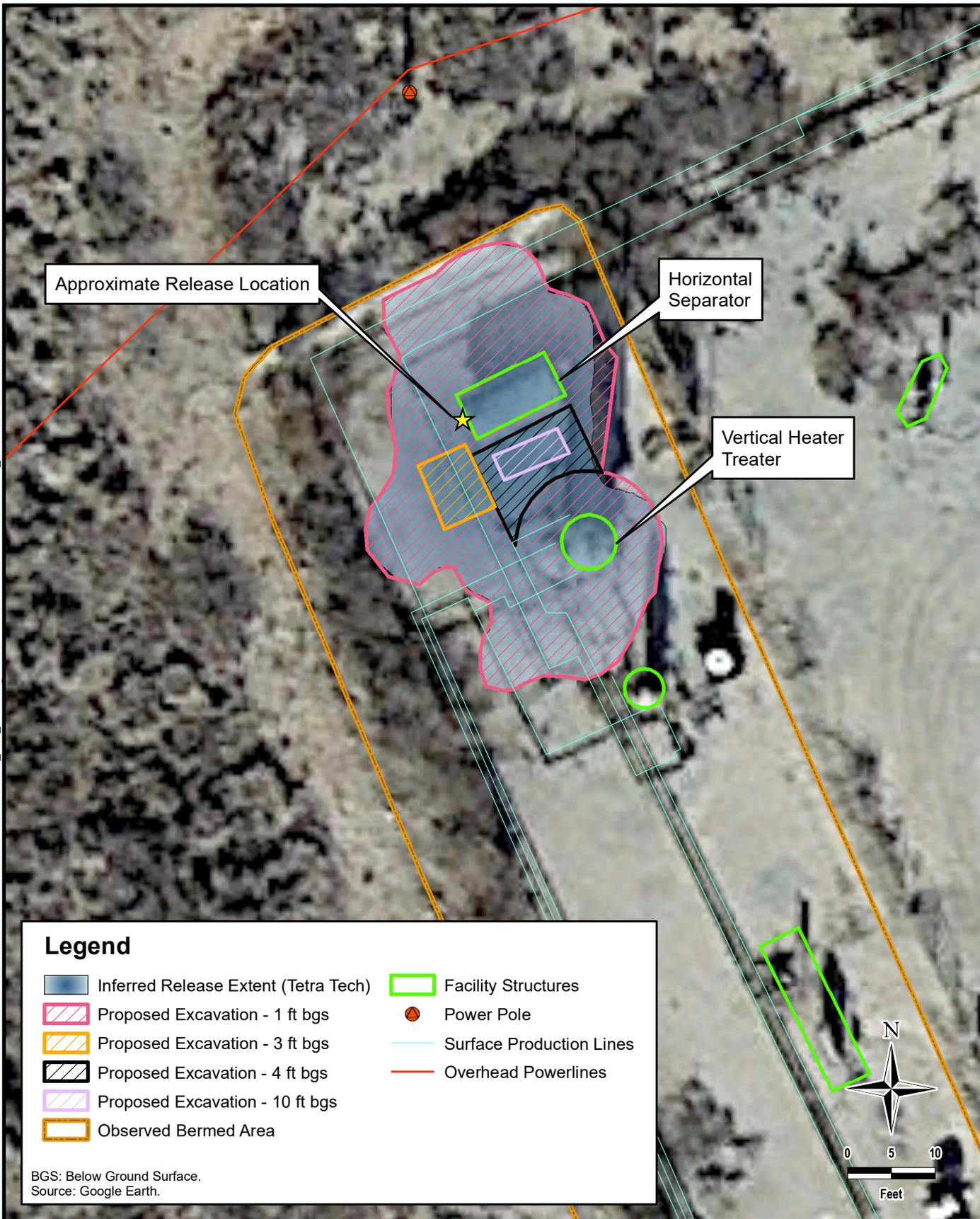


Legend	
	Boring Locations
	Soil Sample Locations (Tetra Tech)
	Power Pole
	Inferred Release Extent (Tetra Tech)
	Observed Bermed Area
	Facility Structures
	Surface Production Lines
	Overhead Powerlines

Source: Google Earth.

<p>TETRA TECH</p> <p>www.tetratech.com</p> <p>901 West Wall Street, Suite 100 Midland, Texas 79701 Phone: (432) 682-4559 Fax: (432) 682-3946</p>	<p>CONOCOPHILLIPS</p> <p>NAB1819154956 (32.4090958°, -104.1837769°) EDDY COUNTY, NEW MEXICO DOR: 7/7/2018</p>	<p>PROJECT NO.: 212C-MD-02993</p> <p>DATE: SEPTEMBER 25, 2023</p> <p>DESIGNED BY: LMV</p>
	<p>LOUISE FEE #002</p> <p>INFERRED RELEASE EXTENT AND ADDITIONAL ASSESSMENT (TETRA TECH)</p>	

DOCUMENT PATH: C:\USERS\LISSA.VILLAMINON\DRIVE - TETRA TECH\INCIDENTS\ILLULLICOPI\LOUISE_FEE_02\MXD\FIGURE 5 PROPOSED REMEDIATION TT_LOUISE_FEE_02.MXD



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CONOCOPHILLIPS

NAB1819154956
(32.4090958°, -104.1837769°)
EDDY COUNTY, NEW MEXICO
DOR: 7/7/2018

**LOUISE FEE #002
PROPOSED REMEDIATION (REVISED)**

PROJECT NO.: 212C-MD-02993

DATE: NOVEMBER 15, 2023

DESIGNED BY: LMV

Figure No.

5

TABLES

TABLE 1
 SUMMARY OF ANALYTICAL RESULTS
 BBC 2019 SOIL ASSESSMENT- nAB1819154956
 CONOCOPHILLIPS
 LOUISE FEE #002
 EDDY 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)
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	
SP-1	2/4/2019	SURFACE	16.0		<0.500		<0.500		<0.500		1.65		<3.00		942		30,200		4,500		35,642
		1	32.0		<0.500		<0.500		2.19		4.60		6.79		872		7,280		1,260		9,412
		2	32.0		<2.00		4.86		9.62		49.4		63.9		3,770		13,800		1,850		19,420
		3	32.0		<0.500		<0.500		1.19		4.71		5.90		953		7,140		1,050		9,143
	3/21/2019	4	96.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		224		119		343
		5	160		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6	176		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SP-2	2/4/2019	SURFACE	112		<0.050		0.059		0.190		1.54		1.79		39.5		2,650		592		3,282
		1	240		<0.050		0.150		0.440		2.16		2.75		690		4,060		522		5,272
		2	3,520		<0.050		1.74		4.85		21.5		28.1		756		8,690		1,200		10,646
		3	2,400		<0.500		1.18		5.16		20.4		26.7		784		6,510		931		8,225
	3/21/2019	4	80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		202		142		344
		5	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6	176		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
SP-3	2/4/2019	SURFACE	96.0		<0.050		0.056		0.185		1.44		1.68		18.9		1,410		368		1,797
		1	48.0		<0.500		5.14		12.4		49.9		67.4		1,790		9,880		1,230		12,900
		2	16.0		<0.050		2.43		<0.050		61.5		64.0		2,610		12,700		1,730		17,040
		3	32.0		0.075		1.93		<0.050		32.5		34.5		1,370		9,000		1,540		11,910
	3/21/2019	4	96.0		<0.050		<0.050		<0.050		0.263		<0.300		<10.0		239		158		397
		5	128		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		6	144		<0.050		<0.050		<0.050		<0.150		<10.0		<10.0		<10.0		<10.0		-
N	2/4/2019	-	122		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
E	2/4/2019	-	80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		26.1		16.8		42.9
S	2/4/2019	-	96.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
W	2/4/2019	-	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		10.7		<10.0		10.7

NOTES:

- ft. Feet
- bgs Below ground surface
- mg/kg Milligrams per kilogram
- TPH Total Petroleum Hydrocarbons
- GRO Gasoline range organics
- DRO Diesel range organics
- 1 Method SM4500Cl-B
- 2 Method 8021B
- 3 Method 8015M

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

TABLE 2
 SUMMARY OF ANALYTICAL RESULTS
 TT 2023 SOIL ASSESSMENT- nAB1819154956
 CONOCOPHILLIPS
 LOUISE FEE #002
 EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride ¹		BTEX ²								TPH ³								
			Chloride	PID			Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
			ppm		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
AH-23-1	3/30/2023	0-1	-	-	16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		1,100		516		1,616
		2-3	-	-	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	-	-	16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		10.2		<10.0		10.2
		4-5	-	-	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-2	3/30/2023	0-1	-	-	80.0		<0.050		<0.050		<0.050		0.372		0.372		11.3		281		173		465.3
		2-3	-	-	16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		3-4	-	-	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		4-5	-	0.9	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH23-3	3/30/2023	0-1	-	-	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		102		79.8		181.8
		2-3	-	-	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		35.7		26.7		62.4
		3-4	-	-	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		4-5	-	0.7	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-4	3/30/2023	0-1	-	-	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<50.0		913		509		1,422
		2-3	-	-	32.0		<0.050		<0.050		<0.050		0.183		<0.300		99.2		6,080		1,440		7,619
		3-4	-	-	80.0		<0.050		0.451	GC-NC1	3.04	GC-NC1	19.3		22.8	GC-NC1	726		5,060		898		6,684
		4-5	-	617.5	224		<0.200		0.684	GC-NC1	3.87	GC-NC1	36.7		41.3	GC-NC1	899		5,200		924		7,023
	4/11/2023	5-6	-	-	464		<0.050		<0.050		<0.050		20.8		20.8		571		4,080		670		5,321
AH-23-5	3/30/2023	0-1	-	0.1	80.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-6	3/30/2023	0-1	-	0.2	192		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-7	3/30/2023	0-1	-	0.3	16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-8	3/30/2023	0-1	-	0.2	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		66.7		36		102.7
AH-23-9	4/13/2023	0-1	-	-	<16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-10	9/14/2023	1-2			944		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		2-3			304		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-11	9/14/2023	2-3			32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
AH-23-12	9/14/2023	2-3			16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		136		68.4		204.4

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
TT 2023 SOIL ASSESSMENT- nAB1819154956
CONOCOPHILLIPS
LOUISE FEE #002
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Field Screening Results		Chloride ¹		BTEX ²								TPH ³								
			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	mg/kg	Q	
BH-1	6/21/2023	0-1	-	-	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		2,310		1,150		3,460
		2-3	-	-	16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		39.6		28.9		68.5
		3-4	-	-	112		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		17.0		11.3		28.3
		5-6	-	-	32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
BH-2	9/14/2023	0-1			32.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		419		343		762
		1-2			16.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		113		111		224
		2-3			32.0		<0.050		<0.050		0.089	GC-NC1	0.779	GC-NC1	0.868	GC-NC1	50.8		1,540		448		2,039
		3-4			<16.0		<0.050		<0.050	GC-NC	3.56	GC-NC1	27.1	GC-NC1	30.7	GC-NC1	1,070		6,560		1,250		8,880
		5-6			<16.0		<0.050		<0.050	GC-NC	0.367	GC-NC1	4.15	GC-NC1	4.52	GC-NC1	67.3		2,580		752		3,399
		7-8			96.0		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-
		9-10			32.0		<0.050		<0.050		0.081	GC-NC1	0.766	GC-NC1	0.847	GC-NC1	<10.0		105		37.9		142.9
		11-12			272		<0.050		<0.050		<0.050		<0.150		<0.300		<10.0		<10.0		<10.0		-

NOTES:

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

Bold and italicized values indicate exceedance of proposed RRALs.

Shaded rows indicate soil intervals proposed for excavation.

QUALIFIERS:

GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.

GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.

APPENDIX A C-141 Forms

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

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

JUL 09 2018

Form C-141
Revised April 3, 2017

DISTRICT II-ARTESIA OGD
Appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1819154956

OPERATOR

Initial Report Final Report

Name of Company: COG Operating LLC (OGRID #229137)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: Louise Fee #002	Facility Type: Tank Battery

Surface Owner: Private	Mineral Owner: Private	API No. 30-015-20264
------------------------	------------------------	----------------------

LOCATION OF RELEASE

Unit Letter E	Section 10	Township 22S	Range 27E	Feet from the 1,980	North/South Line North	Feet from the 760	East/West Line West	County Eddy
------------------	---------------	-----------------	--------------	------------------------	---------------------------	----------------------	------------------------	----------------

Latitude 32.4090958 Longitude -104.1837769 NAD83

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 6 bbl. Oil 6 bbl. Produced Water	Volume Recovered: 2 bbl. Oil 2 bbl. Produced Water
Source of Release: Hole in tubing	Date and Hour of Occurrence: July 7, 2018 10:00am	Date and Hour of Discovery: July 7, 2018 10:00am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The release was caused by a hole in the fire tube. The tube is being repaired.

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

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

Signature: <i>DeAnn Grant</i>	OIL CONSERVATION DIVISION	
Printed Name: DeAnn Grant	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: HSE Administrative Assistant	Approval Date: <i>7/9/18</i>	Expiration Date: <i>N/A</i>
E-mail Address: agrant@concho.com	Conditions of Approval: <i>See attached</i>	Attached <i>[Signature]</i> <i>4847</i>
Date: July 9, 2018	Phone: 432-253-4513	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 7/9/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 28P-4847 has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 8/9/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

- **Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.**
- **Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.**
- **Nominal detection limits for field and laboratory analyses must be provided.**
- **Composite sampling is not generally allowed.**
- **Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted**

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

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

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

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

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

Jim Griswold

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

Bratcher, Mike, EMNRD

From: DeAnn Grant <agrant@concho.com>
Sent: Monday, July 9, 2018 10:22 AM
To: Bratcher, Mike, EMNRD
Cc: Weaver, Crystal, EMNRD; Sheldon Hitchcock; Dakota Neel; Rebecca Haskell; DeAnn Grant
Subject: (C-141 Initial) Louise Fee #002 (30-015-20264) 07-07-2018
Attachments: (C-141 Initial) Louise Fee #002 (30-015-20264) 07-07-2018.pdf

Mr. Bratcher,

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

Thank you,

DeAnn Grant

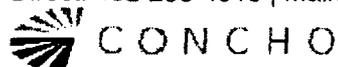
HSE Administrative Assistant

agrant@concho.com

COG Operating LLC

600 W Illinois Avenue | Midland, TX 79701

Direct: 432-253-4513 | Main: 432.683.7443



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

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

Characterization Report Checklist: *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 1/2-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



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 00160	C	ED		2	3	3	10	22S	27E	576826	3585355*	724	85	40	45
C 00160 CLW198701	O	C	ED	2	3	3	10	22S	27E	576826	3585355*	724			
C 00589	C	ED		2	4	4	04	22S	27E	576412	3586974*	961			
C 00021 A	C	ED		4	4	4	09	22S	27E	576421	3585150*	983	196	40	156
C 00021 CLW193276	O	C	ED	4	4	4	09	22S	27E	576421	3585150*	983	100		
C 00479	C	ED				3	03	22S	27E	576919	3587082*	1020	200		
C 00744	C	ED		3	3	4	10	22S	27E	577437	3585166*	1137	175		
C 02374	C	ED			3	4	09	22S	27E	575916	3585247*	1177	54	15	39
C 02379	C	ED			3	4	09	22S	27E	575916	3585247*	1177	55	20	35
C 03029	C	ED			3	4	09	22S	27E	575916	3585247*	1177	45	18	27
C 00092 A	O	C	ED	1	3	4	09	22S	27E	575815	3585346*	1188	200		
C 02899	C	ED		1	3	4	09	22S	27E	575815	3585346*	1188	33	22	11
C 03038	C	ED		1	3	4	09	22S	27E	575815	3585346*	1188	43	15	28

Average Depth to Water: **24 feet**
 Minimum Depth: **15 feet**
 Maximum Depth: **40 feet**

Record Count: 13

UTMNAD83 Radius Search (in meters):

Easting (X): 576753.47

Northing (Y): 3586075.37

Radius: 1200

*UTM location was derived from PLSS - see Help

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

OCD Potential Karst Map

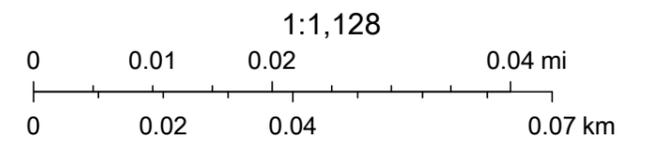


Pecos River

1/27/2023, 12:59:44 PM

Karst Occurrence Potential

 Medium



BLM, OCD, New Mexico Tech, Maxar, Microsoft, Esri, HERE, Garmin, iPC

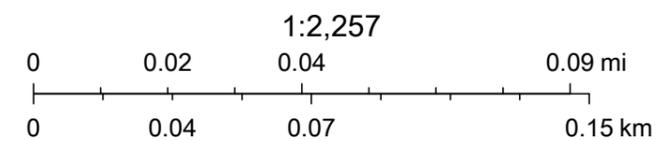
OCD Waterbodies Map



1/27/2023, 1:51:30 PM

 OSW Water Bodys

 OSE Streams



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

OCD - Ownership



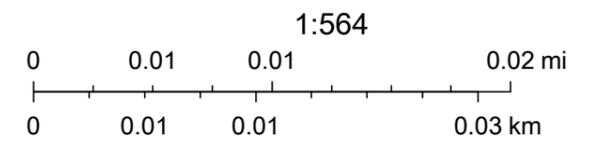
10/3/2023, 9:32:10 AM

Mineral Ownership

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

Land Ownership

P



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

National Flood Hazard Layer FIRMette



104°11'20"W 32°24'48"N



Legend

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

- | | | |
|------------------------------------|------------------|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | 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 <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | Profile Baseline | |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/3/2023 at 10:51 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.

Released to Imaging: 12/19/2023 9:37:52 AM

1:6,000

104°10'43"W 32°24'18"N

APPENDIX C

Regulatory Correspondence

Chavira, Lisbeth

From: OCDOnline@state.nm.us
Sent: Wednesday, November 30, 2022 10:22 AM
To: Beauvais, Charles R
Subject: [EXTERNAL]The Oil Conservation Division (OCD) has rejected the application, Application ID: 162460

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

To whom it may concern (c/o Charles Beauvais for COG OPERATING LLC),

The OCD has rejected the submitted *Internal Manual Incident File Supporting Documentation (ENV)* (IM-BNF), for incident ID (n#) nAB1819154956, for the following reasons:

- **Workplan and deferral request denied. Due to the shallow depth of groundwater, the site being located in a floodplain, and it's close proximity to the Pecos River: a deferral of the release could cause an imminent risk to human health, the environment, or ground water.**
- **2RP-4847 closed. Please refer to incident #NAB1819154956 for all future communication.**
- **Please submit a complete report through the OCD Permitting website by 3/3/2023.**

The rejected IM-BNF can be found in the OCD Online: Permitting - Action Status, under the Application ID: 162460.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional IM-BNF.

Thank you,
Brittany Hall
Projects Environmental Specialist - A
505-517-5333
Brittany.Hall@emnrd.nm.gov

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

Poole, Nicholas

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Tuesday, February 28, 2023 9:39 AM
To: Abbott, Sam
Cc: Llull, Christian; Beauvais, Charles R
Subject: RE: [EXTERNAL] Extension Request - Application ID 162460 (Incident ID nAB1819154956)

Follow Up Flag: Follow up
Flag Status: Flagged

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Sam,
Your extension request for **nAB1819154956** is approved. The new due date is June 1, 2023.

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

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

From: Abbott, Sam <Sam.Abbott@tetrattech.com>
Sent: Tuesday, February 28, 2023 7:44 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Llull, Christian <Christian.Llull@tetrattech.com>; Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>
Subject: [EXTERNAL] Extension Request - Application ID 162460 (Incident ID nAB1819154956)

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Ms. Hall:

On behalf of ConocoPhillips, Tetra Tech is requesting a 90-day extension (until June 1, 2023) to complete additional assessment activities and associated reporting for the Louise Fee #002 Release site (**nAB1819154956**).

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

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

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

Sam

Samantha Abbott, PG | Project Manager

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

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8911 N Capital of Texas Hwy #2310 | Austin, TX 78759 | tetrattech.com

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Poole, Nicholas

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Wednesday, June 7, 2023 8:10 AM
To: Llull, Christian; Abbott, Sam
Cc: Chavira, Lisbeth
Subject: RE: [EXTERNAL] Extension Request #2 - Application ID 162460 (Incident ID nAB1819154956)

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Christian,

Thank you for the clarification. The extension for **nAB1819154956** is approved. New due date is August 30, 2023.

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

Thank you,

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

From: Llull, Christian <Christian.Llull@tetrattech.com>
Sent: Tuesday, June 6, 2023 3:40 PM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Abbott, Sam <Sam.Abbott@tetrattech.com>
Cc: Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>
Subject: RE: [EXTERNAL] Extension Request #2 - Application ID 162460 (Incident ID nAB1819154956)

Apologies Brittany.

The original Louise Fee Work Plan and deferral request completed by BBC was denied by OCD. Based on the rejection, COP completed additional assessment to confirm impacts at the Louise Fee. Figures and tables are attached for review as evidence of the additional work completed and proof of good cause.

The extent was horizontally delineated, however, vertical delineation was not achieved as the facility is congested and hand auger efforts were unsuccessful. The risk management and remediation group at ConocoPhillips is willing to attempt to drill within the bermed facility to vertically delineate the area around AH-23-4. This additional work takes time to arrange and coordinate. Additionally, this release is on private land. Stakeholder input is required prior to decision making processes for remedial action.

In order to guide the eventual remedial action, COP requires additional time for coordination with operations, time to discuss facility and production equipment obstructions, and the associated stakeholder engagement regarding the work.

Please let me know if this is enough information for you to consider the extension.

Christian

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Tuesday, June 06, 2023 3:37 PM
To: Llull, Christian <Christian.Llull@tetrattech.com>; Abbott, Sam <Sam.Abbott@tetrattech.com>
Cc: Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>
Subject: RE: [EXTERNAL] Extension Request #2 - Application ID 162460 (Incident ID nAB1819154956)

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Christian,

I need a little bit more information before I can grant another extension for this incident. Per 19.15.29.12 B. (2) "Any remediation under 19.15.29 NMAC should be completed as soon as practicable. Any remediation that exceeds 90 days must follow the division-approved timeline in the remediation plan. The responsible party may request an extension of time to remediate upon a showing of good cause as determined by the division."

Reviewing and evaluating the data is not enough to show good cause for an extension.

Please let me know if you have any questions.

Thank you,

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

From: Llull, Christian <Christian.Llull@tetrattech.com>
Sent: Tuesday, June 6, 2023 9:04 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>; Abbott, Sam <Sam.Abbott@tetrattech.com>
Cc: Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>
Subject: [EXTERNAL] Extension Request #2 - Application ID 162460 (Incident ID nAB1819154956)

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Ms. Hall:

On behalf of ConocoPhillips, Tetra Tech is requesting an additional 90-day extension (until August 30, 2023) to complete the evaluation of the collected data and the ensuing reporting for the Louise Fee #002 Release site (**nAB1819154956**).

ConocoPhillips has safely completed the additional assessment proposed at the Site. Given the complexities of this site, including shallow groundwater in the area, the site location in a floodplain, and numerous surface and subsurface utilities within the release footprint, this incident is now being handled by the risk management and remediation group at ConocoPhillips. The collected data will be evaluated in the coming months and, after review, a revised report will be submitted to the OCD within the allotted timeframe.

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

Christian

Christian Llull, P.G. | Program Manager
Mobile +1 (512) 565-0190 | christian.llull@tetrattech.com

Tetra Tech | *Leading with Science*[®] | OGA
8911 N. Capital of Texas Highway | Bldg. 2, Suite 2310 | Austin, TX 78759 | tetrattech.com

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Poole, Nicholas

From: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Sent: Tuesday, September 12, 2023 2:14 PM
To: Abbott, Sam
Cc: Tavarez, Ike; Llull, Christian; Chavira, Lisbeth
Subject: RE: [EXTERNAL] Extension Request #3 - Application ID 162460 (Incident ID nAB1819154956)

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Sam,

The extension for **nAB1819154956** is approved. New due date November 28, 2023.

Please be advised that this will be the last extension approval for this incident number.

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

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

From: Abbott, Sam <Sam.Abbott@tetrattech.com>
Sent: Tuesday, September 12, 2023 11:06 AM
To: Hall, Brittany, EMNRD <Brittany.Hall@emnrd.nm.gov>
Cc: Tavarez, Ike <Ike.Tavarez@conocophillips.com>; Llull, Christian <Christian.Llull@tetrattech.com>; Chavira, Lisbeth <LISBETH.CHAVIRA@tetrattech.com>
Subject: [EXTERNAL] Extension Request #3 - Application ID 162460 (Incident ID nAB1819154956)

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

Ms. Hall,

On behalf of ConocoPhillips, Tetra Tech is requesting an additional 90-day extension (until November 28, 2023) to complete the additional assessment delineation and the ensuing reporting for the Louise Fee #002 Release site (nAB1819154956).

The original Louise Fee Work Plan and deferral request completed by BBC was denied by OCD. ConocoPhillips has since completed additional assessment activities to confirm impacts at the Louise Fee in accordance with the OCD rejection and the previous extension requests granted by OCD.

The extent was horizontally delineated, however, vertical delineation was not achieved as the facility is congested and hand auger efforts were unsuccessful. On behalf of the risk management and remediation group at ConocoPhillips, Tetra Tech was on-site on June 21, 2023, and planned to install one 20-foot boring (BH-1) within the release area inside the berm to complete vertical delineation of the release extent. The berm was removed to allow for drill rig access, but the

rig was unable to access the exact area of AH-23-4 due to the amount of equipment inside the battery. The boring (BH-1) was installed as close as possible to a depth of 6 feet bgs.

Figures and tables are attached for review as evidence of the additional work completed and proof of good cause. The analytical results associated with the additional sampling indicate that the location of BH-1 was not adequate for achieving vertical delineation of the release.

This release is on private land, and stakeholder input is required prior to decision making processes for remedial action. In order to guide the eventual remedial action, ConocoPhillips has required additional time for coordination with operations, time to discuss facility and production equipment obstructions, and the associated stakeholder engagement regarding the work. Additionally, the proper equipment necessary to enter the congested area has been difficult to schedule.

Tetra Tech is scheduled to return to the site the week of September 11, 2023 to install a new boring using a track-mounted Geoprobe in the exact area of AH-23-4 to obtain vertical delineation. The collected data will be evaluated and a revised report will be submitted to the OCD within the requested timeframe.

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

Thank you,
Sam

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

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Abbott, Sam

From: OCDOnline@state.nm.us
Sent: Monday, November 20, 2023 4:07 PM
To: Llull, Christian
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 286830

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

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

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action (C-141)*, for incident ID (n#) nAB1819154956, for the following reasons:

- **Variance request denied. Due to the shallow depth of groundwater, the site being located in a floodplain, and it's close proximity to the Pecos River; a variance proposed to leave contaminants in place could cause an imminent risk to human health, the environment, or groundwater. Downward migration of remaining contaminants due to infiltration of surface water is not the only mechanism that can lead to impacts to freshwater.**
- **OCD is requesting a soil boring be drilled as close as possible to the release area in order to determine an accurate depth to groundwater. If groundwater is encountered in the boring, a sample will need to be collected and analyzed. In lieu of drilling a soil boring, the area of the release will need to be remediated to the most stringent standards.**
- **Submit a complete report through the OCD Permitting website by 1/1/2023.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 286830. Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,
Brittany Hall
Projects Environmental Specialist - A
505-517-5333
Brittany.Hall@emnrd.nm.gov

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

APPENDIX D

Boring Log

212C-MD-02993	TETRA TECH	LOG OF BORING BH-2	Page 1 of 1
---------------	-------------------	---------------------------	----------------

Project Name: Louise Fee #002 Battery Release

Borehole Location/GPS Coordinates: 32.409144°, -104.183712° Surface Elevation: 3081 ft

Borehole Number: BH-2 Borehole Diameter (in.): 8 Date Started: 9/14/2023 Date Finished: 9/14/2023

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm)	VOC FIELD SCREENING (ppm)	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT	PLASTICITY INDEX	MINUS NO. 200 (%)	GRAPHIC LOG	WATER LEVEL OBSERVATIONS		DEPTH (ft)	REMARKS
												While Drilling	Upon Completion of Drilling		
												While Drilling <input checked="" type="checkbox"/> DRY ft Upon Completion of Drilling <input checked="" type="checkbox"/> DRY ft Remarks:			
												MATERIAL DESCRIPTION			
5												-SM- SAND: Brown, moist, with very strong hydrocarbon odor and visible hydrocarbon staining -SM- SAND: Light brown, slightly moist, with strong hydrocarbon odor and minor visible hydrocarbon staining -SM- SAND: Dark brown, slightly moist, with strong hydrocarbon odor and visible hydrocarbon staining -SM- SAND: Dark brown, moist, with some caliche fragments, strong hydrocarbon odor and visible hydrocarbon staining -SC- CLAYEY SAND: Dark brown, moist, with very strong hydrocarbon odor and visible hydrocarbon staining -SC- CLAYEY SAND: Dark brown, moist, with strong hydrocarbon odor and visible hydrocarbon staining -SM- SAND: Dark brown, slightly moist, some weak cementation, with some hydrocarbon odor and visible light hydrocarbon staining -SC- CLAYEY SAND: Dark brown, slightly moist to moist, with strong hydrocarbon odor and visible hydrocarbon staining -SM- SAND: Light brown, slightly moist, some weak cementation, trace gravel, with minor hydrocarbon odor and minor visible hydrocarbon staining -SC- CLAYEY SAND: Brown to dark brown, moist, with minor hydrocarbon odor and minor visible hydrocarbon staining -SC- CLAYEY SAND: Brown to dark brown, moist, trace gravel -SM- SAND: Light brown, slightly moist, moderately cemented	1 2 3 4 5 6 8 9 10 11 13 16 17		
Bottom of borehole at 17.0 feet.															

Sampler Types: <input checked="" type="checkbox"/> Split Spoon <input checked="" type="checkbox"/> Shelby <input checked="" type="checkbox"/> Bulk Sample <input checked="" type="checkbox"/> Grab Sample	<input checked="" type="checkbox"/> Acetate Liner <input checked="" type="checkbox"/> Vane Shear <input checked="" type="checkbox"/> Discrete Sample <input checked="" type="checkbox"/> Test Pit	Operation Types: <input checked="" type="checkbox"/> Mud Rotary <input checked="" type="checkbox"/> Continuous Flight Auger <input checked="" type="checkbox"/> Wash Rotary	<input checked="" type="checkbox"/> Hand Auger <input checked="" type="checkbox"/> Air Rotary <input checked="" type="checkbox"/> Direct Push <input checked="" type="checkbox"/> Core Barrel	Notes: Surface elevation is an approximate value obtained from Google Earth data.
--	--	---	--	---

Logger: Colton Bickerstaff Drilling Equipment: Geoprobe Driller: Talon LPE

APPENDIX E

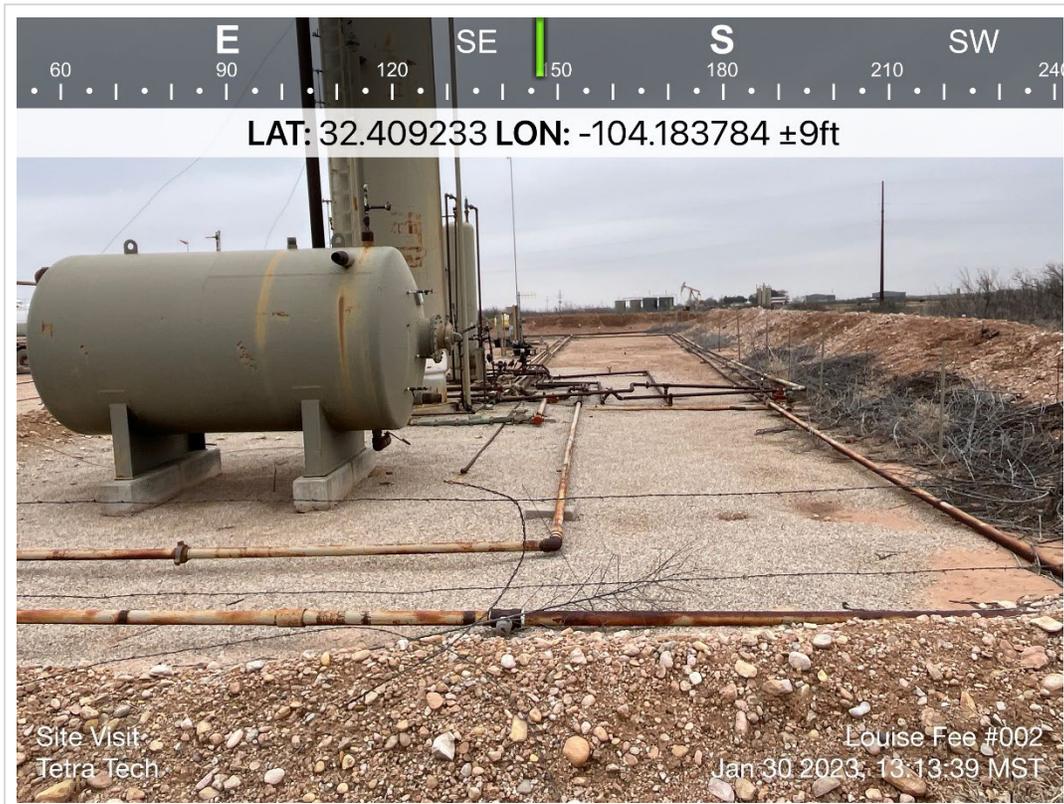
Photographic Documentation



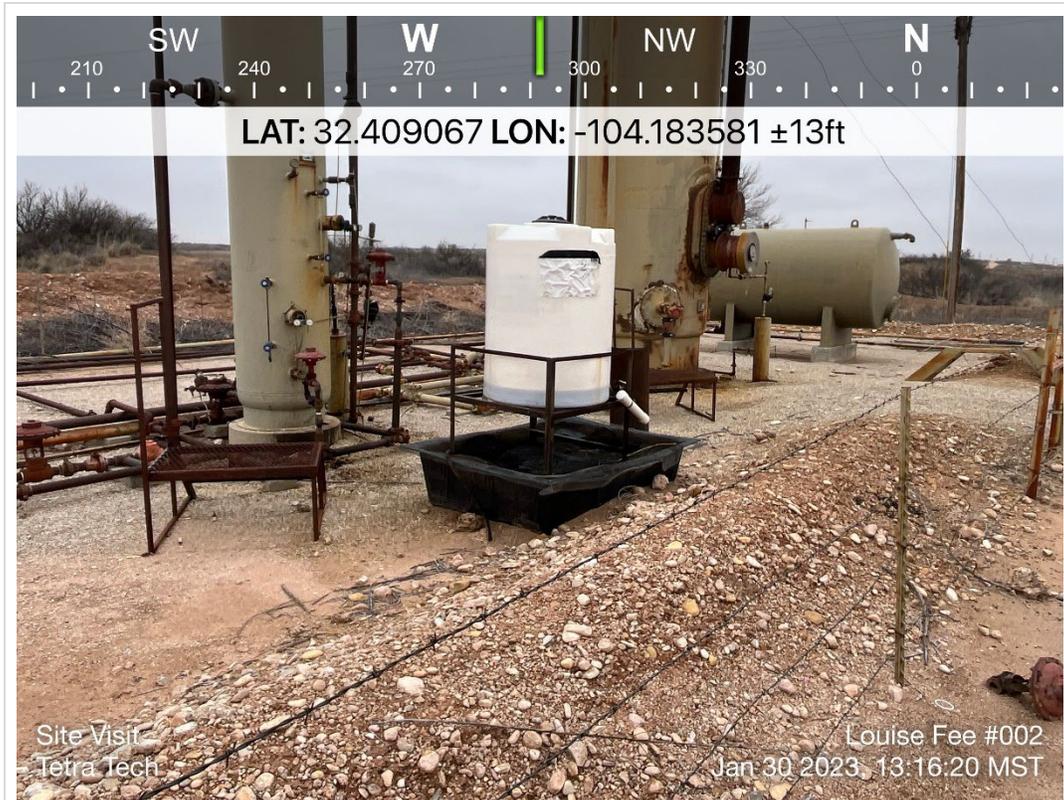
TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View of site signage.	1
	SITE NAME	Louise Fee #002 Release	1/30/2023



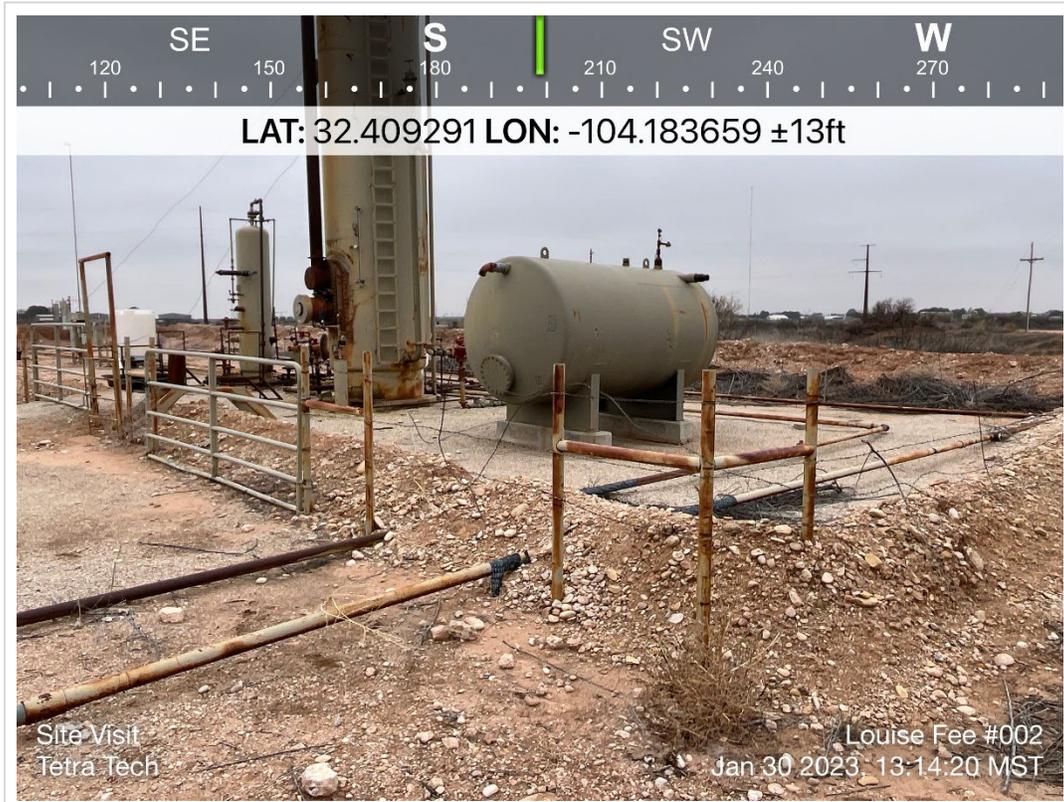
TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View east towards pad. Exposed pipe and pumpjack present	2
	SITE NAME	Louise Fee #002 Release	1/30/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View south-southeast of production equipment. Raised lines present.	3
	SITE NAME	Louise Fee #002 Release	1/30/2023



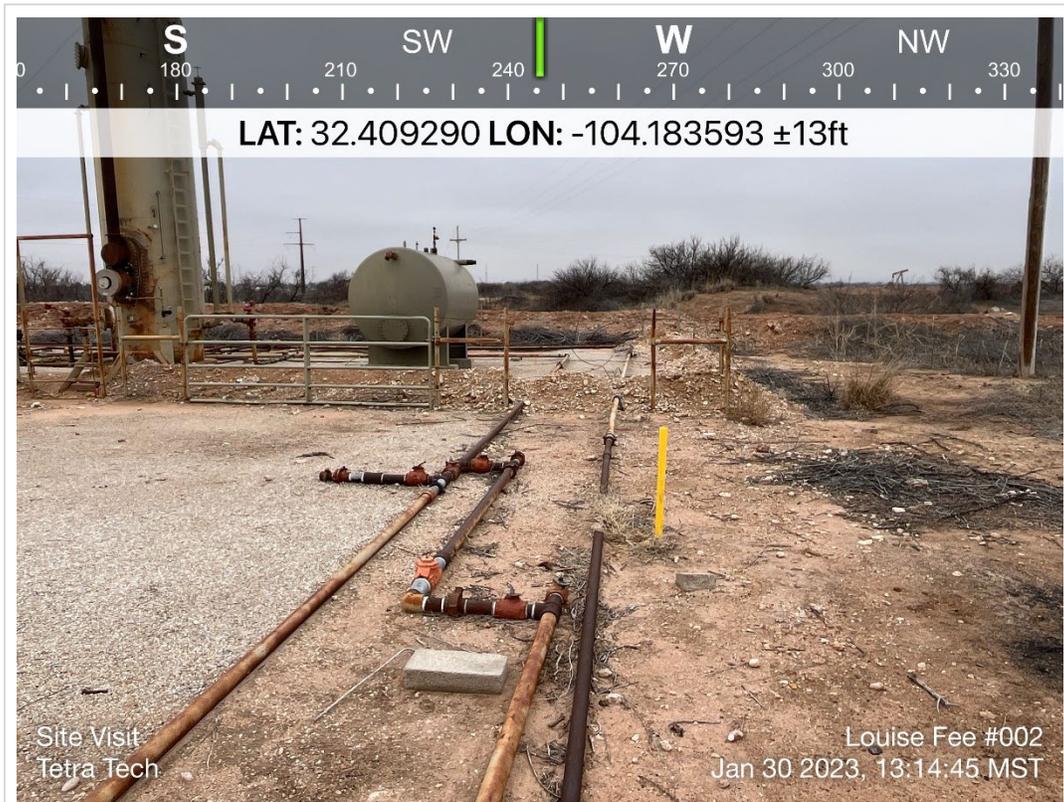
TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View north-northwest of production equipment.	4
	SITE NAME	Louise Fee #002 Release	1/30/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View south-southwest of gated production equipment and surface piping.	5
	SITE NAME	Louise Fee #002 Release	1/30/2023



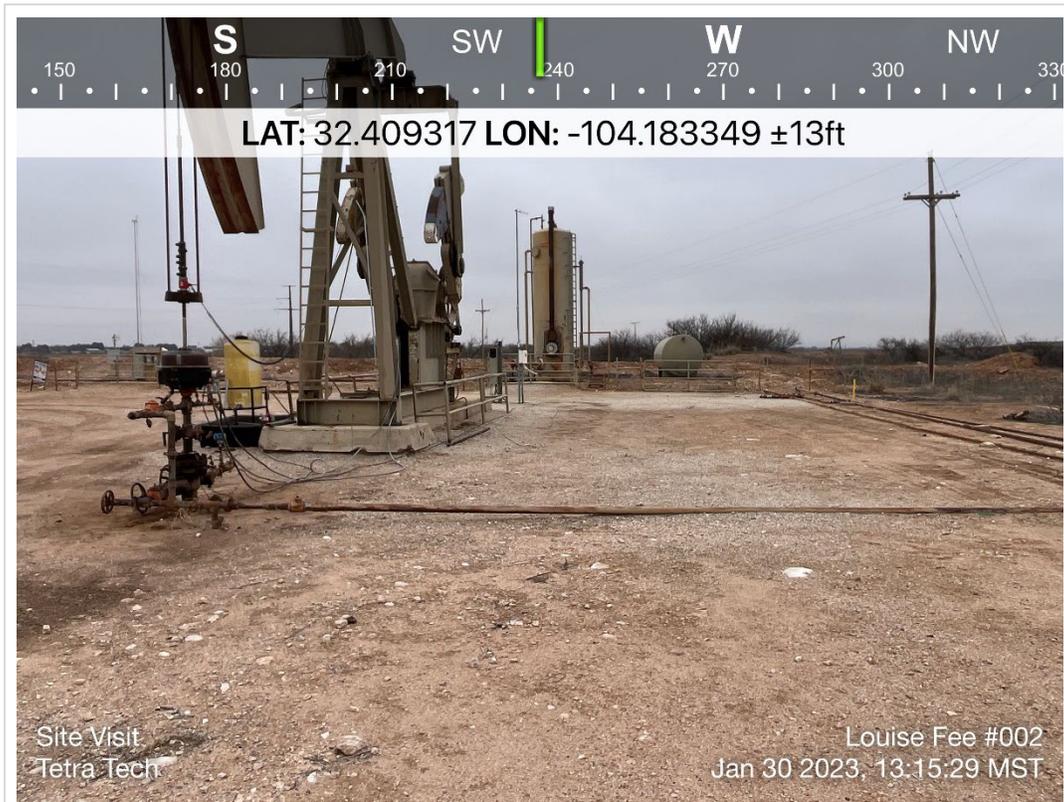
TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View southwest towards outside berm. Sparse vegetation present.	6
	SITE NAME	Louise Fee #002 Release	1/30/2023



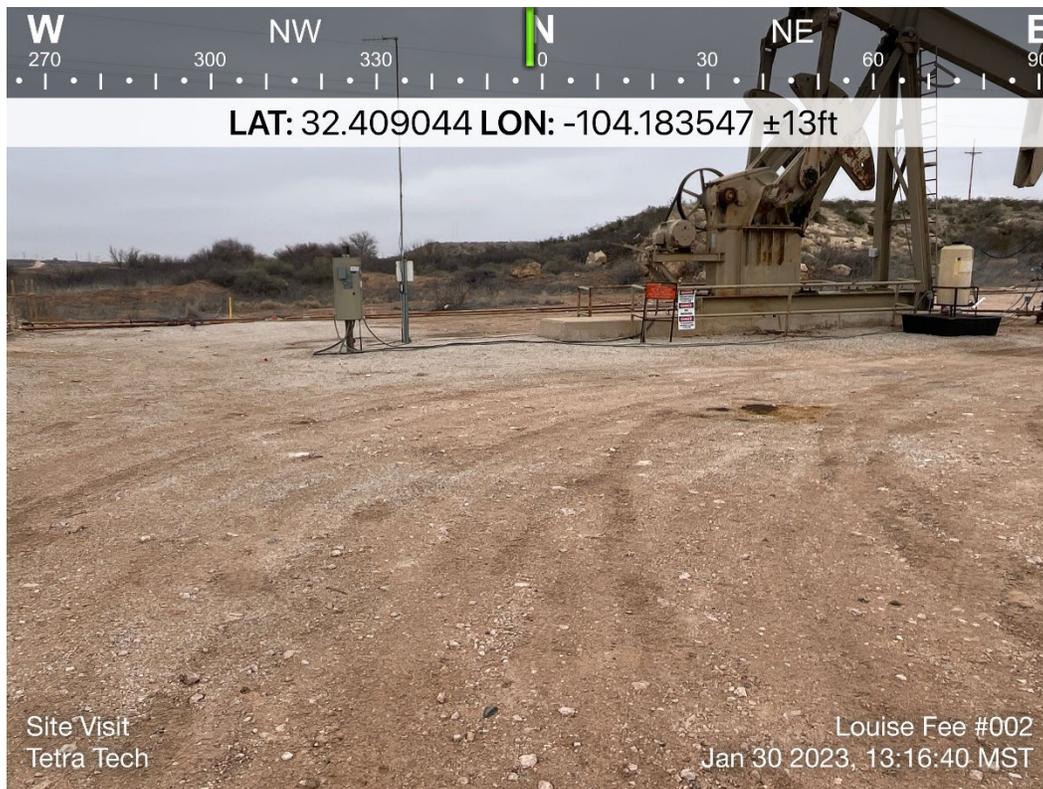
TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View west-southwest of surface piping and production equipment.	7
	SITE NAME	Louise Fee #002 Release	1/30/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View west of production equipment. Surface piping and overhead electrical present.	8
	SITE NAME	Louise Fee #002 Release	1/30/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View southwest. Surface lines present. Overhead electrical.	9
	SITE NAME	Louise Fee #002 Release	1/30/2023



TETRA TECH, INC. PROJECT NO. 212C-MD-02993	DESCRIPTION	View north of pad center. Pumpjack and possible staining visible.	10
	SITE NAME	Louise Fee #002 Release	1/30/2023

APPENDIX F

Laboratory Analytical Data



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

April 13, 2023

SAM ABBOTT

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: LOUISE FEE #002

Enclosed are the results of analyses for samples received by the laboratory on 03/30/23 13:42.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH - 23 - 1 (0'-1')	H231476-01	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 1 (2'-3')	H231476-02	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 1 (3'-4')	H231476-03	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 1 (4'-5')	H231476-04	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 2 (0'-1')	H231476-06	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 2 (2'-3')	H231476-07	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 2 (3'-4')	H231476-08	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 2 (4'-5')	H231476-09	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 3 (0'-1')	H231476-10	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 3 (2'-3')	H231476-11	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 3 (3'-4')	H231476-12	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 3 (4'-5')	H231476-13	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 4 (0'-1')	H231476-14	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 4 (2'-3')	H231476-15	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 4 (3'-4')	H231476-16	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 4 (4'-5')	H231476-17	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 4 (5'-6')	H231476-18	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 5 (0'-1')	H231476-19	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 6 (0'-1')	H231476-20	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 7 (0'-1')	H231476-21	Soil	30-Mar-23 00:00	30-Mar-23 13:42
AH - 23 - 8 (0'-1')	H231476-22	Soil	30-Mar-23 00:00	30-Mar-23 13:42

04/13/23 - Client added analysis to sample -18 (see COC). This is the revised report and will replace the one sent on 04/05/23.

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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: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 1 (0-1')
H231476-01 (Soil)**

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

Inorganic Compounds

Chloride	16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			106 %	71.5-134		3033050	JH	01-Apr-23	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033041	MS	01-Apr-23	8015B	
DRO >C10-C28*	1100		10.0	mg/kg	1	3033041	MS	01-Apr-23	8015B	
EXT DRO >C28-C36	516		10.0	mg/kg	1	3033041	MS	01-Apr-23	8015B	
Surrogate: 1-Chlorooctane			97.1 %	48.2-134		3033041	MS	01-Apr-23	8015B	
Surrogate: 1-Chlorooctadecane			121 %	49.1-148		3033041	MS	01-Apr-23	8015B	

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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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

AH - 23 - 1 (2'-3')**H231476-02 (Soil)**

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

Chloride	<16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			103 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			114 %	49.1-148		3033043	MS	31-Mar-23	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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

AH - 23 - 1 (3'-4')**H231476-03 (Soil)**

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

Chloride	16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134 3033050 JH 01-Apr-23 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	10.2		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane 86.7 % 48.2-134 3033043 MS 31-Mar-23 8015B

Surrogate: 1-Chlorooctadecane 95.3 % 49.1-148 3033043 MS 31-Mar-23 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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

AH - 23 - 1 (4'-5')**H231476-04 (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	3040304	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134 3033050 JH 01-Apr-23 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane 93.4 % 48.2-134 3033043 MS 31-Mar-23 8015B

Surrogate: 1-Chlorooctadecane 104 % 49.1-148 3033043 MS 31-Mar-23 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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

AH - 23 - 2 (0-1')**H231476-06 (Soil)**

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

Chloride	80.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	0.372		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	0.372		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			115 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	11.3		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	281		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	173		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			94.3 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			113 %	49.1-148		3033043	MS	31-Mar-23	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: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 2 (2'-3')
H231476-07 (Soil)**

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

Inorganic Compounds

Chloride	16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			89.8 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			101 %	49.1-148		3033043	MS	31-Mar-23	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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

AH - 23 - 2 (3'-4')**H231476-08 (Soil)**

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

Chloride	<16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134 3033050 JH 01-Apr-23 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane 100 % 48.2-134 3033043 MS 31-Mar-23 8015B

Surrogate: 1-Chlorooctadecane 113 % 49.1-148 3033043 MS 31-Mar-23 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: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 2 (4'-5')
H231476-09 (Soil)**

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

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			104 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			104 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			118 %	49.1-148		3033043	MS	31-Mar-23	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: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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AH - 23 - 3 (0-1')

H231476-10 (Soil)

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

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			105 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	102		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	79.8		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			97.0 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			116 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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AH - 23 - 3 (2'-3')

H231476-11 (Soil)

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

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	35.7		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	26.7		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			94.1 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			107 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 3 (3'-4')
H231476-12 (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	3040304	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			105 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			95.4 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			108 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 3 (4'-5')
H231476-13 (Soil)**

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

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			105 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			93.0 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			104 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 4 (0-1')
H231476-14 (Soil)**

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

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	3040304	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			105 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	913		50.0	mg/kg	5	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	509		50.0	mg/kg	5	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			101 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			160 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 4 (2'-3')
H231476-15 (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	3040328	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total Xylenes*	0.183		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			145 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	99.2		50.0	mg/kg	5	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	6080		50.0	mg/kg	5	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	1440		50.0	mg/kg	5	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			114 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			161 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 4 (3'-4')
H231476-16 (Soil)**

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

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	3040328	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Toluene*	0.451		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	GC-NC1
Ethylbenzene*	3.04		0.050	mg/kg	50	3033050	JH	01-Apr-23	8021B	GC-NC1
Total Xylenes*	19.3		0.150	mg/kg	50	3033050	JH	01-Apr-23	8021B	
Total BTEX	22.8		0.300	mg/kg	50	3033050	JH	01-Apr-23	8021B	GC-NC1

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			428 %	71.5-134		3033050	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

S-04

GRO C6-C10*	726		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	5060		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	898		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			178 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			133 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 4 (4'-5')
H231476-17 (Soil)**

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

Inorganic Compounds

Chloride	224		16.0	mg/kg	4	3040328	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.200		0.200	mg/kg	200	3033050	JH	03-Apr-23	8021B	
Toluene*	0.684		0.200	mg/kg	200	3033050	JH	03-Apr-23	8021B	GC-NC1
Ethylbenzene*	3.87		0.200	mg/kg	200	3033050	JH	03-Apr-23	8021B	GC-NC1
Total Xylenes*	36.7		0.600	mg/kg	200	3033050	JH	03-Apr-23	8021B	
Total BTEX	41.3		1.20	mg/kg	200	3033050	JH	03-Apr-23	8021B	GC-NC1

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			244 %	71.5-134		3033050	JH	03-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

S-04

GRO C6-C10*	899		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	5200		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	924		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			197 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			136 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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AH - 23 - 4 (5'-6')

H231476-18 (Soil)

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

Inorganic Compounds

Chloride	464		16.0	mg/kg	4	3041123	GM	11-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	3041019	JH/	11-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3041019	JH/	11-Apr-23	8021B	GC-NC
Ethylbenzene*	<0.050		0.050	mg/kg	50	3041019	JH/	11-Apr-23	8021B	
Total Xylenes*	20.8		0.150	mg/kg	50	3041019	JH/	11-Apr-23	8021B	
Total BTEX	20.8		0.300	mg/kg	50	3041019	JH/	11-Apr-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			491 %	71.5-134		3041019	JH/	11-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

S-04

GRO C6-C10*	571		10.0	mg/kg	1	3041021	MS	10-Apr-23	8015B	
DRO >C10-C28*	4080		10.0	mg/kg	1	3041021	MS	10-Apr-23	8015B	
EXT DRO >C28-C36	670		10.0	mg/kg	1	3041021	MS	10-Apr-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			157 %	48.2-134		3041021	MS	10-Apr-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			121 %	49.1-148		3041021	MS	10-Apr-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 5 (0-1')
H231476-19 (Soil)**

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

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	3040328	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033121	JH	01-Apr-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	71.5-134		3033121	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	05-Apr-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	05-Apr-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	05-Apr-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			83.7 %	48.2-134		3033043	MS	05-Apr-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			89.7 %	49.1-148		3033043	MS	05-Apr-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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**AH - 23 - 6 (0-1')
H231476-20 (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	3040328	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033121	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	71.5-134		3033121	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			99.8 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			111 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701

Project: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

AH - 23 - 7 (0-1')**H231476-21 (Soil)**

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

Chloride	16.0		16.0	mg/kg	4	3040328	AC	03-Apr-23	4500-CI-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033121	JH	01-Apr-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	71.5-134		3033121	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

Surrogate: 1-Chlorooctane			103 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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Surrogate: 1-Chlorooctadecane			114 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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AH - 23 - 8 (0-1')

H231476-22 (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	3040328	AC	03-Apr-23	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3033121	JH	01-Apr-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3033121	JH	01-Apr-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		3033121	JH	01-Apr-23	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
DRO >C10-C28*	66.7		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	
EXT DRO >C28-C36	36.0		10.0	mg/kg	1	3033043	MS	31-Mar-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			91.9 %	48.2-134		3033043	MS	31-Mar-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			107 %	49.1-148		3033043	MS	31-Mar-23	8015B	
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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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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 3040304 - 1:4 DI Water

Blank (3040304-BLK1)		Prepared & Analyzed: 03-Apr-23								
Chloride	ND	16.0	mg/kg							
LCS (3040304-BS1)		Prepared & Analyzed: 03-Apr-23								
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (3040304-BSD1)		Prepared & Analyzed: 03-Apr-23								
Chloride	448	16.0	mg/kg	400		112	80-120	7.41	20	

Batch 3040328 - 1:4 DI Water

Blank (3040328-BLK1)		Prepared & Analyzed: 03-Apr-23								
Chloride	ND	16.0	mg/kg							
LCS (3040328-BS1)		Prepared & Analyzed: 03-Apr-23								
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (3040328-BSD1)		Prepared & Analyzed: 03-Apr-23								
Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	

Batch 3041123 - 1:4 DI Water

Blank (3041123-BLK1)		Prepared & Analyzed: 11-Apr-23								
Chloride	ND	16.0	mg/kg							
LCS (3041123-BS1)		Prepared & Analyzed: 11-Apr-23								
Chloride	416	16.0	mg/kg	400		104	80-120			

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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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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 3041123 - 1:4 DI Water

LCS Dup (3041123-BSD1)

Prepared & Analyzed: 11-Apr-23

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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

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 3033050 - Volatiles**Blank (3033050-BLK1)**

Prepared: 30-Mar-23 Analyzed: 01-Apr-23

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)	0.0526		mg/kg	0.0500		105	71.5-134			

LCS (3033050-BS1)

Prepared: 30-Mar-23 Analyzed: 01-Apr-23

Benzene	1.99	0.050	mg/kg	2.00		99.3	81.4-118			
Toluene	2.01	0.050	mg/kg	2.00		100	88.7-121			
Ethylbenzene	2.07	0.050	mg/kg	2.00		103	86.1-120			
m,p-Xylene	4.25	0.100	mg/kg	4.00		106	88.2-124			
o-Xylene	2.02	0.050	mg/kg	2.00		101	84.9-118			
Total Xylenes	6.26	0.150	mg/kg	6.00		104	87.3-122			
Surrogate: 4-Bromofluorobenzene (PID)	0.0496		mg/kg	0.0500		99.3	71.5-134			

LCS Dup (3033050-BSD1)

Prepared: 30-Mar-23 Analyzed: 01-Apr-23

Benzene	2.02	0.050	mg/kg	2.00		101	81.4-118	1.86	15.8	
Toluene	2.05	0.050	mg/kg	2.00		103	88.7-121	2.20	15.9	
Ethylbenzene	2.11	0.050	mg/kg	2.00		105	86.1-120	1.85	16	
m,p-Xylene	4.32	0.100	mg/kg	4.00		108	88.2-124	1.73	16.2	
o-Xylene	2.11	0.050	mg/kg	2.00		106	84.9-118	4.52	16.7	
Total Xylenes	6.43	0.150	mg/kg	6.00		107	87.3-122	2.64	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0502		mg/kg	0.0500		100	71.5-134			

Batch 3033121 - Volatiles**Blank (3033121-BLK1)**

Prepared: 31-Mar-23 Analyzed: 01-Apr-23

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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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: LOUISE FEE #002
Project Number: 212C - MD - 02993
Project Manager: SAM ABBOTT
Fax To: (432) 682-3946

Reported:
13-Apr-23 12:30

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 3033121 - Volatiles**Blank (3033121-BLK1)**

Prepared: 31-Mar-23 Analyzed: 01-Apr-23

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0535		mg/kg	0.0500		107	71.5-134			

LCS (3033121-BS1)

Prepared: 31-Mar-23 Analyzed: 01-Apr-23

Benzene	1.91	0.050	mg/kg	2.00		95.3	81.4-118			
Toluene	1.93	0.050	mg/kg	2.00		96.6	88.7-121			
Ethylbenzene	1.98	0.050	mg/kg	2.00		99.1	86.1-120			
m,p-Xylene	4.12	0.100	mg/kg	4.00		103	88.2-124			
o-Xylene	1.98	0.050	mg/kg	2.00		99.1	84.9-118			
Total Xylenes	6.10	0.150	mg/kg	6.00		102	87.3-122			
Surrogate: 4-Bromofluorobenzene (PID)	0.0511		mg/kg	0.0500		102	71.5-134			

LCS Dup (3033121-BSD1)

Prepared: 31-Mar-23 Analyzed: 01-Apr-23

Benzene	2.08	0.050	mg/kg	2.00		104	81.4-118	8.61	15.8	
Toluene	2.11	0.050	mg/kg	2.00		105	88.7-121	8.77	15.9	
Ethylbenzene	2.17	0.050	mg/kg	2.00		109	86.1-120	9.10	16	
m,p-Xylene	4.46	0.100	mg/kg	4.00		111	88.2-124	7.99	16.2	
o-Xylene	2.17	0.050	mg/kg	2.00		108	84.9-118	8.95	16.7	
Total Xylenes	6.63	0.150	mg/kg	6.00		110	87.3-122	8.30	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0517		mg/kg	0.0500		103	71.5-134			

Batch 3041019 - Volatiles**Blank (3041019-BLK1)**

Prepared: 10-Apr-23 Analyzed: 11-Apr-23

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)	0.0529		mg/kg	0.0500		106	71.5-134			

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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: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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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 3041019 - Volatiles

LCS (3041019-BS1)

Prepared: 10-Apr-23 Analyzed: 11-Apr-23

Benzene	2.02	0.050	mg/kg	2.00		101	81.4-118			
Toluene	2.09	0.050	mg/kg	2.00		105	88.7-121			
Ethylbenzene	2.06	0.050	mg/kg	2.00		103	86.1-120			
m,p-Xylene	4.36	0.100	mg/kg	4.00		109	88.2-124			
o-Xylene	2.10	0.050	mg/kg	2.00		105	84.9-118			
Total Xylenes	6.46	0.150	mg/kg	6.00		108	87.3-122			

Surrogate: 4-Bromofluorobenzene (PID)

0.0510 mg/kg 0.0500 102 71.5-134

LCS Dup (3041019-BSD1)

Prepared: 10-Apr-23 Analyzed: 11-Apr-23

Benzene	2.02	0.050	mg/kg	2.00		101	81.4-118	0.0965	15.8	
Toluene	2.10	0.050	mg/kg	2.00		105	88.7-121	0.402	15.9	
Ethylbenzene	2.07	0.050	mg/kg	2.00		103	86.1-120	0.512	16	
m,p-Xylene	4.39	0.100	mg/kg	4.00		110	88.2-124	0.814	16.2	
o-Xylene	2.12	0.050	mg/kg	2.00		106	84.9-118	0.592	16.7	
Total Xylenes	6.51	0.150	mg/kg	6.00		109	87.3-122	0.742	16.3	

Surrogate: 4-Bromofluorobenzene (PID)

0.0514 mg/kg 0.0500 103 71.5-134

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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: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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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 3033041 - General Prep - Organics

Blank (3033041-BLK1)		Prepared: 30-Mar-23 Analyzed: 31-Mar-23								
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	39.3		mg/kg	50.0		78.6	48.2-134			
Surrogate: 1-Chlorooctadecane	53.8		mg/kg	50.0		108	49.1-148			

LCS (3033041-BS1)		Prepared: 30-Mar-23 Analyzed: 31-Mar-23								
GRO C6-C10	168	10.0	mg/kg	200		84.1	78.5-124			
DRO >C10-C28	198	10.0	mg/kg	200		98.9	72.5-126			
Total TPH C6-C28	366	10.0	mg/kg	400		91.5	77.6-123			
Surrogate: 1-Chlorooctane	46.5		mg/kg	50.0		92.9	48.2-134			
Surrogate: 1-Chlorooctadecane	65.8		mg/kg	50.0		132	49.1-148			

LCS Dup (3033041-BS1)		Prepared: 30-Mar-23 Analyzed: 31-Mar-23								
GRO C6-C10	181	10.0	mg/kg	200		90.6	78.5-124	7.44	17.7	
DRO >C10-C28	213	10.0	mg/kg	200		107	72.5-126	7.61	21	
Total TPH C6-C28	395	10.0	mg/kg	400		98.7	77.6-123	7.53	18.5	
Surrogate: 1-Chlorooctane	46.0		mg/kg	50.0		92.0	48.2-134			
Surrogate: 1-Chlorooctadecane	65.2		mg/kg	50.0		130	49.1-148			

Batch 3033043 - General Prep - Organics

Blank (3033043-BLK1)		Prepared: 30-Mar-23 Analyzed: 31-Mar-23								
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	40.2		mg/kg	50.0		80.4	48.2-134			
Surrogate: 1-Chlorooctadecane	45.8		mg/kg	50.0		91.6	49.1-148			

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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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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 3033043 - General Prep - Organics

LCS (3033043-BS1)		Prepared: 30-Mar-23 Analyzed: 31-Mar-23								
GRO C6-C10	187	10.0	mg/kg	200		93.5	78.5-124			
DRO >C10-C28	187	10.0	mg/kg	200		93.7	72.5-126			
Total TPH C6-C28	374	10.0	mg/kg	400		93.6	77.6-123			
Surrogate: 1-Chlorooctane	48.4		mg/kg	50.0		96.8	48.2-134			
Surrogate: 1-Chlorooctadecane	51.7		mg/kg	50.0		103	49.1-148			

LCS Dup (3033043-BSD1)		Prepared: 30-Mar-23 Analyzed: 31-Mar-23								
GRO C6-C10	195	10.0	mg/kg	200		97.5	78.5-124	4.21	17.7	
DRO >C10-C28	193	10.0	mg/kg	200		96.5	72.5-126	2.95	21	
Total TPH C6-C28	388	10.0	mg/kg	400		97.0	77.6-123	3.58	18.5	
Surrogate: 1-Chlorooctane	45.8		mg/kg	50.0		91.5	48.2-134			
Surrogate: 1-Chlorooctadecane	47.7		mg/kg	50.0		95.4	49.1-148			

Batch 3041021 - General Prep - Organics

Blank (3041021-BLK1)		Prepared & Analyzed: 10-Apr-23								
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	40.1		mg/kg	50.0		80.3	48.2-134			
Surrogate: 1-Chlorooctadecane	41.2		mg/kg	50.0		82.4	49.1-148			

LCS (3041021-BS1)		Prepared & Analyzed: 10-Apr-23								
GRO C6-C10	216	10.0	mg/kg	200		108	78.5-124			
DRO >C10-C28	208	10.0	mg/kg	200		104	72.5-126			
Total TPH C6-C28	424	10.0	mg/kg	400		106	77.6-123			
Surrogate: 1-Chlorooctane	56.2		mg/kg	50.0		112	48.2-134			
Surrogate: 1-Chlorooctadecane	57.0		mg/kg	50.0		114	49.1-148			

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Analytical Results For:

TETRA TECH 901 WEST WALL STREET , STE 100 MIDLAND TX, 79701	Project: LOUISE FEE #002 Project Number: 212C - MD - 02993 Project Manager: SAM ABBOTT Fax To: (432) 682-3946	Reported: 13-Apr-23 12:30
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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 3041021 - General Prep - Organics

LCS Dup (3041021-BSD1)		Prepared: 10-Apr-23 Analyzed: 11-Apr-23								
GRO C6-C10	176	10.0	mg/kg	200		87.9	78.5-124	20.6	17.7	QR-04
DRO >C10-C28	176	10.0	mg/kg	200		87.9	72.5-126	16.9	21	
Total TPH C6-C28	352	10.0	mg/kg	400		87.9	77.6-123	18.7	18.5	QR-04
Surrogate: 1-Chlorooctane	46.3		mg/kg	50.0		92.6	48.2-134			
Surrogate: 1-Chlorooctadecane	47.6		mg/kg	50.0		95.3	49.1-148			

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Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04 The RPD for the BS/BSD was outside of historical limits.
GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Tetra Tech
 Project Manager: Sam Abbott
 Address: 8911 Capital o Texas Hwy, Suite 2310
 City: Austin State: TX Zip:
 Phone #: (512)565-0190 Fax #:
 Project #: 212C-MD-02993 Project Owner: ConocoPhillips
 Project Name: Louise Fee #002
 Project Location: Eddy County, New Mexico
 Sampler Name: Colton Bickerstaff
 P.O. #: Company: Tetra Tech
 Attn: Sam Abbott
 Address: EMAIL
 City: State: Zip:
 Phone #: Fax #:

Sample I.D.	Date	Time	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					DATE	TIME	TPH 8015M	BTEX 8021B	Chloride SM4500Cl-B
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE					
4231476														
1	AH-23-1 (0-1')		G	1	X					3/30/2023		X	X	X
2	AH-23-1 (2-3')		G	1	X					3/30/2023		X	X	X
3	AH-23-1 (3-4')		G	1	X					3/30/2023		X	X	X
4	AH-23-1 (4-5')		G	1	X					3/30/2023		X	X	X
5	AH-23-1 (5-6')		G	1	X					3/30/2023		X	X	X
6	AH-23-2 (0-1')		G	1	X					3/30/2023		X	X	X
7	AH-23-2 (2-3')		G	1	X					3/30/2023		X	X	X
8	AH-23-2 (3-4')		G	1	X					3/30/2023		X	X	X
9	AH-23-2 (4-5')		G	1	X					3/30/2023		X	X	X
10	AH-23-3 (0-1')		G	1	X					3/30/2023		X	X	X

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Relinquished By: Colton Bickerstaff
 Date: 3/30/23
 Time: 1:34Z
 Received By: [Signature]
 Date: [Signature]
 Time: [Signature]

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other:
 Observed Temp. °C: 41.1
 Corrected Temp. °C: 3.5
 Sample Condition: Cool Intact Yes No
 Checked By: [Signature] (Initials)
 Turnaround Time: Standard Bacteria (only) Sample Condition
 Reith WA Standard 13T Cool Intact Observed Temp. °C: Yes No
 Thermometer ID #113 Yes No
 Correction Factor -0.5°C No Yes
 Corrected Temp. °C: No Yes

FORM-006 R 3.2 1/01/7/21
† Cardinal cannot accept verbal changes. Please email changes to celey/keene@cardinallabsnm.com



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech Project Manager: Sam Abbott Address: 8911 Capital o Texas Hwy, Suite 2310 City: Austin State: TX Zip: Phone #: (512)565-0190 Fax #: Project #: 212C-MD-02993 Project Owner: ConocoPhillips Project Name: Louise Fee #002 Project Location: Eddy County, New Mexico Sampler Name: Colton Bickerstaff Lab I.D.		P.O. #: Company: Tetra Tech Attn: Sam Abbott Address: EMAIL City: State: Zip: Phone #: Fax #:		BILL TO		ANALYSIS REQUEST			
FOR LAB USE ONLY									
Sample I.D. H231476		(G)RAB OR (C)OMP. # CONTAINERS		MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE		PRESERV. ACID/BASE: ICE / COOL OTHER :			
11 AH-23-3 (2-3) 12 AH-23-3 (3-4) 13 AH-23-3 (4-5) 14 AH-23-4 (0-1) 15 AH-23-4 (2-3) 16 AH-23-4 (3-4) 17 AH-23-4 (4-5) 18 AH-23-4 (5-6) 19 AH-23-5 (0-1) 20 AH-23-6 (0-1)		G 1 G 1 G 1 G 1 G 1 G 1 G 1 G 1 G 1		X X X X X X X X X X		3:30/2023 3:30/2023 3:30/2023 3:30/2023 3:30/2023 3:30/2023 3:30/2023 3:30/2023 3:30/2023		TPH 8015M BTEX 8021B Chloride SM4500Cl-B added 4-10-23 HOLD	
PLEASE NOTE: Liability and damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.									
Relinquished By: Colton Bickerstaff Date: 3/30/23 Time: 1342		Received By: [Signature] Date: [Signature] Time: [Signature]		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No All Results are emailed. Please provide Email address: Sam.Abbott@tetratech.com Add'l Phone #:		REMARKS:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp.: 4.1 Corrected Temp.: 3.5		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Checked By: [Signature] (Initials)		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) sample condition <input checked="" type="checkbox"/> Cool Intact <input type="checkbox"/> Thermometer ID #113 Correction Factor -0.5°C Observed Temp. °C Corrected Temp. °C			

FORM-006 R.3.2 11/07/21

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Tetra Tech

BILL TO

ANALYSIS REQUEST

Project Manager: Sam Abbott
 Address: 8911 Capital o Texas Hwy, Suite 2310
 City: Austin State: TX Zip:
 Phone #: (512)565-0190 Fax #:
 Project #: 212C-MD-02993 Project Owner: ConocoPhillips
 Project Name: Louise Fee #002
 Project Location: Eddy County, New Mexico
 Sampler Name: Colton Bickerstaff
 P.O. #: Company: Tetra Tech
 Attn: Sam Abbott
 Address: EMAIL
 City: State: Zip:
 Phone #: Fax #:

FOR LABOR ONLY
 Lab I.D.

Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	TPH 8015M	BTEX 8021B	Chloride SM4500CI-B
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
1231476	G 1	1	X					3/30/2023		X	X	X	
81	G 1	1	X					3/30/2023		X	X	X	
82	G 1	1	X					3/30/2023		X	X	X	
83	G 1	1	X					3/30/2023		X	X	X	

PLEASE NOTE: Liability and Damages: Cardinal's liability and clients' exclusive remedy for any claim arising under this contract or for the services provided hereunder shall be limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption or loss of data, arising out of or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Colton Bickerstaff
 Received By: [Signature]
 Date: 3/30/23
 Time: 3:12
 Verbal Result: Yes No
 All Results are emailed. Please provide Email address: Sam.Abbott@tetratech.com
 Add'l Phone #:

Relinquished By: [Signature]
 Received By: [Signature]
 Date: [Signature]
 Time: [Signature]
 REMARKS:

Delivered By: (Circle One) Observed Temp. °C Corrected Temp. °C
 Sampler - UPS - Bus - Other: Sample Condition Cool Jacket Yes No
 Checked By: (Initials) [Signature]
 Turnaround Time: Standard Backfill (only) Sample Condition
 Rush Standard Cool Jacket Observed Temp. °C
 Thermometer ID #113 Correction Factor -0.3°C
 Yes No Yes No Corrected Temp. °C

FORM-006 R.3.1 10/07/21

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

April 19, 2023

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: LOUISE FEE #002

Enclosed are the results of analyses for samples received by the laboratory on 04/13/23 13:22.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	04/13/2023	Sampling Date:	04/13/2023
Reported:	04/19/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: AH - 23 - 9 (0'-1') (H231780-01)

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	04/19/2023	ND	2.00	99.9	2.00	1.54	
Toluene*	<0.050	0.050	04/19/2023	ND	2.10	105	2.00	2.27	
Ethylbenzene*	<0.050	0.050	04/19/2023	ND	2.06	103	2.00	1.19	
Total Xylenes*	<0.150	0.150	04/19/2023	ND	6.40	107	6.00	1.05	
Total BTEX	<0.300	0.300	04/19/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/19/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/18/2023	ND	194	96.8	200	8.37	
DRO >C10-C28*	<10.0	10.0	04/18/2023	ND	181	90.5	200	13.0	
EXT DRO >C28-C36	<10.0	10.0	04/18/2023	ND					

Surrogate: 1-Chlorooctane 78.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.2 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page | of |

Company Name: <u>Cardinal Phillips</u> Project Manager: <u>Christina Hull</u> Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: NA Project #: <u>212C-MD-08993</u> Project Owner: _____ Project Name: <u>Louise Fee #003</u> Project Location: <u>Eddy County, NM</u> Sampler Name: <u>Joe Giv</u>		P.O. #: _____ Company: <u>Tetra Tech</u> Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____								
BILL TO										
ANALYSIS REQUEST										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	TPH	BTEX	Chlorides	Hold
<u>H23TR0</u>										
1	AH-23-9 (6-1')	G	1	GROUNDWATER		4-13 1200	X	X	X	
2	AH-23-10 (6-1')	G	1	WASTEWATER		4-13 1210	X	X	X	
				SOIL						
				OIL						
				SLUDGE						
				OTHER :						
				ACID/BASE:						
				ICE / COOL						
				OTHER :						

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Relinquished By: _____ Date: 4-13-23 Received By: _____
 Time: 13:22

Relinquished By: _____ Date: _____ Received By: _____
 Time: _____

Delivered By: (Circle One) UPS - Bus - Other: W.C. / L.C. Sample Condition: Intact Cool Yes No Intact Yes No
 CHECKED BY: (Initials) AO

Phone Results: Yes No Add'l Phone #: _____
 Fax Results: Yes No Add'l Fax #: _____
 Email Results to: Christina.Hull@tetratech.com

+ Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



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

June 30, 2023

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: LOUISE FEE #002 BATTERY RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 06/27/23 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/27/2023	Sampling Date:	06/21/2023
Reported:	06/30/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (0'-1') (H233327-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/29/2023	ND	1.89	94.4	2.00	2.45	
Toluene*	<0.050	0.050	06/29/2023	ND	1.86	93.0	2.00	2.97	
Ethylbenzene*	<0.050	0.050	06/29/2023	ND	1.87	93.6	2.00	3.69	
Total Xylenes*	<0.150	0.150	06/29/2023	ND	5.59	93.2	6.00	3.81	
Total BTEX	<0.300	0.300	06/29/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/28/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/29/2023	ND	195	97.7	200	18.6		
DRO >C10-C28*	2310	10.0	06/29/2023	ND	189	94.3	200	16.8		
EXT DRO >C28-C36	1150	10.0	06/29/2023	ND						

Surrogate: 1-Chlorooctane 135 % 48.2-134

Surrogate: 1-Chlorooctadecane 193 % 49.1-148

Cardinal Laboratories

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

Received:	06/27/2023	Sampling Date:	06/21/2023
Reported:	06/30/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (2'-3') (H233327-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/29/2023	ND	1.89	94.4	2.00	2.45	
Toluene*	<0.050	0.050	06/29/2023	ND	1.86	93.0	2.00	2.97	
Ethylbenzene*	<0.050	0.050	06/29/2023	ND	1.87	93.6	2.00	3.69	
Total Xylenes*	<0.150	0.150	06/29/2023	ND	5.59	93.2	6.00	3.81	
Total BTEX	<0.300	0.300	06/29/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/28/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/28/2023	ND	198	98.9	200	3.05	
DRO >C10-C28*	39.6	10.0	06/28/2023	ND	181	90.5	200	2.15	
EXT DRO >C28-C36	28.9	10.0	06/28/2023	ND					

Surrogate: 1-Chlorooctane 127 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 49.1-148

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

Received:	06/27/2023	Sampling Date:	06/21/2023
Reported:	06/30/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (3'-4') (H233327-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/29/2023	ND	1.89	94.4	2.00	2.45	
Toluene*	<0.050	0.050	06/29/2023	ND	1.86	93.0	2.00	2.97	
Ethylbenzene*	<0.050	0.050	06/29/2023	ND	1.87	93.6	2.00	3.69	
Total Xylenes*	<0.150	0.150	06/29/2023	ND	5.59	93.2	6.00	3.81	
Total BTEX	<0.300	0.300	06/29/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/28/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/28/2023	ND	198	98.9	200	3.05	
DRO >C10-C28*	17.0	10.0	06/28/2023	ND	181	90.5	200	2.15	
EXT DRO >C28-C36	11.3	10.0	06/28/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

Cardinal Laboratories

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

Received:	06/27/2023	Sampling Date:	06/21/2023
Reported:	06/30/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 1 (5'-6') (H233327-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/29/2023	ND	1.89	94.4	2.00	2.45	
Toluene*	<0.050	0.050	06/29/2023	ND	1.86	93.0	2.00	2.97	
Ethylbenzene*	<0.050	0.050	06/29/2023	ND	1.87	93.6	2.00	3.69	
Total Xylenes*	<0.150	0.150	06/29/2023	ND	5.59	93.2	6.00	3.81	
Total BTEX	<0.300	0.300	06/29/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/28/2023	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/28/2023	ND	198	98.9	200	3.05	
DRO >C10-C28*	<10.0	10.0	06/28/2023	ND	181	90.5	200	2.15	
EXT DRO >C28-C36	<10.0	10.0	06/28/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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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.
- QR-04 The RPD for the BS/BSD was outside of historical limits.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

BILL TO

ANALYSIS REQUEST

Company Name: Cordova Phillips
 Project Manager: Christina Wall
 Address: Christina Wall@tetratech.com
 City: _____ State: _____ Zip: _____
 Phone #: _____ Fax #: _____
 Project #: 012C-MD-02993A Project Owner: _____
 Project Name: Louise Fee #002 Battery Release
 Project Location: Eddy County, NH
 Sampler Name: Joe Tyler
 P.O. #: _____ Company: Tetra Tech
 Attn: Christina
 Address: _____ City: _____
 State: _____ Zip: _____
 Phone #: _____ Fax #: _____

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	DATE	TIME	TPH	BTEX	Chlorides	Hold
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:							
<u>H333327</u>	<u>BH-1 (9-1)</u>	<u>G</u>	<u>1</u>			<u>X</u>				<u>X</u>	<u>6-21</u>	<u>1030</u>	<u>X</u>	<u>X</u>	<u>X</u>	
	<u>BH-1 (9-5)</u>											<u>1040</u>	<u>X</u>	<u>X</u>		
	<u>BH-1 (9-4)</u>											<u>1050</u>	<u>X</u>	<u>X</u>		
	<u>BH-1 (5-6)</u>											<u>1100</u>	<u>X</u>			
	<u>BH-1 (9-8)</u>											<u>1115</u>			<u>X</u>	
	<u>BH-1 (9-10)</u>											<u>1130</u>				<u>X</u>

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Relinquished By: _____ Date: 6-21-23
 Relinquished By: _____ Date: 1550
 Received By: _____
 Turnaround Time: _____ Standard **Rush**
 Thermometer ID #113 Bacteria (only) Sample Condition
 Correction Factor -0.6°C Cool Intact Observed Temp. °C
 Yes No Yes No No No No
 Corrected Temp. °C

Delivered By: (Circle One) Observed Temp. °C 5.8
 Sampler - UPS - Bus - Other: Corrected Temp. °C 5.2
 Sample Condition: Cool Intact Yes No
 CHECKED BY: (Initials) AT
 Verbal Result: Yes No Add'l Phone #: _____
 All Results are emailed. Please provide Email address: _____
 REMARKS: _____
 † Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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

September 20, 2023

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: LOUISE FEE #002 BATTERY RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 09/14/23 13:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (0-1') (H234986-01)

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	09/15/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/15/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/15/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/15/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/15/2023	ND	448	112	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	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	419	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	343	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 88.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (1'-2') (H234986-02)

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	09/18/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/18/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/15/2023	ND	448	112	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	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	113	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	111	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 98.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (2'-3') (H234986-03)

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	0.089	0.050	09/18/2023	ND	2.22	111	2.00	1.79	GC-NC1
Total Xylenes*	0.779	0.150	09/18/2023	ND	6.62	110	6.00	0.324	GC-NC1
Total BTEX	0.868	0.300	09/18/2023	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 159 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/15/2023	ND	448	112	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*	50.8	10.0	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	1540	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	448	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (3'-4') (H234986-04)

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	GC-NC
Ethylbenzene*	3.56	0.050	09/18/2023	ND	2.22	111	2.00	1.79	GC-NC1
Total Xylenes*	27.1	0.150	09/18/2023	ND	6.62	110	6.00	0.324	GC-NC1
Total BTEX	30.7	0.300	09/18/2023	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID) 825 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/15/2023	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	1070	10.0	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	6560	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	1250	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 213 % 48.2-134

Surrogate: 1-Chlorooctadecane 143 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (5'-6') (H234986-05)

BTEX 8021B		mg/kg		Analyzed By: JH					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.83	91.4	2.00	0.547		
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	GC-NC	
Ethylbenzene*	0.367	0.050	09/18/2023	ND	2.22	111	2.00	1.79	GC-NC1	
Total Xylenes*	4.15	0.150	09/18/2023	ND	6.62	110	6.00	0.324	GC-NC1	
Total BTEX	4.52	0.300	09/18/2023	ND					GC-NC1	

Surrogate: 4-Bromofluorobenzene (PID) 147 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/15/2023	ND	448	112	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*	67.3	10.0	09/15/2023	ND	200	100	200	2.63		
DRO >C10-C28*	2580	10.0	09/15/2023	ND	196	98.1	200	0.463		
EXT DRO >C28-C36	752	10.0	09/15/2023	ND						

Surrogate: 1-Chlorooctane 97.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (7'-8') (H234986-06)

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	09/18/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/15/2023	ND	448	112	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	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	<10.0	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	<10.0	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 98.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (9'-10') (H234986-07)

BTEX 8021B		mg/kg		Analyzed By: JH					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.83	91.4	2.00	0.547		
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73		
Ethylbenzene*	0.081	0.050	09/18/2023	ND	2.22	111	2.00	1.79	GC-NC1	
Total Xylenes*	0.766	0.150	09/18/2023	ND	6.62	110	6.00	0.324	GC-NC1	
Total BTEX	0.847	0.300	09/18/2023	ND					GC-NC1	

Surrogate: 4-Bromofluorobenzene (PID) 150 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/15/2023	ND	448	112	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	09/15/2023	ND	200	100	200	2.63		
DRO >C10-C28*	105	10.0	09/15/2023	ND	196	98.1	200	0.463		
EXT DRO >C28-C36	37.9	10.0	09/15/2023	ND						

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: BH - 2 (11'-12') (H234986-08)

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	09/18/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/15/2023	ND	448	112	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	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	<10.0	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	<10.0	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 96.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: AH - 23-10 (1'-2') (H234986-10)

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	09/18/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	09/15/2023	ND	448	112	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	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	<10.0	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	<10.0	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: AH - 23-10 (2'-3') (H234986-11)

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	09/18/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/18/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/18/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	09/15/2023	ND	448	112	400	3.64	

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	09/15/2023	ND	200	100	200	2.63	
DRO >C10-C28*	<10.0	10.0	09/15/2023	ND	196	98.1	200	0.463	
EXT DRO >C28-C36	<10.0	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: AH - 23-11 (2'-3') (H234986-13)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/15/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/15/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/15/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/15/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/15/2023	ND	448	112	400	3.64	

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	09/15/2023	ND	192	95.9	200	2.28	
DRO >C10-C28*	<10.0	10.0	09/15/2023	ND	199	99.4	200	0.991	
EXT DRO >C28-C36	<10.0	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 85.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.1 % 49.1-148

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Analytical Results For:

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

Received:	09/14/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	LOUISE FEE #002 BATTERY RELEASE	Sampling Condition:	Cool & Intact
Project Number:	212C - MD - 02993A	Sample Received By:	Dionica Hinojos
Project Location:	EDDY COUNTY, NEW MEXICO		

Sample ID: AH - 23-12 (2'-3') (H234986-14)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2023	ND	1.83	91.4	2.00	0.547	
Toluene*	<0.050	0.050	09/15/2023	ND	2.08	104	2.00	1.73	
Ethylbenzene*	<0.050	0.050	09/15/2023	ND	2.22	111	2.00	1.79	
Total Xylenes*	<0.150	0.150	09/15/2023	ND	6.62	110	6.00	0.324	
Total BTEX	<0.300	0.300	09/15/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/15/2023	ND	448	112	400	3.64	

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	09/15/2023	ND	192	95.9	200	2.28	
DRO >C10-C28*	136	10.0	09/15/2023	ND	199	99.4	200	0.991	
EXT DRO >C28-C36	68.4	10.0	09/15/2023	ND					

Surrogate: 1-Chlorooctane 85.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.4 % 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.
QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD.
GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

Pg 1 of 2

Company Name: Tetra Tech
 Project Manager: Christian Lull
 Address: 9811 Capital o Texas Hwy, Suite 2310
 City: Austin State: TX Zip:
 Phone #: (512)565-0190 Fax #:
 Project #: 212C-MD-02993A Project Owner: ConocoPhillips
 Project Name: Louise Fee #002 Battery Release
 Project Location: Eddy County, New Mexico
 Sampler Name: Colton Bickerstaff
 P.O. #: Company: Tetra Tech
 Attn: Christian Lull
 Address: EMAIL
 City: State: Zip:
 Phone #: Fax #:

FOR LAB USE ONLY
 Lab I.D. Sample I.D.
 (G)RAB OR (C)OMP.
 # CONTAINERS
 GROUNDWATER
 WASTEWATER
 SOIL
 OIL
 SLUDGE
 OTHER :
 ACID/BASE:
 ICE / COOL
 OTHER :
 DATE
 TIME
 TPH 8015M
 BTEX 8021B
 Chloride SM4500CI-B
 HOLD

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH 8015M	BTEX 8021B	Chloride SM4500CI-B	HOLD
	BH-2 (0-1')	G	1	X									9/14/2023		X	X	X	
	BH-2 (1'-2')	G	1	X									9/14/2023		X	X	X	
	BH-2 (2'-3')	G	1	X									9/14/2023		X	X	X	
	BH-2 (3'-4')	G	1	X									9/14/2023		X	X	X	
	BH-2 (5'-6')	G	1	X									9/14/2023		X	X	X	
	BH-2 (7'-8')	G	1	X									9/14/2023		X	X	X	
	BH-2 (9'-10')	G	1	X									9/14/2023		X	X	X	
	BH-2 (11'-12')	G	1	X									9/14/2023		X	X	X	
	BH-2 (14'-15')	G	1	X									9/14/2023		X	X	X	
	AH-23-10 (1'-2')	G	1	X									9/14/2023		X	X	X	

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Relinquished By: Colton Bickerstaff
 Date: 9/14/23
 Received By: [Signature]
 Date: 13:00
 Observed Temp.: 4.70
 Corrected Temp.:
 Sample Condition:
 Cool Impact: [X] Yes [] No
 Checked By: [Signature]
 Verbal Results: [] Yes [] No
 Add'l Phone #:
 All Results are emailed. Please provide Email address: Christian.Lull@tetratech.com
 REMARKS:
 Turnaround Time: Standard [X] Rush WA Standard 1XT []
 Bacteria (only) Sample: []
 Cool Shakt: []
 Observed Temp.: []
 Thermometer ID: []
 Correction Factor: -0.5°C []
 Corrected Temp.: []

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FORM-008 R.3.2 10/07/21



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

202

Company Name: Tetra Tech Project Manager: Christian Lull Address: 8911 Capital o Texas Hwy, Suite 2310 City: Austin State: TX Zip: Phone #: (512)565-0190 Fax #: Project #: 212C-MD-02993A Project Owner: ConocoPhillips Project Name: Louise Fee #002 Battery Release Project Location: Eddy County, New Mexico Sampler Name: Colton Bickerstaff Lab I.D.		P.O. #: Company: Tetra Tech Attn: Christian Lull Address: EMAIL City: State: Zip: Phone #: Fax #:	
BILL TO		ANALYSIS REQUEST	
FOR LAB USE ONLY			
Sample I.D. AH-23-10 (2-3) AH-23-10 (3-4) AH-23-11 (2-3) AH-23-12 (2-3)	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	MATRIX PRESERV. SAMPLING	DATE TIME TPH 8015M BTEX 8021B Chloride SM4500CI-B HOLD
11 12 13 14	G 1 G 1 G 1 G 1	X X X X	9/14/2023 9/14/2023 9/14/2023 9/14/2023
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Relinquished By: Colton Bickerstaff Date: 9/14/23 Time: 13:00	Received By: [Signature] Date: [Signature] Time: [Signature]	CHECKED BY: [Signature] (Initials)	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No All Results are emailed. Please provide Email address: Christian.Lull@tetratech.com Add'l Phone #:
Delivered By: (Circle One) Sampler - Ups - Bus - Other:	Observed Temp. - C Corrected Temp. - C 4.7°C	Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	Bacteria (only) Sample Condition Standard <input checked="" type="checkbox"/> Rough: NA, Standard 100 <input type="checkbox"/> Thermometer ID: [Signature] Correction Factor: -0.5°C Observed Temp. C Corrected Temp. C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No

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FORM-006 R.3.2 10/07/21

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 295884

QUESTIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 295884
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAB1819154956
Incident Name	NAB1819154956 LOUISE FEE #002 @ 30-015-20264
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-015-20264] LOUISE FEE #002

Location of Release Source

Please answer all the questions in this group.

Site Name	LOUISE FEE #002
Date Release Discovered	07/07/2018
Surface Owner	Private

Incident Details

Please answer all the questions in this group.

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

Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Cause: Corrosion Other (Specify) Crude Oil Released: 6 BBL Recovered: 2 BBL Lost: 4 BBL.
Produced Water Released (bbls) Details	Cause: Corrosion Other (Specify) Produced Water Released: 6 BBL Recovered: 2 BBL Lost: 4 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS (continued)

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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	<i>Unavailable.</i>

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	<i>Not answered.</i>

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: 12/18/2023
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QUESTIONS (continued)

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QUESTIONS

Site Characterization
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Less than or equal 25 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 300 and 500 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 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	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Zero feet, overlying, or within area
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

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

Requesting a remediation plan approval with this submission	Yes
<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)	3520
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	35642
GRO+DRO (EPA SW-846 Method 8015M)	31142
BTEX (EPA SW-846 Method 8021B or 8260B)	67.4
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	04/18/2024
On what date will (or did) the final sampling or liner inspection occur	04/23/2024
On what date will (or was) the remediation complete(d)	04/23/2024
What is the estimated surface area (in square feet) that will be reclaimed	1100
What is the estimated volume (in cubic yards) that will be reclaimed	56
What is the estimated surface area (in square feet) that will be remediated	1100
What is the estimated volume (in cubic yards) that will be remediated	56

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS (continued)

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QUESTIONS

Remediation Plan (continued)

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

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

(Select all answers below that apply.)

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

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

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

I hereby agree and sign off to the above statement	Name: Christian LLuLL Title: Project Manager Email: christian.llull@tetratech.com Date: 12/18/2023
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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.

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Action 295884

QUESTIONS (continued)

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QUESTIONS

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

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QUESTIONS (continued)

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QUESTIONS

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

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

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CONDITIONS

Action 295884

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation plan approved. Ensure faces of the near vertical surfaces of the benched excavation are included in the 5-point composite confirmation samples.	12/19/2023
bhall	Submit a complete report through the OCD Permitting website by 4/26/2024.	12/19/2023