ENSOLUM

June 17, 2025

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: 2025 Closure Request Addendum
James Ranch Unit #017
Incident Number NAB1627451198
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *2025 Closure Request Addendum* (*2025 Addendum*) to accompany the *Closure Request* dated February 5, 2019 and *Closure Reqest Addendum* dated November 30, 2023 (*2023 Addendum*). This *2025 Addendum* summarizes additional delineation activities at the James Ranch Unit #017 (Site) in response to the denial of the *2023 Addendum* by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD indicated that additional horizontal delineation of waste-containing soil was required. Based on the additional delineation activities described below, XTO is submitting this *2025 Addendum* and again requesting closure for Incident Number NAB1627451198.

RELEASE BACKGROUND

The Site is located in Unit F, Section 6, Township 23 South, Range 31 East, in Eddy County, New Mexico (32.33518°, -103.81928°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On September 19, 2016, a buried water dump line from the heater-treater to a produced water tank developed a hole due to corrosion. Approximately 22 barrels (bbls) of produced water were released onto the well pad and into the pasture west of the tank battery. The buried water dump line was isolated and clamped until repairs could be made. Approximately 15 bbls of produced water were recovered with a vacuum truck. The release affected approximately 50 square feet of pasture west of the tank battery and 2,600 square feet of the caliche well pad. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on September 28, 2016. The release was assigned Remediation Permit Number 2RP-3919 and Incident Number NAB1627451198.

Between October and November 2018, assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacts to soil resulting from the September 19, 2016, produced water release. Delineation soil samples were collected from sampling locations SS01 through SS05, PH01, and PH02 at depths ranging from 1 foot to 3 feet below ground surface (bgs). Laboratory analytical results for the delineation soil samples reported chemicals of concern (COC) concentrations were compliant with Closure Criteria so closure was requested for Incident Number NAB1627451198. Additional details regarding the delineation soil sampling activities can be referenced in the original February 5, 2019 *Closure Request*.

On February 24, 2023, NMOCD denied the *Closure Request* for Incident Number NAB1627451198 for the following reasons:

- *Depth to water determination inadequate. If nearby wells are used, it is preferable if they are situated within ½-mile of the release, the water level information is no more than 25 years old, and well construction information is provided.*
- *Delineation at SS05 is incomplete. Chloride concentrations increase with depth. This area will need to be delineated to 600 mg/kg* ***or*** *a soil boring will need to be completed in order to determine depth to groundwater.*

New depth to groundwater data became available following the submittal of the original 2019 *Closure Request*. A borehole was drilled approximately 0.48 miles west of the Site in May 2019. The borehole was advanced to a depth of 150 feet bgs via sonic drilling rig and permitted as New Mexico Office of the State Engineer (NMOSE) well C-04325. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater was greater than 150 feet bgs. Based on confirmed depth to groundwater greater than 100 feet bgs within 0.5 miles of the Site, the Table I Closure Criteria identified in the original *Closure Request* were applicable and appropriate for protection of groundwater at this Site. This new depth to groundwater was summarized and closure was requested in the *2023 Addendum* dated November 30, 2023. The *2023 Addendum,* including the original *Closure Request,* is attached to this letter as Appendix A.

NMOCD denied the *2023 Addendum* for Incident Number NAB1627451198 on January 18, 2024 for the following reason:

- *Horizontal delineation must meet the requirements of the reclamation standards 19.15.29.13 NMAC (600 mg/kg Cl, 100 mg/kg TPH, 50 mg/kg BTEX, 10 mg/kg benzene) or OCD approved "background" values for the upper 4 feet of the impacted area.*

CLOSURE CRITERIA

The Site is in a medium potential karst designation area; however, the release and remedial activities occurred prior to December 1, 2024, the effective date of the NMOCD published *Karst Potential Occurrence Zones Public Notice* and depth to groundwater has been confirmed to be greater than 100 feet below the surface. Based on the results of the Site Characterization presented in the *2023 Addendum*, the following NMOCD Table I Closure Criteria were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of areas to be immediately reclaimed. Additionally, impacts on-pad must be delineated to the reclamation

requirement, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following Site decommissioning.

ADDITIONAL DELINEATION ACTIVITIES

In response to NMOCD's denial of the *2023 Addendum*, Ensolum personnel arrived onsite on January 22, 2024, to laterally delineate chloride impacted soil reported at sampling location SS05 to the reclamation requirement of 600 mg/kg. One additional soil sample (SS06) was collected at a depth of 0.5 feet bgs north of SS05. On January 31, 2024, two additional soil samples were collected from SS06 at depths of 2 feet and 3 feet bgs using a Hydro-vac. Soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following COCs: BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

The soil sample location was mapped utilizing a handheld Global Positioning System (GPS) unit. The delineation soil sampling locations are depicted on Figure 2. A boring log describing lithology and field screening results reported from SS06 is attached in Appendix B. A photographic log of sampling activities is included as Appendix C.

LABORATORY ANALYTICAL RESULTS

Following soil sampling activities, laboratory analytical results confirmed that waste-containing soil was defined to the reclamation requirement as requested by NMOCD in the denial responses. Soil analytical results are below the appropriate Closure Criteria on-pad and in the pasture west of the release. The current and historical laboratory analytical results are summarized on Table 1, and the 2024 laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Soil sampling activities were completed at the Site to assess for the presence or absence of impacts to soil resulting from the September 19, 2016, produced water release. Based on soil sample laboratory analytical results compliant with the Closure Criteria on-pad and the reclamation requirement in samples collected from the top four feet of the pasture area, no further remediation was required. Following the soil sampling activities conducted in 2024, approximately 750 square feet of waste-containing soil was delineated within the top 4 feet of soil and present at sample location SS05. Following Site decommissioning, an estimated 110 cubic yards of waste-containing soil will be reclaimed. The presence of the waste-containing soil present on-pad does not cause an imminent risk to human health, the environment, or groundwater. XTO will reclaim this soil reporting COC concentrations exceeding reclamation requirement but below Closure Criteria during final Site reclamation.

Initial response efforts and natural attenuation have mitigated impacts at this Site. Depth to groundwater has been confirmed to be greater than 100 feet bgs within 0.5 miles of the Site and no other sensitive receptors were identified near the release extent. XTO has met all conditions requested by the NMOCD and believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1627451198.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC

Katherine Kahn, P.G.
Senior Managing Geologist

Tacoma Morrissey, MS
Associate Principal

cc: Colton Brown, XTO
Kaylan Dirkx, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	November 30, 2023 *Closure Request Addendum*
Appendix B	Lithologic/Soil Sampling Log (2024)
Appendix C	Photographic Log (2024)
Appendix D	Laboratory Analytical Reports (2024)

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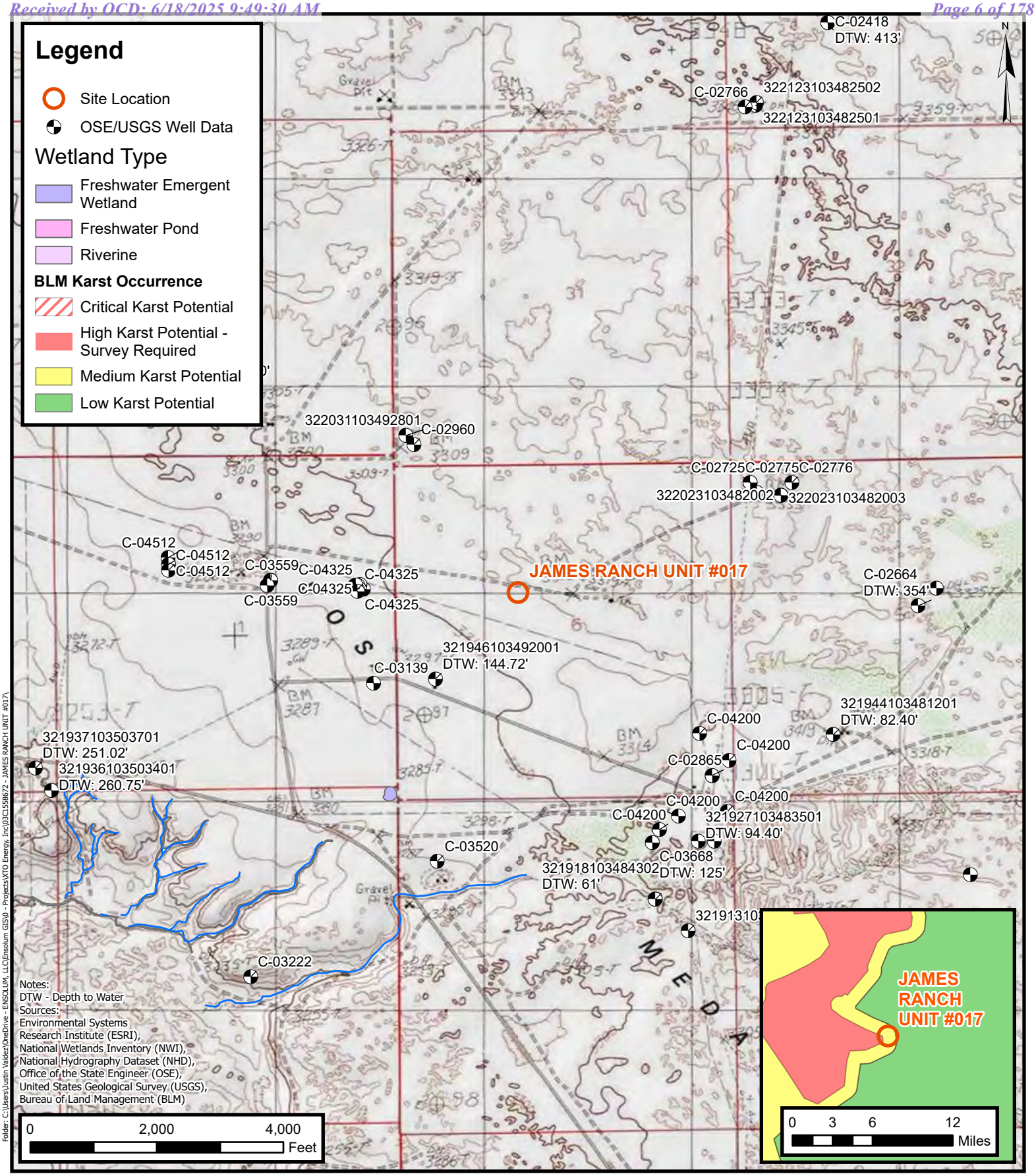
FIGURES



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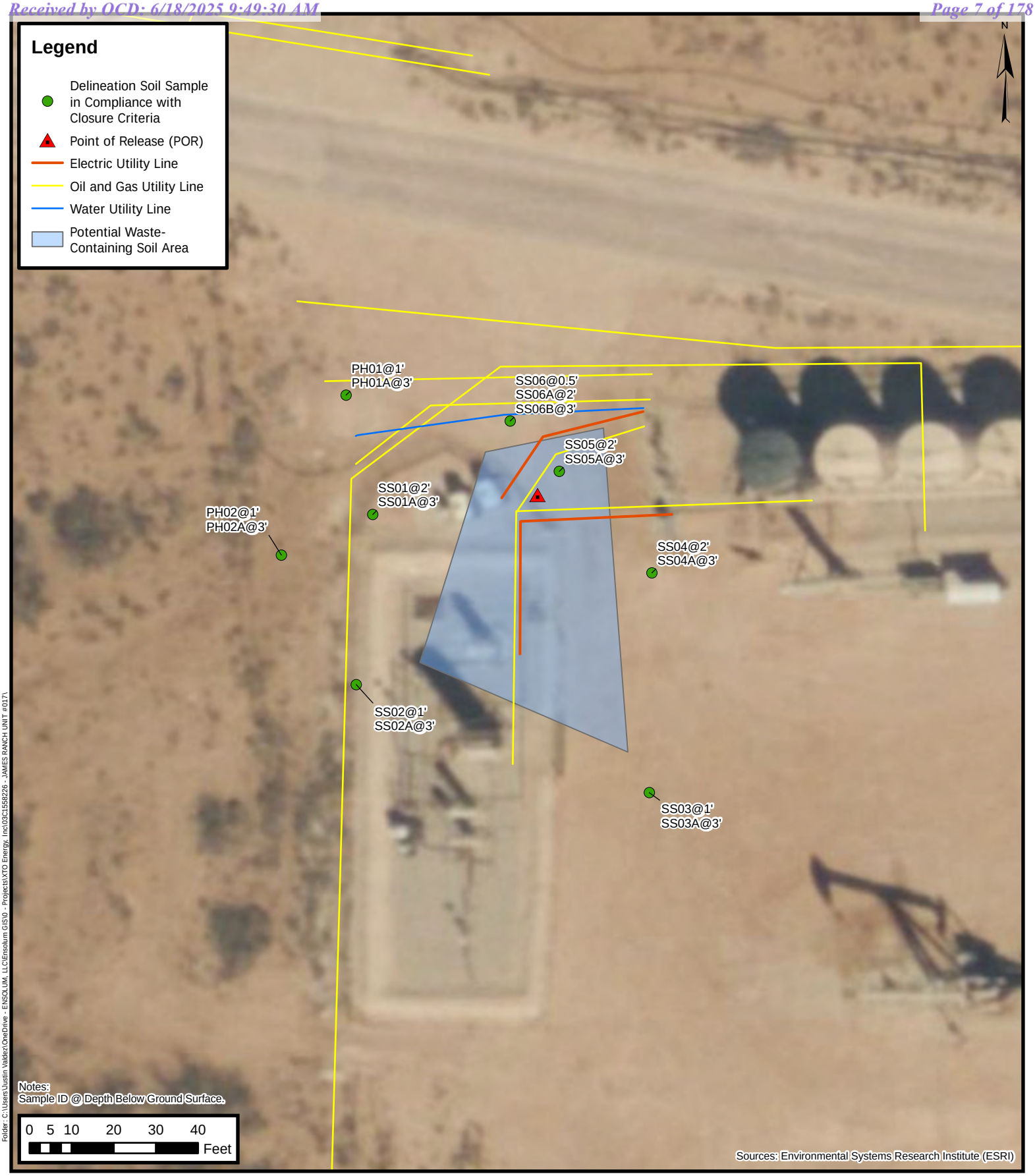
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
JAMES RANCH UNIT #017
Incident Number: nAB1627451198
Unit F, Section 06, T 23S, R 31E
Eddy County, New Mexico

FIGURE 1



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Delineation Soil Sample Locations

XTO Energy, Inc
JAMES RANCH UNIT #017
Incident Number: nAB1627451198
Unit F, Section 06, T 23S, R 31E
Eddy County, New Mexico

FIGURE 2

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TABLE

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
James Ranch Unit 17
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Soil Samples										
SS01	10/05/2018	2	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	88.6
SS01A	10/05/2018	3	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	208
SS02	10/05/2018	1	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<4.97
SS02A	10/05/2018	3	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	249
SS03	10/05/2018	1	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	423
SS03A	10/05/2018	3	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	508
SS04	10/05/2018	2	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	311
SS04A	10/05/2018	3	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	587
SS05	10/08/2018	2	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	1,070
SS05A	10/08/2018	3	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<14.9	2,050
SS06	01/22/2024	0.5	<0.00199	<0.00398	<50.4	79.0	<50.4	79.0	79.0	52.7
SS06A	01/31/2024	2	<0.00201	<0.00402	<49.5	<49.5	<49.5	<49.5	<49.5	218
SS06B	01/31/2024	3	<0.00200	<0.00401	<50.5	<50.5	<50.5	<50.5	<50.5	334
PH01	11/01/2018	1	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	206
PH01A	11/01/2018	3	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	21.1
PH02	11/01/2018	1	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
PH02A	11/01/2018	3	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

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APPENDIX A

November 30, 2023
Closure Request Addendum

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November 30, 2023

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Closure Request Addendum
James Ranch Unit 17 Battery
Incident Number NAB1627451198
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following addendum to the original *Closure Request* dated February 5, 2019. This addendum provides an update to the depth to groundwater determination activities at the James Ranch Unit 17 Battery (Site) in response to the denial of the February 5, 2019 *Closure Request* by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD indicated that the depth to groundwater assessment was not sufficient. Based on the additional depth to groundwater determination activities described below, XTO is submitting this *Closure Request Addendum* and requesting closure for Incident Number NAB1627451198.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit F, Section 6, Township 23 South, Range 31 East, in Eddy County, New Mexico (32.235007°, -103.819183°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On September 19, 2016, a buried water dump line from the heater-treater to a produced water tank developed a hole due to corrosion. Approximately 22 barrels (bbls) of produced water were released onto the well pad and into the pasture west of the tank battery. The buried water dump line was isolated and clamped until repairs could be made. Approximately 15 bbls of produced water were recovered with a vacuum truck. The release affected approximately 50 square feet of pasture west of the tank battery and 2,600 square feet of the caliche well pad. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on September 28, 2016. The release was assigned Remediation Permit Number 2RP-3919 and Incident Number NAB1627451198.

BACKGROUND

The original *Closure Request* detailed site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1. Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)

- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

During October and November 2018, Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacts to soil resulting from the September 19, 2016, produced water release. Closure was requested on February 5, 2019, based on laboratory analytical results for the delineation soil samples indicating benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Additional details regarding the delineation soil sampling activities can be referenced in the original February 5, 2019 *Closure Request*.

On February 24, 2023, NMOCD denied the *Closure Request* for Incident Number NAB1627451198 for the following reasons:

- *Depth to water determination inadequate. If nearby wells are used, it is preferable if they are situated within ½-mile of the release, the water level information is no more than 25 years old, and well construction information is provided.*
- *Delineation at SS05 is incomplete. Chloride concentrations increase with depth. This area will need to be delineated to 600 mg/kg* ***or*** *a soil boring will need to be completed in order to determine depth to groundwater.*

The NMOCD preference for wells used for depth to groundwater determination to be no further than 0.5 miles away from the site with data less than 25 years old was not in place at the time of the original soil sampling and reporting activities. The original *Closure Request* was submitted on February 5, 2019, prior to the September 6, 2019, publication of the *Procedures for Implementation of the Spill Rule* guidance document that clarified the depth to groundwater determination preferences (Section IX.a.).

ADDITIONAL DEPTH TO GROUNDWATER DETERMINATION

New depth to groundwater data became available since the submittal of the original 2019 *Closure Request*. A borehole was drilled approximately 0.48 miles west of the Site during May 2019. The borehole was advanced to a depth of 150 feet below ground surface (bgs) via sonic drilling rig and was permitted as New Mexico Office of the State Engineer (NMOSE) well C-04325. The location of the borehole is presented on Figure 1. A field geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Appendix A. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater was greater than 150 feet bgs. The borehole was properly abandoned using drill cuttings and hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1 and the referenced well record is included in Appendix A.

Based on confirmed depth to groundwater greater than 100 feet bgs within 0.5 miles of the Site, the Table I Closure Criteria identified in the original *Closure Request* are applicable and appropriate for protection of groundwater at this Site. Soil samples SS05@2’ and SS05@3’ are located on the active well pad and chloride concentrations of 1,070 mg/kg and 2,050 mg/kg, respectively, are well below the confirmed Site Closure Criteria for chloride of 20,000 mg/kg. Based on the confirmed depth to groundwater, no further delineation is warranted at the SS05 sample location.

CLOSURE REQUEST

Soil sampling activities were completed at the Site to assess for the presence or absence of impacts to soil resulting from the September 19, 2016, produced water release. Based on soil sample laboratory analytical results compliant with the Site Closure Criteria and the reclamation requirement in samples collected from the top four feet of the pasture area, no further remediation was required. Initial response efforts and natural attenuation have mitigated impacts at this Site. Depth to groundwater has been confirmed to be greater than 100 feet bgs within 0.5 miles of the Site and no other sensitive receptors were identified near the release extent. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAB1627451198.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC

Aimee Cole
Senior Managing Scientist

Ashley Ager, P.G.
Program Director

cc: Garrett Green, XTO
Tommee Lambert, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Appendix A	Referenced Well Records
Appendix B	*Closure Request*, February 5, 2019

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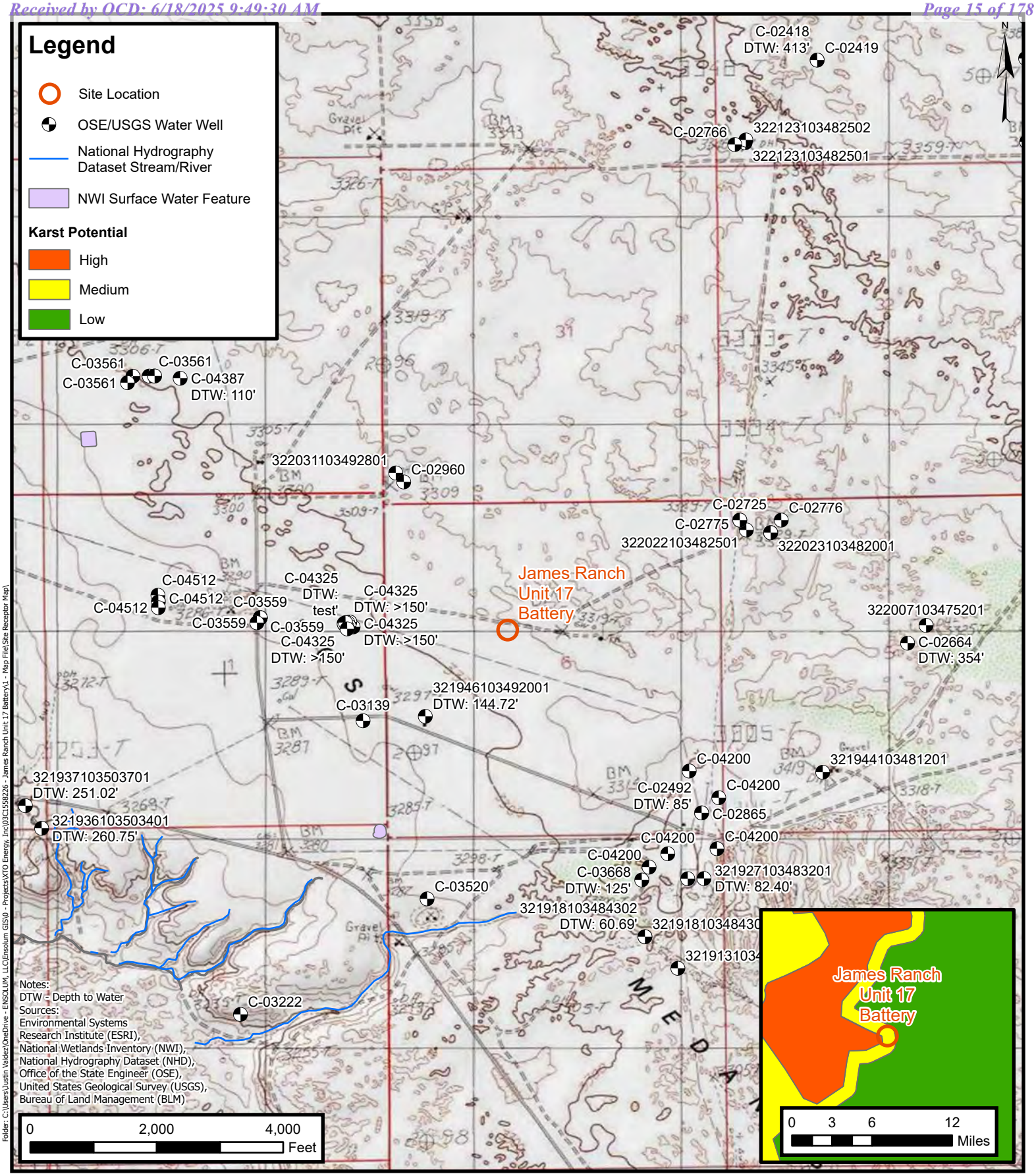
FIGURES



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ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc.
James Ranch Unit 17 Battery
Incident Number: NAB1627451198
Unit F, Section 6, Township 23 South, Range 31 East
Eddy County, New Mexico

FIGURE 1

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APPENDIX A

Referenced Well Records

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier	Date
C04325 MW01	5/22/19
Project Name: JRU 10	RP Number: 2RP-3404, 2RP-3464, 2RP-3179
Logged By: BEN BELILL	Method: Soil C
Hole Diameter: 6.15"	Total Depth: 150'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.335339, -103.827697
Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO
Comment: All Chloride test include a 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		(SP-SM)	silty SAND, dry, brn/red, poorly graded, f.-m., some vegetation
D	<112	0.5	N	MW01	1	1'		
D	<112	0.4	N	MW01A	2	2'		
D	<112	0.1	N	MW01B	3	3'		
D	<112	0.3	N	MW01C	4	4'	CALICHE	CALICHE w/ Sand, dry, lt brn/~~dk~~ brn, dly carb, some m. red sand, no odor
P	<112	0.1	N	MW01D	5	5'		
D	<112	0.5	N	MW01E	6	6'		
D	<112	0.4	N	MW01F	7	7'		
D	<112	0.3	N	MW01G	8	8'		
D	403	0.1	N	MW01H	9	9'	SP	SAND w/ Caliche, dry, lt brn/brn, f.-m., poorly graded, no odor. SAA
D	345	0.8	N	MW01I	10	10'		
D	345	3.1	N	MW01J	11	11'	(SP-SM)	~~sandy SILT~~, dry, brn/red, ~~complete~~ silty SAND, no odor, some ~~fine sand~~ poorly graded, f.-m., no odor.
				~~MW01K~~	12	12'		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: MW01	Date: 5/22/19
Project Name: JRU 10	RP Number: 2RP-3464, 2RP-3179, 2RP-3243

LITHOLOGIC / SOIL BORING LOG

Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.	Logged By: BEN BELILL	Method:
		Hole Diameter: [redacted]	Total Depth:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1650 D	<112	1.6	N	MW01K	12	12'	(SP-SM)	STA
D	<112	3.8	N	MW01L	13	13'		
D	<112	4.9	N	MW01M	14	14'		
D	<112	4.8	N	MW01N	15	15'		
D	<112	1.1	N	MW01O	16	16'		
D	<112	0	N	MW01P	17	17'		
D	<112	4.1	N	MW01Q	18	18'	ML	SILT, dry, brn/red, non plastic, no odor
D	<112	6.5	N	MW01R	19	19'		
D	<180	1.3	N	MW01S	20	20'		
D	<180	9.2	N	MW01T	21	21'		
D	<112	7.4	N	MW01U	22	22'		
1725 D	<112	5.1	N	MW01V	23	23'		
					24	24		

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: MW01	Date: 5/22/19
Project Name: JRU 10	RP Number: 2RP-3464, 2RP-3179, 2RP-3243
Logged By: BEN BELILL	Method
Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.
Hole Diameter: 6"	Total Depth:

LITHOLOGIC / SOIL BORING LOG

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<112	6.5	N	MW01 W	24	24	ML	SAA
D	<112	4.6	N	MW01 X	25	25'		
D	<112	5.1	N	MW01 Y	26	26'		
D	<112	9.4	N	MW01 Z	27	27'		
D	<112	0.8	N	MW01 AA	28	28		
D	<112	1.2	N	MW01 AB	29	29		
D	<112	3.9	N	MW01 AC	30	30		
D	<112	0.5	N	MW01 AD	31	31		
D	<112	3.0	N	MW01 AE	32	32		
D	<112	3.1	N	MW01 AF	33	33		
D	<112	0.0	N	MW01 AG	34	34		
	<112	0.0	N	MW01 AH	35	35		
					36			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: MW01	Date: 5/22/14 - 5/23/14
Project Name: JRU 10	RP Number: 2RP-3464, 2RP-3179, 2RP-3243
Logged By: BEN BELILL	Method:
Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.	Hole Diameter: 6.15" / Total Depth:

LITHOLOGIC / SOIL BORING LOG

Lat/Long:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	1112	1.0	N	MW01 AI	36	36	CL	Silty CLAY, dry, red/brn, low plasticity, no odor.
D	1112	0.0	N	MW01 AJ	37	37		
D	1112	1.5	N	MW01 AK	38	38		
D	1112	0.0	N	MW01 AL	39	39		
D	1112	0.0	N	MW01 AM	40	40		
D	1112	0.0	N	MW01 AN	41	41		
D	1112	1.4	N	MW01 AO	42	42		
D	1112	2.8	N	MW01 AP	43	43		
D	1112	1.8	N	MW01 AQ	44	44		
D	1112	2.5	N	MW01 AR	45	45		
D	1112	1.9	N	MW01 AS	46	46		
D	1112	2.0	N	MW01 AT	47	47		
					48			

LT Environmental, Inc.
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Compliance · Engineering · Remediation

Identifier	Date
MW01	5/23/19
Project Name: JRU 10	RP Number: 2RP-3464, 2RP-3179, 2RP-3243

LITHOLOGIC / SOIL BORING LOG

Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.	Logged By: BEN BELILL	Method:
		Hole Diameter: 6.15"	Total Depth:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0730 D	<112	0.3	N	MW01 AU	48	48	CL	silty CLAY, dry, red/brn, low plasticity, no odor
0735 D	<112	1.3	N	MW01 AV	49	49		silty CLAY w/ caliche, dry, red/brn, low plasticity, some poly rnd to caliche gravel, no odor
0740 D	<112	1.2	N	MW01 AW	50	50		silty CLAY, dry, red/brn, low plasticity no odor
0750 D	<112	1.2	N	MW01 AX	51	51		
0800 D	<112	1.3	N	MW01 AY	52	52		
0810 D	<112	1.5	N	MW01 AZ	53	53		
D	<112	0.1	N	MW01 BA	54	54		
D	<112	0.3	N	MW01 BB	55	55		
D	<112	2.0	N	MW01 BC	56	56		
D	<112	2.9	N	MW01 BD	57	57		
D	<112	3.8	N	MW01 BE	58	58		
D	<112	2.3	N	MW01 BF	59	59		
					60			

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Carlsbad, New Mexico 88220
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Identifier: MW01	Date: 5/23/19
Project Name: JRU 10	RP Number: 2RP-3179, 2RP-3464, 2RP-5243

LITHOLOGIC / SOIL BORING LOG

Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.	Logged By: BEN BELILL	Method:
		Hole Diameter:	Total Depth:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<112	2.8	N	MW01 A	60	60	CL	Silty CLAY, dry, brn/md, low plasticity, no odor.
D	<112	2.9	N	MW01 B	H 61	61		
0845 D	<112	2.8	N	MW01 B	I 62	62		
D	<112	3.4	N	MW01 B	J 63	63		
D	<112	1.6	N	MW01 B	K 64	64		
D	<112	11.7	N	MW01 B	L 65	65		
D	<112	4.5	N	MW01 B	M 66	66		
0900 D	<112	3.7	N	MW01 B	N 67	67		
D	<112	1.9	N	MW01 B	O 68	68		
D	<112	1.1	N	MW01 B	P 69	69		
D	<112	2.3	N	MW01 B	Q 70	70		
D	<112	1.7	N	MW01 B	R 71	71		
					72			

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Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: MW01	Date: 5/23/19
Project Name: JRU 10	RP Number: 2RP-3179, 2RP-3464, 2RP-5243

LITHOLOGIC / SOIL BORING LOG

Logged By: BEN BELILL	Method:
Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO
Hole Diameter:	Total Depth:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0930 P	<112	3.1	N	MW01 S	72	72	CL	SAA
D	<112	1.0	N	MW01 T	73	73		
D	<112	1.1	N	MW01 U	74	74		
D	<112	6.0	N	MW01 V	75	75		
D	<112	5.6	N	MW01 W	76	76		
D	<112	3.4	N	MW01 X	77	77		
D	<112	1.1	N	MW01 Y	78	78		
D	243	1.2	N	MW01 Z	79	79		
D	<112	2.4	N	MW01 A	80	80		
D	<112	4.7	N	MW01 B	81	81		
D	<112	3.7	N	MW01 C	82	82		
D	<112	3.7	N	MW01 D	83	83		
					84			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier:	Date:
MW01	5/23/14
Project Name: JRU 10	RP Number: 2RP-3179, 2RP-3464, 2RP-5243

LITHOLOGIC / SOIL BORING LOG

Logged By: BEN BELILL	Method:
Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.
Hole Diameter:	Total Depth:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<112	4.9	N	MW01CE	84	84	CL	SAA
D	<112	1.5	N	MW01CF	85	85		
D	<112	3.3	N	MW01CG	86	86		
D	<112	2.4	N	MW01CH	87	87		
D	<112	1.6	N	MW01CI	88	88		
D	<112	1.1	N	MW01CJ	89	89		
D	<112	0.9	N	MW01CK	90	90		
D	<112	2.6	N	MW01CL	91	91	CL	~~CLA~~ silty ~~CL~~ CLAY, dry, lt brn/red, low plasticity, no odor.
D	<112	3.8	N	MW01CM	92	92		
D	<112	1.4	N	MW01CN	93	93		
D	<112	1.2	N	MW01CO	94	94		
D	<112	0.8	N	MW01CP	95	95		

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Carlsbad, New Mexico 88220
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Identifier: MW01	Date: 5/23/19
Project Name: JRU 10	RP Number: 2RP-3179, 2RP-3464, 2RP-5243

LITHOLOGIC / SOIL BORING LOG

Logged By: BEN BELILL	Method:
Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.
Hole Diameter:	Total Depth:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<112	1.4	N	MW01C	Q 96	96	CL	silty CLAY, brn/red, low plasticity, no odor.
1055 D	<112	4.2	N	MW01C	R 97	97'		
D	<112	2.2	N	MW01C	S 98	98'		
D	<112	1.8	N	MW01C	T 99	99'		
D	<112	1.1	N	MW01C	U 100	100'		
D	<112	1.5	N	MW01C	V 101	101		
D	<112	0.4	N	MW01C	W 102	102		
D	<112	1.11	N	MW01C	X 103	103		
D	<112	1.6	N	MW01C	Y 104	104		
D	<112	0.7	N	MW01C	Z 105	105		
	<112	1.3	N	MW01D	A 106	106		
	<112	0.6	N	MW01D	B 107	107		
					108			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier: MW01	Date: 5/23/19 5/24
Project Name: JRU 10	RP Number: 2RP-3179, 2RP-3464, 2RP-5243
LITHOLOGIC / SOIL BORING LOG	Logged By: BEN BELILL / Method:
Lat/Long: / Field Screening: CHLORIDES, TPH, BTEX, GRO, MRO, and DRO.	Hole Diameter: / Total Depth:

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<112	1.3	N	MW01D	C 72 108	108	CL	SAA
D	<112	0.3	N	MW01D	D 73 109	109		
D	<112	0.6	N	MW01D	E 74 110	110		
D	<112	0.6	N	MW01D	F 75 111	111		
D	<112	0.5	N	MW01D	G 76 112	112		
D	<112	3.5	N	MW01D	H 77 113	113		
D	<112	5.3	N	MW01D	I 78 114	114		
D	<112	1.3	N	MW01D	J 79	115		
D	<112	3.3	N	MW01D	K 80	116		
D	<112	2.9	N	MW01D	L 81	117		
D	<112	3.3	N	MW01D	M 82	118		
D	<112	4.8	N	MW01D	N 83	119		

5/24

84

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Carlsbad, New Mexico 88220
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Identifier	Date
MW01	5/29/19 - 6/3/19
Project Name: JRU 10	RP Number: 2RP-3404, 2RP-3464, 2RP-3179
Logged By: BEN BELILL	Method:
Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO	Hole Diameter: 6.15"
Lat/Long:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<112	3.8	N	MW01DO	120	120	CL	SAA
D	<112	3.1	N	MW01DP	121	121		
D	<112	1.2	N	MW01DQ	122	122		
D	<112	0.4	N	MW01DR	123	123		
D	<112	0.5	N	MW01DS	124	124		
D	<112	0.6	N	MW01DT	125	125		
D	<112	0.8	N	MW01DU	126	126		
D	<112	0.7	N	MW01DV	127	127		
D	<112	1.0	N	MW01DW	128	128		
D	<112	0.4	N	MW01DX	129	129		
D	<112	0.5	N	MW01DY	130	130		
D	<112	1.1	N	MW01DZ	131	131		
					132			

5/29
6/3
1540
1550

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
MW01	6/3/19 - 6/4/19
Project Name: JRU 10	RP Number: 2RP-3404, 2RP-3464, 2RP-3179
Logged By: BEN BELILL	Method:
Hole Diameter: 6.15"	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	<112	0.8	N	MW01E A	132	132	CL	SAA
D	<112	0.7	N	MW01E B	133	133		
D	<112	0.8	N	MW01E C	134	134		
D	<112	0.9	N	MW01E D	135	135		
D	<112	0.6	N	MW01E E	136	136		
1700 D	<112	0.7	N	MW01E F	137	137		
6/4 0900 D	<112	1.0	N	MW01E G	138	138	CL	CLAY w/ gravel, dry, lt brn/red, low plasticity, no odor.
0905 D	<112	0.9	N	MW01E H	139	139		
0960 D	<112	3.8	N	MW01E I	140	140	CL	~~CLAY~~ silty CLAY, brown/red, low plasticity, no odor
0915 D	<112	3.5	N	MW01E J	141	141		
0920 D	<112	3.1	N	MW01E K	142	142		
0925 D	<112	1.8	N	MW01E L	143	143		
					144			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier: MW01	Date: 6/4/19
Project Name: JRU 10	RP Number: 2RP-3404, 2RP-3464, 2RP-3179
Logged By: BEN BELILL	Method:
Lat/Long:	Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: 6.15"	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Comment: All Chloride test include a 60% error factor.

	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0930	D	<112	3.5	N	MW01E	M	144	CL	SAA
0935	D	<112	3.2	N	MW01E	N	145		
0940	D	<112	2.7	N	MW01E	O	146		
0945	D	<112	3.1	N	MW01E	P	147		
0950	D	<112	3.0	N	MW01E	Q	148		
0955	D	<112	1.8	N	MW01E	R	149		
1000	D	<112	1.5	N	MW01E	S	150		EOB@150'

ENSOLUM

APPENDIX B

Closure Request, February 5, 2019

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

February 5, 2019

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505

RE: Closure Request
James Ranch Unit 17 Battery
Remediation Permit Number 2RP-3919
Eddy County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing delineation soil sampling activities at the James Ranch Unit 17 Battery (Site) in Unit F, Section 6, Township 23 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling was to confirm impacted soil had been remediated after produced water was released into the area surrounding the processing equipment on the west side of the well pad.

On September 19, 2016, a buried water dump line from the heater treater to a produced water tank developed a hole due to corrosion. This caused 22 barrels (bbls) of produced water to be released onto the well pad and into the pasture west of the tank battery. The buried water dump line was isolated and clamped until repairs could be made, and the free-standing fluid was recovered with a vacuum truck. Approximately 15 bbls of produced water was recovered. The leak affected approximately 50 square feet of the pasture west of the tank battery and 2,600 square feet of the caliche well pad on location. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on September 28, 2016, and was assigned Remediation Permit (RP) Number 2RP-3919 (Attachment 1). The original C-141 incorrectly listed the latitude and longitude of the Site; it has been corrected to latitude 32.335180 and longitude -103.819280 on the final C-141, included as Attachment 1.

BACKGROUND

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on

August 14, 2018. The release is categorized as a Tier II site in the Compliance Agreement, meaning remediation of the release prior to August 14, 2018, the effective date of 19.15.29 NMAC. Based on the results of the confirmation soil sampling conducted, XTO is submitting this closure report and requesting no further action for this release event.

According to Section 12 of 19.15.29 NMAC, LTE applied Table 1, the *Closure Criteria for Soils Impacted by a Release*. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well with depth to groundwater data is C02492, located about 0.86 miles southeast of the Site, with a depth to groundwater of 125 feet bgs and a total depth of 400 feet bgs. The elevation of the water well is 17 feet lower than the Site. The Site is greater than 1,000 feet from a water source and greater than 200 feet from a private domestic water source. The closest surface water to the Site is a dry wash located approximately 0.94 miles southwest. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine.

Based on these criteria, the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 2,500 mg/kg total petroleum hydrocarbons (TPH); 1,000 mg/kg TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO); and 20,000 mg/kg chloride.

DELINEATION ACTIVITIES

On October 5 through October 8, 2018, LTE personnel were on site to analyze the lateral and vertical extent of impacted soil on the caliche pad in the release area via potholing using a hand auger (Figure 2). Soil sample locations were selected based on information provided on the initial Form C-141 and field observations. To direct delineation activities, the soil samples were screened for volatile aromatic hydrocarbons and chlorides using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. Two delineation soil samples were collected from each sample location (SS01 through SS05) between 1 foot bgs and 3 feet bgs. The soil samples were placed directly into pre-cleaned glass jars, labeled with the sample location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories, Inc. (Xenco) in Midland, Texas, for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0.

On November 1, 2018, LTE personnel returned to the Site to further investigate vertical and horizontal impacts to soil in the pasture northwest of the well pad via potholing using a hand auger. LTE screened soil samples from two potholes using a PID and Hach® chloride QuanTab®

test strips. Soil samples were collected from potholes PH01 and PH02 at both 1 foot bgs and 3 feet bgs (Figure 2). Laboratory analytical results indicated pothole soil samples from the well pad and surrounding pasture were compliant with the NMOCD benzene, BTEX, GRO/DRO, TPH, and chloride remediation action levels. Results are presented on Figure 2, and summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

ANALYTICAL RESULTS

Laboratory analytical results indicated all soil samples were compliant with the NMOCD site-specific remediation action level for benzene, total BTEX, TPH, GRO/DRO, and chloride. There were no detectable concentrations of BTEX or TPH in any of the soil samples. Chloride ranged from below the detection limit to 2,050 mg/kg in soil samples collected on the well pad and from below the detection limit to 206 mg/kg in soil samples collected in the pasture.

CONCLUSIONS

Laboratory analytical results for final confirmation soil samples indicate that BTEX, TPH, and chloride concentrations are compliant with NMOCD remediation action levels. XTO requests no further action for release number 2RP-3919. An updated NMOCD Form C-141 is included in Attachment 1. A photographic log of the Site is included as Attachment 3 and soil sampling logs are included as Attachment 4.

If you have any questions or comments, please do not hesitate to contact Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

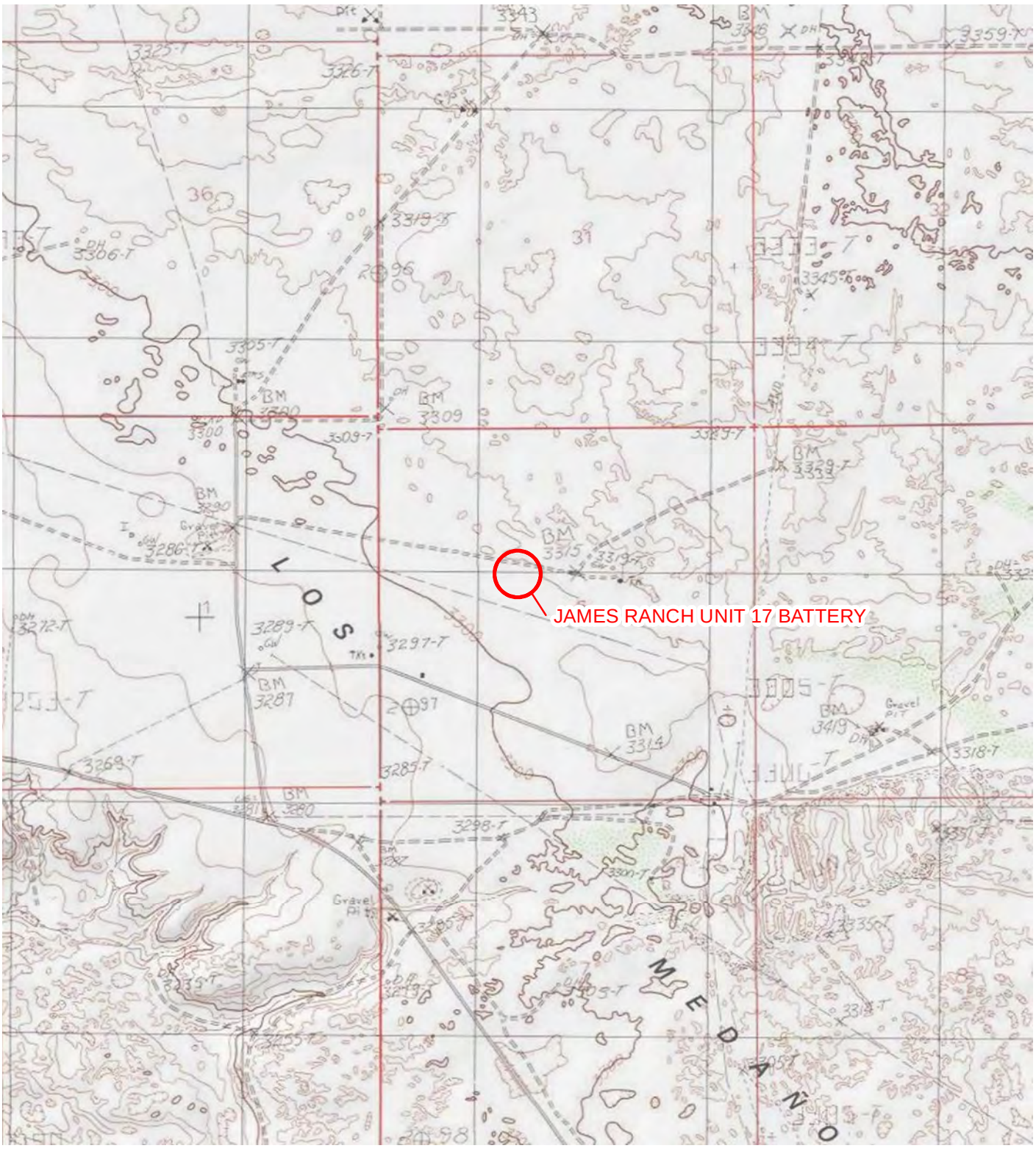
Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Jim Amos, BLM

Attachments:

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

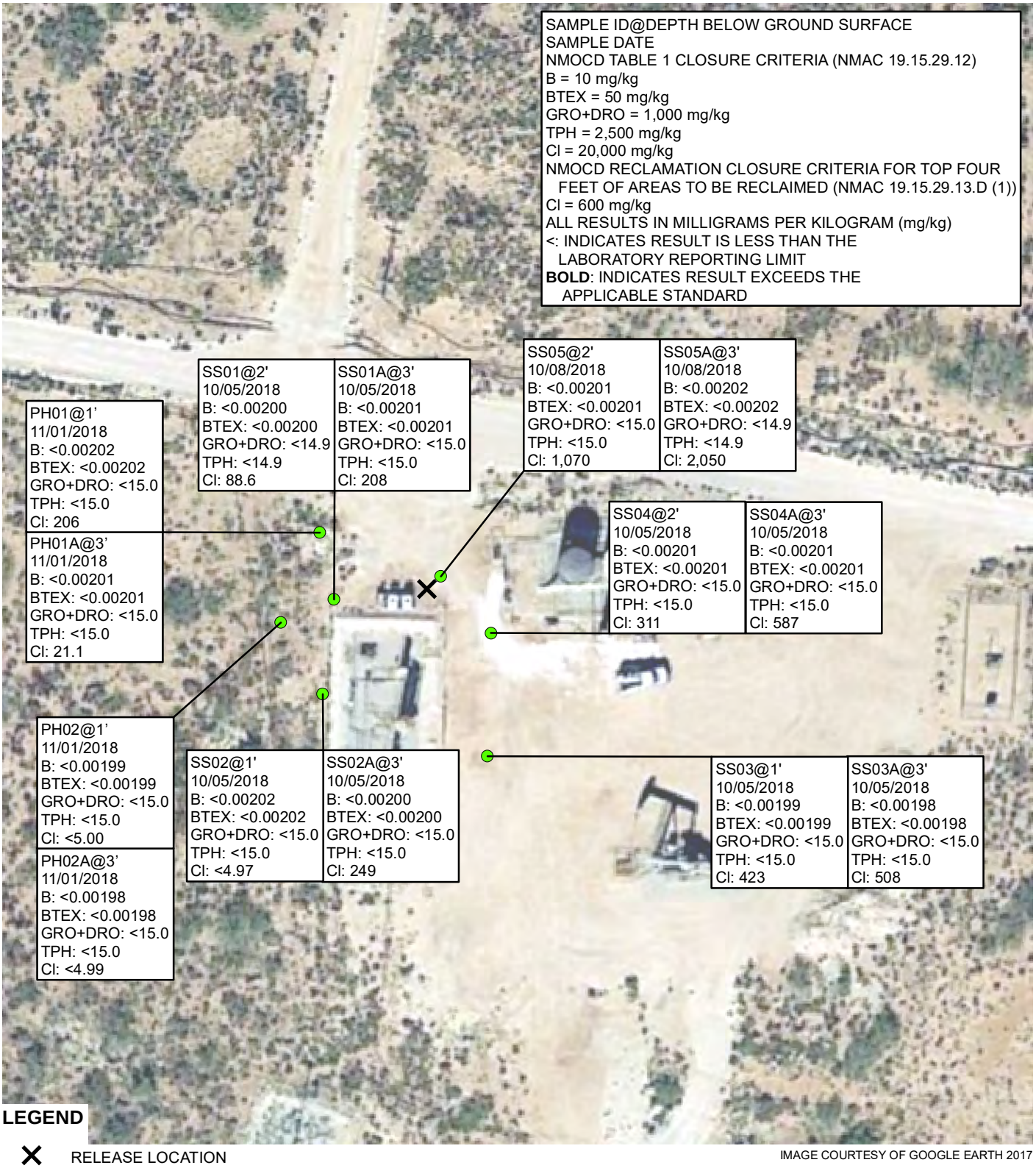
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-3919.

FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT 17 BATTERY
UNIT F SEC 6 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918011_JRU #17\012918011_FIG01_SL_2018_BATTERY_1657_2850_3919.mxd



LEGEND

✕ RELEASE LOCATION

● FINAL CONFIRMATION SOIL SAMPLE

IMAGE COURTESY OF GOOGLE EARTH 2017

0 60 120

Feet

N

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION

NOTE: REMEDIATION PERMIT NUMBER 2RP-3919

FIGURE 2
SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT 17 BATTERY
UNIT F SEC 6 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918011_JRU #17\012918011_FIG02_SITE_2018_3919.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

JAMES RANCH UNIT 17 BATTERY
REMEDIATION PERMIT NUMBER 2RP-3919
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	2	10/05/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	88.6
SS01A	3	10/05/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	208
SS02	1	10/05/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<4.97
SS02A	3	10/05/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	249
SS03	1	10/05/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	423
SS03A	3	10/05/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	508
SS04	2	10/05/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	311
SS04A	3	10/05/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	587
SS05	2	10/08/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	1,070
SS05A	3	10/08/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	<14.9	<14.9	<14.9	<14.9	2,050
PH01	1	11/01/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	206*
PH01A	3	11/01/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	21.1*
PH02	1	11/01/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00*
PH02A	3	11/01/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99*
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:
bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram
NE - not established
NMOCD - New Mexico Oil Conservation Division
DRO - diesel range organics
GRO - gasoline range organics
ORO - oil range organics
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory reporting limits
Bold - indicates result exceeds the applicable regulatory standard
* - indicates sample was collected in area to be reclaimed after remediation is complete; closure criteria for chloride concentrations in the top 4 feet of soil is 600 mg/kg
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
NMAC - New Mexico Administrative Code

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-3919)

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 28 2016
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1627451198 2RP-3737

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: James Ranch Unit 17 Battery	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-27784

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	6	23S	31E	1970	North	1930	West	Eddy

Latitude 32.235007° Longitude -103.819183°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 22 bbls	Volume Recovered: 15 bbls
Source of Release: Heater Treater water line	Date and Hour of Occurrence: 9/19/2016 time unknown	Date and Hour of Discovery: 9/19/2016 approx. 9 am
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Buried water dump line from heater treater to produced water tank developed hole due to corrosion. Line was isolated and clamped until repairs can be made.

Describe Area Affected and Cleanup Action Taken.*
The leak affected approximately 50 square feet of pasture west of the battery location and 2,600 square feet of caliche pad on location. Standing fluids were removed and impacted surface soils have been scraped and removed to disposal.

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: Amy C Ruth

Printed Name: Amy C. Ruth

Title: EHS Remediation Specialist

E-mail Address: ACRuth@basspet.com

Date: 9/28/2016 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Mike Bratcher

Approval Date: 9/29/16 Expiration Date: N/A

Conditions of Approval: Attached ☐
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 11/4/16

2RP-3919

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

Incident ID	
District RP	2RP-3919
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy, Inc.	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod St Suite 704 Carlsbad, NM 8820	

Location of Release Source

Latitude 32.335180 Longitude -103.819280
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit 17 Battery	Site Type Exploration and Production
Date Release Discovered 9/19/2016	API# *(if applicable)* 30-015-27784

Unit Letter	Section	Township	Range	County
F	6	23S	31E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* BLM)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 22	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A buried water dump line from heater treater to produced water tank developed a hole due to corrosion. The line was isolated and clamped until repairs can be made. The leak affected approximately 50 square feet of pasture west of the battery location and 2,600 square feet of caliche pad on location. Standing fluids were removed and impacted surface soils have been scraped and removed to disposal.

Incident ID	
District RP	2RP-3919
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 02/05/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Date:

Incident ID	
District RP	2RP-3919
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?	≥100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3919
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: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 02/05/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	**2RP-3919**
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

[X] A scaled site and sampling diagram as described in 19.15.29.11 NMAC

[X] Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

[X] Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

[X] Description of 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 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 02/05/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Date:

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Date:

Printed Name: Title:

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 601914

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU-17

17-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

17-OCT-18

Project Manager: **Adrian Baker**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **601914**
JRU-17
Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 601914. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 601914 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 601914

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10-05-18 09:20	2 ft	601914-001
SS01A	S	10-05-18 09:25	3 ft	601914-002
SS02	S	10-05-18 09:35	1 ft	601914-003
SS02A	S	10-05-18 09:45	3 ft	601914-004
SS03	S	10-05-18 09:50	1 ft	601914-005
SS03A	S	10-05-18 10:00	3 ft	601914-006
SS04	S	10-05-18 12:00	2 ft	601914-007
SS04A	S	10-05-18 12:05	3 ft	601914-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU-17

Project ID:
Work Order Number(s): *601914*

Report Date: *17-OCT-18*
Date Received: *10/10/2018*

Sample receipt non conformances and comments:

PER CLIENTS EMAIL REQUEST CORRECTED SAMPLE NAMES. JKR 10/15/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3066628 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 601914

LT Environmental, Inc., Arvada, CO

Project Name: JRU-17

Project Id:
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Oct-10-18 10:45 am
Report Date: 17-OCT-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	601914-001		601914-002		601914-003		601914-004		601914-005		601914-006	
	Field Id:	SS01		SS01A		SS02		SS02A		SS03		SS03A	
	Depth:	2- ft		3- ft		1- ft		3- ft		1- ft		3- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-05-18 09:20		Oct-05-18 09:25		Oct-05-18 09:35		Oct-05-18 09:45		Oct-05-18 09:50		Oct-05-18 10:00	
BTEX by EPA 8021B	***Extracted:***	Oct-15-18 16:45		Oct-15-18 16:45		Oct-15-18 16:45		Oct-15-18 16:45		Oct-15-18 16:45		Oct-15-18 16:45	
	Analyzed:	Oct-15-18 22:43		Oct-15-18 23:05		Oct-15-18 23:26		Oct-15-18 23:48		Oct-16-18 00:09		Oct-16-18 01:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
m,p-Xylenes		<0.00399	0.00399	<0.00402	0.00402	<0.00403	0.00403	<0.00401	0.00401	<0.00398	0.00398	<0.00397	0.00397
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Inorganic Anions by EPA 300	***Extracted:***	Oct-15-18 09:15		Oct-15-18 09:15		Oct-15-18 09:15		Oct-15-18 09:15		Oct-15-18 09:15		Oct-15-18 09:15	
	Analyzed:	Oct-15-18 17:05		Oct-15-18 17:10		Oct-15-18 17:16		Oct-15-18 17:39		Oct-15-18 17:22		Oct-15-18 17:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		88.6	4.96	208	4.95	<4.97	4.97	249	24.8	423	4.95	508	5.00
TPH by SW8015 Mod	***Extracted:***	Oct-12-18 17:00		Oct-12-18 17:00		Oct-12-18 17:00		Oct-12-18 17:00		Oct-12-18 17:00		Oct-12-18 17:00	
	Analyzed:	Oct-14-18 00:31		Oct-14-18 00:49		Oct-14-18 01:08		Oct-14-18 01:27		Oct-14-18 01:45		Oct-14-18 02:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 601914

LT Environmental, Inc., Arvada, CO

Project Name: JRU-17

Project Id:
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Oct-10-18 10:45 am
Report Date: 17-OCT-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	601914-007		601914-008					
	Field Id:	SS04		SS04A					
	Depth:	2- ft		3- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-05-18 12:00		Oct-05-18 12:05					
BTEX by EPA 8021B	***Extracted:***	Oct-15-18 16:45		Oct-15-18 16:45					
	Analyzed:	Oct-16-18 01:55		Oct-16-18 01:34					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00201	0.00201				
Toluene		<0.00201	0.00201	<0.00201	0.00201				
Ethylbenzene		<0.00201	0.00201	<0.00201	0.00201				
m,p-Xylenes		<0.00402	0.00402	<0.00402	0.00402				
o-Xylene		<0.00201	0.00201	<0.00201	0.00201				
Total Xylenes		<0.00201	0.00201	<0.00201	0.00201				
Total BTEX		<0.00201	0.00201	<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	Oct-15-18 09:15		Oct-15-18 09:15					
	Analyzed:	Oct-15-18 18:01		Oct-15-18 18:07					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		311	5.00	587	4.98				
TPH by SW8015 Mod	***Extracted:***	Oct-12-18 17:00		Oct-12-18 17:00					
	Analyzed:	Oct-14-18 02:23		Oct-14-18 02:42					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0				

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Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 601914

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-001	Date Collected:	10.05.18 09.20	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**88.6**	4.96	mg/kg	10.15.18 17.05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.14.18 00.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.14.18 00.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.14.18 00.31	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.14.18 00.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	10.14.18 00.31	
o-Terphenyl	84-15-1	88	%	70-135	10.14.18 00.31	

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LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-001	Date Collected:	10.05.18 09.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.18 22.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.18 22.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.18 22.43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.15.18 22.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.18 22.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.18 22.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.18 22.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	10.15.18 22.43	
1,4-Difluorobenzene	540-36-3	90	%	70-130	10.15.18 22.43	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-002	Date Collected:	10.05.18 09.25	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**208**	4.95	mg/kg	10.15.18 17.10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.14.18 00.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.14.18 00.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.14.18 00.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.14.18 00.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	10.14.18 00.49	
o-Terphenyl	84-15-1	90	%	70-135	10.14.18 00.49	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-002	Date Collected:	10.05.18 09.25	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.15.18 23.05	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.15.18 23.05	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.15.18 23.05	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.15.18 23.05	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.15.18 23.05	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.15.18 23.05	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.15.18 23.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.15.18 23.05	
1,4-Difluorobenzene	540-36-3	92	%	70-130	10.15.18 23.05	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-003	Date Collected:	10.05.18 09.35	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.15.18 17.16	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.14.18 01.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.14.18 01.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.14.18 01.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.14.18 01.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	10.14.18 01.08	
o-Terphenyl	84-15-1	95	%	70-135	10.14.18 01.08	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-003	Date Collected:	10.05.18 09.35	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.15.18 23.26	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.15.18 23.26	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.15.18 23.26	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.15.18 23.26	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.15.18 23.26	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.15.18 23.26	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.15.18 23.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	10.15.18 23.26	
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.15.18 23.26	

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Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-004	Date Collected:	10.05.18 09.45	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**249**	24.8	mg/kg	10.15.18 17.39		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.14.18 01.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.14.18 01.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.14.18 01.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.14.18 01.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	10.14.18 01.27	
o-Terphenyl	84-15-1	93	%	70-135	10.14.18 01.27	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SS02A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-004	Date Collected:	10.05.18 09.45	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.15.18 23.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.15.18 23.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.15.18 23.48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.15.18 23.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.15.18 23.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.15.18 23.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.15.18 23.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.15.18 23.48	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.15.18 23.48	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-005	Date Collected:	10.05.18 09.50	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**423**	4.95	mg/kg	10.15.18 17.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.14.18 01.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.14.18 01.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.14.18 01.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.14.18 01.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	10.14.18 01.45	
o-Terphenyl	84-15-1	84	%	70-135	10.14.18 01.45	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-005	Date Collected:	10.05.18 09.50	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.16.18 00.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.16.18 00.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.16.18 00.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.16.18 00.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.16.18 00.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.16.18 00.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.16.18 00.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.16.18 00.09	
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.16.18 00.09	

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Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-006	Date Collected:	10.05.18 10.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**508**	5.00	mg/kg	10.15.18 17.44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.14.18 02.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.14.18 02.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.14.18 02.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.14.18 02.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	10.14.18 02.04	
o-Terphenyl	84-15-1	87	%	70-135	10.14.18 02.04	

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Sample Id:	**SS03A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-006	Date Collected:	10.05.18 10.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.16.18 01.12	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.16.18 01.12	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.16.18 01.12	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.16.18 01.12	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.16.18 01.12	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.16.18 01.12	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.16.18 01.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.16.18 01.12	
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.16.18 01.12	

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Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-007	Date Collected:	10.05.18 12.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**311**	5.00	mg/kg	10.15.18 18.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.14.18 02.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.14.18 02.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.14.18 02.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.14.18 02.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	10.14.18 02.23	
o-Terphenyl	84-15-1	87	%	70-135	10.14.18 02.23	

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Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-007	Date Collected:	10.05.18 12.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.16.18 01.55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.16.18 01.55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.16.18 01.55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.16.18 01.55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.16.18 01.55	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.16.18 01.55	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.16.18 01.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.16.18 01.55	
1,4-Difluorobenzene	540-36-3	89	%	70-130	10.16.18 01.55	

Certificate of Analytical Results 601914

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-008	Date Collected:	10.05.18 12.05	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 09.15	Basis:	Wet Weight
Seq Number:	3066429				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**587**	4.98	mg/kg	10.15.18 18.07		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.14.18 02.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.14.18 02.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.14.18 02.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.14.18 02.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.14.18 02.42	
o-Terphenyl	84-15-1	100	%	70-135	10.14.18 02.42	

Certificate of Analytical Results 601914

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS04A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601914-008	Date Collected:	10.05.18 12.05	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 16.45	Basis:	Wet Weight
Seq Number:	3066628				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.16.18 01.34	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.16.18 01.34	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.16.18 01.34	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.16.18 01.34	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.16.18 01.34	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.16.18 01.34	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.16.18 01.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	10.16.18 01.34	
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.16.18 01.34	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 601914

LT Environmental, Inc.

JRU-17

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3066429 — Matrix: Solid — Date Prep: 10.15.18
MB Sample Id: 7664172-1-BLK — LCS Sample Id: 7664172-1-BKS — LCSD Sample Id: 7664172-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	250	100	90-110	1	20	mg/kg	10.15.18 15:51	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3066429 — Matrix: Soil — Date Prep: 10.15.18
Parent Sample Id: 601913-007 — MS Sample Id: 601913-007 S — MSD Sample Id: 601913-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	174	250	429	102	434	104	90-110	1	20	mg/kg	10.15.18 16:08	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3066429 — Matrix: Soil — Date Prep: 10.15.18
Parent Sample Id: 601914-005 — MS Sample Id: 601914-005 S — MSD Sample Id: 601914-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	423	248	684	105	661	96	90-110	3	20	mg/kg	10.15.18 17:27	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3066398 — Matrix: Solid — Date Prep: 10.12.18
MB Sample Id: 7664105-1-BLK — LCS Sample Id: 7664105-1-BKS — LCSD Sample Id: 7664105-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1010	101	1060	106	70-135	5	20	mg/kg	10.13.18 19:33	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1080	108	70-135	5	20	mg/kg	10.13.18 19:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		115		122		70-135	%	10.13.18 19:33
o-Terphenyl	95		106		104		70-135	%	10.13.18 19:33

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 601914

LT Environmental, Inc.

JRU-17

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3066398 | Matrix: Soil | Date Prep: 10.12.18
Parent Sample Id: 601912-001 | MS Sample Id: 601912-001 S | MSD Sample Id: 601912-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	13.8	999	913	90	916	90	70-135	0	20	mg/kg	10.13.18 20:29	
Diesel Range Organics (DRO)	<8.12	999	927	93	928	93	70-135	0	20	mg/kg	10.13.18 20:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		109		70-135	%	10.13.18 20:29
o-Terphenyl	97		95		70-135	%	10.13.18 20:29

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3066628 | Matrix: Solid | Date Prep: 10.15.18
MB Sample Id: 7664298-1-BLK | LCS Sample Id: 7664298-1-BKS | LCSD Sample Id: 7664298-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0925	93	0.114	113	70-130	21	35	mg/kg	10.15.18 18:49	
Toluene	<0.00201	0.100	0.0798	80	0.102	101	70-130	24	35	mg/kg	10.15.18 18:49	
Ethylbenzene	<0.00201	0.100	0.0929	93	0.108	107	70-130	15	35	mg/kg	10.15.18 18:49	
m,p-Xylenes	<0.00402	0.201	0.189	94	0.232	115	70-130	20	35	mg/kg	10.15.18 18:49	
o-Xylene	<0.00201	0.100	0.0926	93	0.120	119	70-130	26	35	mg/kg	10.15.18 18:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		73		88		70-130	%	10.15.18 18:49
4-Bromofluorobenzene	98		84		112		70-130	%	10.15.18 18:49

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3066628 | Matrix: Soil | Date Prep: 10.15.18
Parent Sample Id: 601915-005 | MS Sample Id: 601915-005 S | MSD Sample Id: 601915-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.104	104	0.0976	98	70-130	6	35	mg/kg	10.15.18 19:32	
Toluene	<0.00201	0.100	0.0883	88	0.0765	77	70-130	14	35	mg/kg	10.15.18 19:32	
Ethylbenzene	<0.00201	0.100	0.0954	95	0.0828	83	70-130	14	35	mg/kg	10.15.18 19:32	
m,p-Xylenes	<0.00402	0.201	0.190	95	0.162	81	70-130	16	35	mg/kg	10.15.18 19:32	
o-Xylene	<0.00201	0.100	0.0925	93	0.0798	80	70-130	15	35	mg/kg	10.15.18 19:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		86		70-130	%	10.15.18 19:32
4-Bromofluorobenzene	100		103		70-130	%	10.15.18 19:32

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

Chain of Custody

Work Order No: 601914

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

www.xenco.com Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	XTO
Address:	3300 'A' Street, Building 1, #103	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 704-5178	Email:	ABaker@LTenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	JRU-17	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-3919	Rush:	
Sampler's Name:	Fabian Urbano	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.1	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	0.0
Sample Custody Seals:	Yes No (N/A)	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX (only BTEX)	TPH (DRO)(GRO)(MRO)	Chloride (300.00)	Work Order Notes
SS01A	S	10/5/18	0920	2'	1	X	X	X	
SS01B	S	10/5/18	0925	3'	1	X	X	X	TAT starts the day recevied by the lab, if received by 4:30pm
SS05A	S	10/5/18	0935	1'	1	X	X	X	
SS05B	S	10/5/18	0945	3'	1	X	X	X	Sample Comments
SS02A	S	10/5/18	0950	1'	1	X	X	X	
SS02B	S	10/5/18	1000	3'	1	X	X	X	
SS06A	S	10/5/18	1200	2'	1	X	X	X	
SS06A	S	10/5/18	1205	3'	1	X	X	X	

10/5/18

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Chris Pinto	10/5/18 1710	2 Chris Pinto		10/10/18 1045
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

7724 7430 1501

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/10/2018 10:45:00 AM

Work Order #: 601914

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 10/10/2018

Checklist reviewed by: Jessica Kramer Date: 10/10/2018

Jessica Kramer

Analytical Report 601912

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU-17

17-OCT-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

17-OCT-18

Project Manager: **Adrian Baker**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **601912**
JRU-17
Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 601912. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 601912 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 601912

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS05	S	10-08-18 09:00	2 ft	601912-001
SS05A	S	10-08-18 09:05	3 ft	601912-002

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU-17

Project ID:
Work Order Number(s): *601912*

Report Date: *17-OCT-18*
Date Received: *10/10/2018*

Sample receipt non conformances and comments:

PER CLIENTS EMAIL REQUEST CORRECTED SAMPLE NAMES. JKR 10/15/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3066385 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 601912

LT Environmental, Inc., Arvada, CO

Project Name: JRU-17

Project Id:
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Oct-10-18 10:45 am
Report Date: 17-OCT-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	601912-001		601912-002					
	Field Id:	SS05		SS05A					
	Depth:	2- ft		3- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-08-18 09:00		Oct-08-18 09:05					
BTEX by EPA 8021B	***Extracted:***	Oct-15-18 08:00		Oct-15-18 08:00					
	Analyzed:	Oct-15-18 15:09		Oct-15-18 14:48					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00202	0.00202				
Toluene		<0.00201	0.00201	<0.00202	0.00202				
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202				
m,p-Xylenes		<0.00402	0.00402	<0.00403	0.00403				
o-Xylene		<0.00201	0.00201	<0.00202	0.00202				
Total Xylenes		<0.00201	0.00201	<0.00202	0.00202				
Total BTEX		<0.00201	0.00201	<0.00202	0.00202				
Inorganic Anions by EPA 300	***Extracted:***	Oct-15-18 08:30		Oct-15-18 08:30					
	Analyzed:	Oct-15-18 15:16		Oct-15-18 15:22					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		1070	24.9	2050	24.8				
TPH by SW8015 Mod	***Extracted:***	Oct-12-18 17:00		Oct-12-18 17:00					
	Analyzed:	Oct-13-18 20:10		Oct-13-18 21:06					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9				
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9				
Total TPH		<15.0	15.0	<14.9	14.9				

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 601912

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601912-001	Date Collected:	10.08.18 09.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 08.30	Basis:	Wet Weight
Seq Number:	3066404				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1070**	24.9	mg/kg	10.15.18 15.16		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.13.18 20.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.13.18 20.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.13.18 20.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.13.18 20.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.13.18 20.10	
o-Terphenyl	84-15-1	101	%	70-135	10.13.18 20.10	

Certificate of Analytical Results 601912

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601912-001	Date Collected:	10.08.18 09.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 08.00	Basis:	Wet Weight
Seq Number:	3066385				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.15.18 15.09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.15.18 15.09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.15.18 15.09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.15.18 15.09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.15.18 15.09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.15.18 15.09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.15.18 15.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	10.15.18 15.09	
1,4-Difluorobenzene	540-36-3	92	%	70-130	10.15.18 15.09	

Certificate of Analytical Results 601912

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS05A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601912-002	Date Collected:	10.08.18 09.05	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.15.18 08.30	Basis:	Wet Weight
Seq Number:	3066404				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2050**	24.8	mg/kg	10.15.18 15.22		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.12.18 17.00	Basis:	Wet Weight
Seq Number:	3066398				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.13.18 21.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.13.18 21.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.13.18 21.06	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.13.18 21.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	10.13.18 21.06	
o-Terphenyl	84-15-1	95	%	70-135	10.13.18 21.06	

Certificate of Analytical Results 601912

LT Environmental, Inc., Arvada, CO

JRU-17

Sample Id:	**SS05A**	Matrix:	Soil	Date Received:	10.10.18 10.45
Lab Sample Id:	601912-002	Date Collected:	10.08.18 09.05	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.15.18 08.00	Basis:	Wet Weight
Seq Number:	3066385				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.15.18 14.48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.15.18 14.48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.15.18 14.48	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.15.18 14.48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.15.18 14.48	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.15.18 14.48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.15.18 14.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	10.15.18 14.48	
4-Bromofluorobenzene	460-00-4	88	%	70-130	10.15.18 14.48	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 601912

LT Environmental, Inc.

JRU-17

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3066404 Matrix: Solid Date Prep: 10.15.18
MB Sample Id: 7664168-1-BLK LCS Sample Id: 7664168-1-BKS LCSD Sample Id: 7664168-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	258	103	90-110	3	20	mg/kg	10.15.18 12:43	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3066404 Matrix: Soil Date Prep: 10.15.18
Parent Sample Id: 601605-018 MS Sample Id: 601605-018 S MSD Sample Id: 601605-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.855	249	244	98	251	101	90-110	3	20	mg/kg	10.15.18 13:00	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3066404 Matrix: Soil Date Prep: 10.15.18
Parent Sample Id: 601606-006 MS Sample Id: 601606-006 S MSD Sample Id: 601606-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	553	248	796	98	777	90	90-110	2	20	mg/kg	10.15.18 14:20	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3066398 Matrix: Solid Date Prep: 10.12.18
MB Sample Id: 7664105-1-BLK LCS Sample Id: 7664105-1-BKS LCSD Sample Id: 7664105-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1010	101	1060	106	70-135	5	20	mg/kg	10.13.18 19:33	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1080	108	70-135	5	20	mg/kg	10.13.18 19:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		115		122		70-135	%	10.13.18 19:33
o-Terphenyl	95		106		104		70-135	%	10.13.18 19:33

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 601912

LT Environmental, Inc.

JRU-17

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3066398 | Matrix: Soil | Date Prep: 10.12.18
Parent Sample Id: 601912-001 | MS Sample Id: 601912-001 S | MSD Sample Id: 601912-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	13.8	999	913	90	916	90	70-135	0	20	mg/kg	10.13.18 20:29	
Diesel Range Organics (DRO)	<8.12	999	927	93	928	93	70-135	0	20	mg/kg	10.13.18 20:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		109		70-135	%	10.13.18 20:29
o-Terphenyl	97		95		70-135	%	10.13.18 20:29

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3066385 | Matrix: Solid | Date Prep: 10.15.18
MB Sample Id: 7664177-1-BLK | LCS Sample Id: 7664177-1-BKS | LCSD Sample Id: 7664177-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.125	125	0.116	116	70-130	7	35	mg/kg	10.15.18 07:53	
Toluene	<0.00200	0.0998	0.108	108	0.103	103	70-130	5	35	mg/kg	10.15.18 07:53	
Ethylbenzene	<0.00200	0.0998	0.123	123	0.115	115	70-130	7	35	mg/kg	10.15.18 07:53	
m,p-Xylenes	<0.00399	0.200	0.231	116	0.236	117	70-130	2	35	mg/kg	10.15.18 07:53	
o-Xylene	<0.00200	0.0998	0.122	122	0.114	114	70-130	7	35	mg/kg	10.15.18 07:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		93		84		70-130	%	10.15.18 07:53
4-Bromofluorobenzene	101		109		94		70-130	%	10.15.18 07:53

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3066385 | Matrix: Soil | Date Prep: 10.15.18
Parent Sample Id: 601718-001 | MS Sample Id: 601718-001 S | MSD Sample Id: 601718-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0931	93	0.101	100	70-130	8	35	mg/kg	10.15.18 08:35	
Toluene	<0.00200	0.100	0.0958	96	0.0912	90	70-130	5	35	mg/kg	10.15.18 08:35	
Ethylbenzene	<0.00200	0.100	0.112	112	0.102	101	70-130	9	35	mg/kg	10.15.18 08:35	
m,p-Xylenes	<0.00401	0.200	0.236	118	0.207	103	70-130	13	35	mg/kg	10.15.18 08:35	
o-Xylene	<0.00200	0.100	0.109	109	0.0995	99	70-130	9	35	mg/kg	10.15.18 08:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	120		81		70-130	%	10.15.18 08:35
4-Bromofluorobenzene	96		97		70-130	%	10.15.18 08:35

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

XENCO LABORATORIES

Chain of Custody

Work Order No: 601912

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

www.xenco.com Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	XTO
Address:	3300 'A' Street, Building 1, #103	Address:	
City, State ZIP:	~~El P~~ Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 704-5178	Email:	ABaker@LTENV.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	JRU-17	Turn Around	
Project Number:		Routine	☑
P.O. Number:	2RP-3919	Rush:	
Sampler's Name:	Fabian Uribarri	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):		Thermometer ID		
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX (any BTEX)	TPH (ORO)(GRO)(MRO)	Chlorides (300.00)	Work Order Notes
SS07	S	10/8/18	0900	2'	1	X	X	X	
SS07A	S	10/8/18	0905	3'	1	X	X	X	TAT starts the day recevied by the lab, if received by 4:30pm
									Sample Comments

10/8/18

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10/8/18 1513	2		~~10/8/18~~	~~10/8/18 15:36~~
3				4			10/10/18 1045
5				6			

Revised Date 051418 Rev. 2018.1

7734243015 90

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/10/2018 10:45:00 AM

Work Order #: 601912

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 10/10/2018

Checklist reviewed by: Jessica Kramer Date: 10/10/2018

Jessica Kramer

Analytical Report 604417

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 17 Battery

12-NOV-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

12-NOV-18

Project Manager: **Adrian Baker**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **604417**
JRU 17 Battery
Project Address: Carlsbad, NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 604417. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 604417 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	11-01-18 11:30	1 ft	604417-001
PH01A	S	11-01-18 11:35	3 ft	604417-002
PH02	S	11-01-18 12:10	1 ft	604417-003
PH02A	S	11-01-18 12:20	3 ft	604417-004

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 17 Battery

Project ID:
Work Order Number(s): *604417*

Report Date: *12-NOV-18*
Date Received: *11/05/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3069313 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 604417

LT Environmental, Inc., Arvada, CO

Project Name: JRU 17 Battery

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Mon Nov-05-18 09:00 am
Report Date: 12-NOV-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	604417-001		604417-002		604417-003		604417-004					
	Field Id:	PH01		PH01A		PH02		PH02A					
	Depth:	1- ft		3- ft		1- ft		3- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Nov-01-18 11:30		Nov-01-18 11:35		Nov-01-18 12:10		Nov-01-18 12:20					
BTEX by EPA 8021B	***Extracted:***	Nov-09-18 16:30		Nov-09-18 16:30		Nov-09-18 16:30		Nov-09-18 16:30					
	Analyzed:	Nov-09-18 21:57		Nov-10-18 02:37		Nov-10-18 02:58		Nov-10-18 03:19					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198				
Toluene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198				
Ethylbenzene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198				
m,p-Xylenes		<0.00403	0.00403	<0.00402	0.00402	<0.00398	0.00398	<0.00397	0.00397				
o-Xylene		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198				
Total Xylenes		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198				
Total BTEX		<0.00202	0.00202	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198				
Inorganic Anions by EPA 300	***Extracted:***	Nov-06-18 16:30		Nov-06-18 16:30		Nov-06-18 16:30		Nov-06-18 16:30					
	Analyzed:	Nov-06-18 23:18		Nov-06-18 23:39		Nov-06-18 23:55		Nov-06-18 23:33					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		206	5.00	21.1	4.95	<5.00	5.00	<4.99	4.99				
TPH by SW8015 Mod	***Extracted:***	Nov-05-18 14:00		Nov-05-18 14:00		Nov-05-18 14:00		Nov-05-18 14:00					
	Analyzed:	Nov-05-18 23:09		Nov-06-18 00:04		Nov-06-18 10:56		Nov-06-18 00:41					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-001	Date Collected:	11.01.18 11.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.06.18 16.30	Basis:	Wet Weight
Seq Number:	3068881				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**206**	5.00	mg/kg	11.06.18 23.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	11.05.18 14.00	Basis:	Wet Weight
Seq Number:	3068702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	11.05.18 23.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	11.05.18 23.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	11.05.18 23.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	11.05.18 23.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	11.05.18 23.09	
o-Terphenyl	84-15-1	91	%	70-135	11.05.18 23.09	

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-001	Date Collected:	11.01.18 11.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.09.18 16.30	Basis:	Wet Weight
Seq Number:	3069313				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.09.18 21.57	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.09.18 21.57	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.09.18 21.57	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.09.18 21.57	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.09.18 21.57	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.09.18 21.57	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.09.18 21.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	11.09.18 21.57	
4-Bromofluorobenzene	460-00-4	70	%	70-130	11.09.18 21.57	

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-002	Date Collected:	11.01.18 11.35	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.06.18 16.30	Basis:	Wet Weight
Seq Number:	3068881				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.1**	4.95	mg/kg	11.06.18 23.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	11.05.18 14.00	Basis:	Wet Weight
Seq Number:	3068702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	11.06.18 00.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	11.06.18 00.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	11.06.18 00.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	11.06.18 00.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	11.06.18 00.04	
o-Terphenyl	84-15-1	89	%	70-135	11.06.18 00.04	

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-002	Date Collected:	11.01.18 11.35	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.09.18 16.30	Basis:	Wet Weight
Seq Number:	3069313				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.10.18 02.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.10.18 02.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.10.18 02.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.10.18 02.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.10.18 02.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.10.18 02.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.10.18 02.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	72	%	70-130	11.10.18 02.37	
1,4-Difluorobenzene	540-36-3	120	%	70-130	11.10.18 02.37	

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-003	Date Collected:	11.01.18 12.10	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.06.18 16.30	Basis:	Wet Weight
Seq Number:	3068881				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	11.06.18 23.55	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	11.05.18 14.00	Basis:	Wet Weight
Seq Number:	3068702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	11.06.18 10.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	11.06.18 10.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	11.06.18 10.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	11.06.18 10.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	11.06.18 10.56	
o-Terphenyl	84-15-1	88	%	70-135	11.06.18 10.56	

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-003	Date Collected:	11.01.18 12.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.09.18 16.30	Basis:	Wet Weight
Seq Number:	3069313				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.10.18 02.58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.10.18 02.58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.10.18 02.58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.10.18 02.58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.10.18 02.58	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.10.18 02.58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.10.18 02.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	70	%	70-130	11.10.18 02.58	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.10.18 02.58	

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-004	Date Collected:	11.01.18 12.20	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.06.18 16.30	Basis:	Wet Weight
Seq Number:	3068881				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	11.06.18 23.33	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	11.05.18 14.00	Basis:	Wet Weight
Seq Number:	3068702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	11.06.18 00.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	11.06.18 00.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	11.06.18 00.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	11.06.18 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	11.06.18 00.41	
o-Terphenyl	84-15-1	93	%	70-135	11.06.18 00.41	

Certificate of Analytical Results 604417

LT Environmental, Inc., Arvada, CO

JRU 17 Battery

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	11.05.18 09.00
Lab Sample Id:	604417-004	Date Collected:	11.01.18 12.20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.09.18 16.30	Basis:	Wet Weight
Seq Number:	3069313				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.10.18 03.19	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.10.18 03.19	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.10.18 03.19	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.10.18 03.19	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.10.18 03.19	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.10.18 03.19	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.10.18 03.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	74	%	70-130	11.10.18 03.19	
1,4-Difluorobenzene	540-36-3	107	%	70-130	11.10.18 03.19	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 604417

LT Environmental, Inc.

JRU 17 Battery

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068881 Matrix: Solid Date Prep: 11.06.18
MB Sample Id: 7665613-1-BLK LCS Sample Id: 7665613-1-BKS LCSD Sample Id: 7665613-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	270	108	90-110	5	20	mg/kg	11.06.18 21:53	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068881 Matrix: Soil Date Prep: 11.06.18
Parent Sample Id: 604417-001 MS Sample Id: 604417-001 S MSD Sample Id: 604417-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	206	250	460	102	440	94	90-110	4	20	mg/kg	11.06.18 23:23	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068881 Matrix: Soil Date Prep: 11.06.18
Parent Sample Id: 604540-013 MS Sample Id: 604540-013 S MSD Sample Id: 604540-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	240	97	245	99	90-110	2	20	mg/kg	11.06.18 22:09	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3068702 Matrix: Solid Date Prep: 11.05.18
MB Sample Id: 7665528-1-BLK LCS Sample Id: 7665528-1-BKS LCSD Sample Id: 7665528-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1070	107	1080	108	70-135	1	20	mg/kg	11.05.18 20:23	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1050	105	70-135	0	20	mg/kg	11.05.18 20:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		128		129		70-135	%	11.05.18 20:23
o-Terphenyl	101		103		101		70-135	%	11.05.18 20:23

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 604417

LT Environmental, Inc.

JRU 17 Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3068702 | Matrix: Soil | Date Prep: 11.05.18
Parent Sample Id: 604416-021 | MS Sample Id: 604416-021 S | MSD Sample Id: 604416-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	1680	999	899	0	933	0	70-135	4	20	mg/kg	11.05.18 21:18	X
Diesel Range Organics (DRO)	31000	999	993	0	1040	0	70-135	5	20	mg/kg	11.05.18 21:18	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		117		70-135	%	11.05.18 21:18
o-Terphenyl	99		97		70-135	%	11.05.18 21:18

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3069313 | Matrix: Solid | Date Prep: 11.09.18
MB Sample Id: 7665977-1-BLK | LCS Sample Id: 7665977-1-BKS | LCSD Sample Id: 7665977-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.104	103	70-130	2	35	mg/kg	11.09.18 19:47	
Toluene	<0.00200	0.100	0.0854	85	0.0877	87	70-130	3	35	mg/kg	11.09.18 19:47	
Ethylbenzene	<0.00200	0.100	0.107	107	0.109	108	70-130	2	35	mg/kg	11.09.18 19:47	
m,p-Xylenes	<0.00102	0.200	0.223	112	0.225	112	70-130	1	35	mg/kg	11.09.18 19:47	
o-Xylene	<0.00200	0.100	0.118	118	0.120	119	70-130	2	35	mg/kg	11.09.18 19:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		103		101		70-130	%	11.09.18 19:47
4-Bromofluorobenzene	70		89		87		70-130	%	11.09.18 19:47

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3069313 | Matrix: Soil | Date Prep: 11.09.18
Parent Sample Id: 604417-001 | MS Sample Id: 604417-001 S | MSD Sample Id: 604417-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0945	95	0.0858	85	70-130	10	35	mg/kg	11.09.18 20:30	
Toluene	<0.00198	0.0992	0.0779	79	0.0716	71	70-130	8	35	mg/kg	11.09.18 20:30	
Ethylbenzene	<0.00198	0.0992	0.0917	92	0.0824	82	70-130	11	35	mg/kg	11.09.18 20:30	
m,p-Xylenes	<0.00101	0.198	0.183	92	0.164	81	70-130	11	35	mg/kg	11.09.18 20:30	
o-Xylene	<0.00198	0.0992	0.0958	97	0.0851	84	70-130	12	35	mg/kg	11.09.18 20:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		106		70-130	%	11.09.18 20:30
4-Bromofluorobenzene	81		76		70-130	%	11.09.18 20:30

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 Of 1

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Xenco Quote #

Xenco Job # 604417

Client / Reporting Information	
Company Name / Branch:	LT Environmental, Inc. Permian Office
Company Address:	3300 N "A" St. Building 1 Unit 103 Midland, TX 79705
Email:	abaker@ltenv.com
Phone No:	(432) 704-5178
Project Contact:	Adrian Baker
Samplers's Name	Ben Belill

Project Information	
Project Name/Number:	ORV 17 Battery
Project Location:	Carlsbad, NM
Invoice To:	XTO-Energy Kyle Littrell
PO Number:	2RP-3919

No.	Field ID / Point of Collection	Sample Depth	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX (only BTEX) 8021	TPH (DRO, GRO, MRO) 8015	Chloride (300.00)									Field Comments
1	PH01	1'	11/1/18	1130	S	1								X	X	X	X									Discrete Type
2	PH01A	3'	↓	1135	↓	↓								X	X	X	X									↓
3	PH02	1'	↓	1210	↓	↓								X	X	X	X									↓
4	PH02A	3'	↓	1220	↓	↓								X	X	X	X									↓
5																										
6																										
7																										
8																										
9																										
10																										

BJB 11/1/18

Matrix Codes: W = Water, S = Soil/Sed/Solid, GW = Ground Water, DW = Drinking Water, P = Product, SW = Surface water, SL = Sludge, OW = Ocean/Sea Water, WI = Wipe, O = Oil, WW = Waste Water, A = Air

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☒ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 B.J. Belill	11/1/18 @ 14:25	1 Timothy P. Elliott	2 [signature]	11/1/18 15:30	2 [signature] 11/3 0900
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 0.2 / 0.8 Thermo. Corr. Factor 0.0

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/05/2018 09:00:00 AM

Work Order #: 604417

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 11/05/2018

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 11/05/2018

Jessica Kramer

ATTACHMENT 3: PHOTOGRAPHIC LOG

View northwest of release area and processing equipment.

Project: 012918011	XTO Energy, Inc. James Ranch Unit 17 Battery	LTE Advancing Opportunity
October 29, 2018	Photographic Log	

View southeast from the pasture of flow lines and processing equipment.

Project: 012918011	XTO Energy, Inc. James Ranch Unit 17 Battery	LTE Advancing Opportunity
October 29, 2018	Photographic Log	

ATTACHMENT 4: SOIL SAMPLE LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: 5501	Date: 10/4/18
Project Name: JRU 17	RP Number: 2RP-1657

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FABIAN URIBARRI	Method: HAND AUGER
Lat/Long: 32.33532, -103.819432	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: 3 1/4"	Total Depth: 2'

Comments: CHL Field screens include 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	112	5.4	Y	5501 @.5'	0	.5'	GP	GRAVEL 1/8" Pea gravel, Berm fill, 20% sand M.-F. grain, grayish brown, medium odor, staining visible moist
M	112	62.3	Y	5501A @1.5'	1	1.5'	GP	SAND
M	112	3.4	NY FU	5501B @2'	2	2'	SPSM	moist, reddish Brown/gray, poorly graded sand M.-F. grain, light/medium odor, staining visible. (trace silt
					3			EOB @ 2'
					4			Total Depth: 2' Feet Bgs.
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: SS02	Date: 10/4/18
Project Name: JRU 17	RP Number: 2RP-1657

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FABIAN URIBARRI	Method: HAND AUGER
Lat/Long: 32.33532, -103.819432	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: 3 1/4"	Total Depth: 2'

Comments: All chloride test results include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			GRAVEL (PGA)
M	<112	5.0	Y	SS02 @ .5'		0.5'	GP	1/8" pea gravel, Berm Fill, 20% Sand M.-F. grain, grayish/Brown color, Heavy odor, Fu staining visible
M	<112	115.2	Y	SS02A @ 1'	1	1'		moist
								SAND
M	<112	4.7	Y	SS02B @ 2'	2	2'	SP	Moist reddish/Brown poorly graded sand, M.-F grain, Heavy odor staining visible
			Fu					~~EOB @ 2'~~
					3			Total Depth: 2 Feet Bgs.
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier: SS03	Date: 10/4/18
Project Name: JRU 17	RP Number: 2RP-1657

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FABIAN URIBARRI	Method: HAND AUGER
Lat/Long: 32.33532, -103.819432	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: 3 1/4"	Total Depth: 2'

Comments: All chloride test results include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			GRAVEL (PEA)
M	<112	4.7	Y	SS03 @.5'		0.5'		1/8" pea gravel; Berm fill, Moist, 20% sand M.- F grain, grayish Brown color, Medium odor, light staining
M	<112	3.6	Y	SS03A @1'	1	1'	GP-[redacted]	
								SAND
M	<112	1.5	N	SS03B @2' FW	2	2'	SP-SM	Moist, reddish Brown, poorly graded sand, M.- F grain, trace silt, No stain, light odor
					3			EOP @ 2'
					4			Total Depth: 2 feet Bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier: SS04	Date: 10/4/18
Project Name: JRU 17	RP Number: 2RP-1657

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FABIAN URIBARRI	Method: HAND AUGER
Lat/Long: 32.33532, -103.819432	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: 3 1/4"	Total Depth: 2'

Comments: All chloride test results include a 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			GRAVEL (PEA)
M	<112	3.6	Y	SS04 @ .5'		0.5'		3/4" pea gravel, Berm Fill, 20% sand M.-F grain, grayish Brown, ~~medium~~ Heavy odor, staining visible
					1		GP-GM	~~moist~~ Wet
M	<112	860.1	Y	SS04A @ 1.5'		1.5'		Black staining visible, Heavy odor
								SAND
M	<112	843.3	Y	SS04B @ 2'	2	2'	SP-SM	wet, Black/grey, poorly graded sand, trace gravel, Heavy odor Heavy stain
					3			~~EOB @ 2'~~
					4			Total Depth: 2 Feet Bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
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Carlsbad, New Mexico 88220
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Identifier: SS05	Date: 10/4/18
Project Name: JRU 17	RP Number: 2RP-1657

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FABIAN URIBARRI	Method: HAND AUGER

Lat/Long: 32.33532, -103.819432	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.	Hole Diameter: 3 1/4"	Total Depth: 2'

Comments: All chloride test results include a 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			GRAVEL (PEA)
M	<112	6.9	Y	SS05 @.5'		0.5'		1/8" pea gravel, Berm fill, 20% sand M.-F grain, trace silt. gray, moist,
M	<112	875.1	Y	SS05A @1'	1	1'	GP-GM	Dark gray staining visible SAND
M	<112	17.9	Y	SS05B @2'	2	2'	SP-SM	moist, grayish brown, poorly graded sand, M.-F. grain, trace silt light staining, heavy odor
			FH		3			EOB @ 2'
					4			Total Depth: 2 feet Bgs.
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Carlsbad, New Mexico 88220
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Identifier: SS03	Date: ~~11/1/18~~ 10/5/2018
Project Name: JRU 17	RP Number: 2RP-3919

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.33534, -103.819734	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.	Logged By: ~~BEN BELIL~~ Fabian Urbani	Method: HAND AUGER
		Hole Diameter: 3 1/4"	Total Depth: 31

Comments: All CHL results include a 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	512	22.5	N	SS03 A @ 1'	0	0-1'	~~Caliche~~ FU CALICHE	Compact, Dry, light brown, - coarse grained sand and cobbles, Fill, Dense
					1			No stain / No odor
					2		SP-SM	Sand, loose, Brownish red, fine grained, trace clay (10%)
M	620.8	16.1 FU	N	SS03 B @ 3'	3	3'		No stain / No odor
					4			Total Depth: 3 feet Bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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25 YEARS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

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Identifier: SS01	Date: ~~11/1/18~~ 10/8/2018
Project Name: JRU 17	RP Number: 2RP-3919

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: ~~BEN BELILE~~ Fabian Urbano	Method: HAND AUGER
Hole Diameter: 3 1/4"	Total Depth: 3'

Lat/Long: 32.33534, -103.819734
Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.

Comments: All CHL results include a 60% error Factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	N/A	N/A	N		0		Fu ~~Caliche~~	Sand (loose) / Dry, Brownish/red, fine grained, trace silt
					1		SP-SM	No stain / No odor
M	<112	5.2	N	SS01 A @ 2'	2	2'		Sand / Moist, light brownish/red, fine grained,
							SPSC	trace ~~Silt~~ Fu Clay (5%)
M	162	9.7	N	SS01 B @ 3'	3	3'		No stain / No odor
					4			Total Depth: 3 Feet Bgs.
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier: SS02	Date: ~~11/1/18~~ 10/5/2018
Project Name: JRU 17	RP Number: 2RP-3919

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: ~~BEN DELILL~~ Fabian Urbarri	Method: HAND AUGER
Lat/Long: 32.33534, -103.819734 — Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.	Hole Diameter: 3 1/4" — Total Depth: 3'

Comments: All CHL results include a 60% error Factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<112	17.8	N	SS02 A @ 1'	0		Fu ~~Caliche~~	loose Sand, light reddish/Brown, fine grained, trace silt (5%) No stain / No odor
					1	1'	SP-SM	
M	N/A	N/A	N		2		SP-SC	Loose sand, moist, reddish/Brown, fine grained, trace clay 5%
M	332.8	27.2	N	SS02 B @ 3'	3	3'		No stain No odor
					4			Total Depth: 3 Feet Bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier:	Date: ~~11/1/18~~
SS04	10/5/2018
Project Name: JRU 17	RP Number: 2RP-3919

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: ~~BEN BELILL~~ Fabian Urtuarri	Method: HAND AUGER
Lat/Long: 32.33534, -103.819734	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: 3 1/4"	Total Depth: 3'

Comments: All CHL results include a 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
							CALICHE	CALICHE
D	N/A	N/A	N		0		~~Caliche~~ CALICHE	Dense, compact, Dry light Brown, - coarse grained sand and cobbles; Fill
					1			No stain, No odor
M	263	4.5	N	SS04A @ 2'	2	2'	SP-SM	loose Sand, Brownish red, fine grained, trace clay (5%)
M	285	4.1	N	SS04B @ 3'	3	3'		No stain / No odor
					4			Total Depth: 3 feet Bgs.
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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Identifier: SS05	Date: ~~4/4/18~~ 10/5/2018
Project Name: JRU 17	RP Number: 2RP-3919

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: ~~BEN BELILL~~ Fabian Urbani	Method: HAND AUGER
Hole Diameter: 3 1/4"	Total Depth: 3'

Lat/Long: 32.33534, -103.819734
Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.

Comments: All chl results include a 60% error Factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
							CALICHE	
D	N/A	N/A	N		0		Fill ~~Caliche~~ CALICHE	Very dense, compact, Dry, light brown – coarse grained sand and cobbles, fill, dense
					1			No Stain / No odor
M	1376	2.4	N	SS05A @ 2'	2	2'	SP-SM	Sand, loose, Brownish/red, fine grained, trace clay (5%)
								No stain /no odor
M	3392	2.8	N	SS05B @ 3'	3	3'		
					4			Total Depth: 3 feet Bgs.
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH01	Date: 11/1/18
Project Name: JRU 17	RP Number: 2RP-3919

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Ben Belill	Method: HAND AUGER
Lat/Long: 32.33534, -103.819734 — Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO.	Hole Diameter: 4" — Total Depth: 3'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	<112	0.1	N	PH01	0–1	1'	(SP-SM)	Moist, brown-red, m.-f. poorly graded SAND, trace silt, no odor, trace roots.
	<112	0.4	N	PH01A	2–3	3'		
					4–12			↑ EOB @ 3'

LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation	Identifier: PH02	Date: 11/1/18
	Project Name: JRU 17	RP Number: 2RP-3919
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ben Belill	Method: HAND AUGER
Lat/Long: 32.33534, -103.819734	Field Screening: CHLORIDE, TPH, BTEX, GRO, DRO, and MRO	Hole Diameter: 4" / Total Depth: 3'
Comments:		

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M					0		(SP-SM)	Moist, brown-red, m.-f. poorly graded SAND, trace silt, trace roots, no odor
	<112	0.2	N	PH02	1	1'		
					2			
	<112	0.0	N	PH02A	3	3'		
								EOB @ 3'
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

ENSOLUM

APPENDIX B

Lithologic/Soil Sampling Log (2024)

ENSOLUM

	Sample Name: SS06	Date: 1/31/2024
	Site Name: JRU 17 Battery	
	Incident Number: nAB1627451198	
	Job Number: 03C1558226	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hydro-vac
Coordinates:	Hole Diameter: 10"	Total Depth: 3' bgs.

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. +40% correction factor included for all chloride sceenings.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	CALICHE, pad material, tan.
D	<168	0.0	N	SS06	0.5	1	SP	SAND, red, very fine, with silt, some low plasticity clay. No HC stain or odor.
M	<168	0.0	N	SS06	2	2		
M	<168	0.0	N	SS06	3	3		

Total Depth @ 3 feet bgs.

ENSOLUM

APPENDIX C

Photographic Log (2024)

ENSOLUM

Photographic Log
XTO Energy, Inc
James Ranch Unit 17
NAB1627451198

Photograph 1 Date: 01/22/2024
Description: SS05 sampling area and new piping
View: Southeast

Photograph 2 Date: 01/22/2024
Description: SS05 sampling area and new piping
View: Northwest

Photograph 3 Date: 01/31/2024
Description: SS06 sampling location
View: East

Photograph 4 Date: 01/31/2024
Description: Backfilled SS06 sampling location
View: East

ENSOLUM

APPENDIX D

Laboratory Analytical Reports and Chain of Custody Documentation (2024)

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/6/2024 2:48:11 PM

JOB DESCRIPTION

JRU 17 BATTERY
03C1558226

JOB NUMBER

890-6013-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

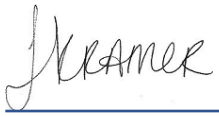
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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2/6/2024 2:48:11 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: JRU 17 BATTERY

Laboratory Job ID: 890-6013-1
SDG: 03C1558226

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: JRU 17 BATTERY

Job ID: 890-6013-1

Job ID: 890-6013-1 Eurofins Carlsbad

Job Narrative
890-6013-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 1/22/2024 1:46 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-6013-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-72060 and analytical batch 880-72197 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-72197 recovered under the lower control limit for Benzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were ran within 12 hours of passing CCV; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-38486-A-2-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS06 (890-6013-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Client Sample ID: SS06

Date Collected: 01/22/24 12:15
Date Received: 01/22/24 13:46
Sample Depth: 0.5

Lab Sample ID: 890-6013-1

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/31/24 14:09	02/03/24 00:25	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/31/24 14:09	02/03/24 00:25	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/31/24 14:09	02/03/24 00:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/31/24 14:09	02/03/24 00:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/31/24 14:09	02/03/24 00:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/31/24 14:09	02/03/24 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*01/31/24 14:09*	*02/03/24 00:25*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*01/31/24 14:09*	*02/03/24 00:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/03/24 00:25	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**79.0**		50.4		mg/Kg			02/02/24 01:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)	<50.4	U	50.4		mg/Kg		01/29/24 11:41	02/02/24 01:47	1
Diesel Range Organics (Over C10-C28)	**79.0**		50.4		mg/Kg		01/29/24 11:41	02/02/24 01:47	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		01/29/24 11:41	02/02/24 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*57*	*S1-*	*70 - 130*	*01/29/24 11:41*	*02/02/24 01:47*	*1*
1-Chlorooctane	*54*	*S1-*	*70 - 130*	*01/29/24 11:41*	*02/02/24 01:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**52.7**		4.99		mg/Kg			01/29/24 04:12	1

Surrogate Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-38486-A-2-C MS	Matrix Spike	115	93
880-38486-A-2-D MSD	Matrix Spike Duplicate	233 S1+	129
890-6013-1	SS06	110	101
LCS 880-72060/1-A	Lab Control Sample	112	94
LCSD 880-72060/2-A	Lab Control Sample Dup	114	93
MB 880-72060/5-A	Method Blank	110	108

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	OTPH1 (70-130)	1CO1 (70-130)
880-38487-A-1-I MS	Matrix Spike	99	101
880-38487-A-1-J MSD	Matrix Spike Duplicate	108	109
890-6013-1	SS06	57 S1-	54 S1-
LCS 870-17629/1-A	Lab Control Sample	94	99
LCSD 870-17629/2-A	Lab Control Sample Dup	90	96
MB 870-17629/3-A	Method Blank	96	92

Surrogate Legend

OTPH = o-Terphenyl
1CO = 1-Chlorooctane

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-72060/5-A
Matrix: Solid
Analysis Batch: 72197

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72060

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/31/24 14:09	02/02/24 16:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/31/24 14:09	02/02/24 16:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/31/24 14:09	02/02/24 16:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/31/24 14:09	02/02/24 16:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/31/24 14:09	02/02/24 16:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/31/24 14:09	02/02/24 16:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*01/31/24 14:09*	*02/02/24 16:40*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*01/31/24 14:09*	*02/02/24 16:40*	*1*

Lab Sample ID: LCS 880-72060/1-A
Matrix: Solid
Analysis Batch: 72197

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72060

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08384		mg/Kg		84	70 - 130		
Toluene			0.100	0.08772		mg/Kg		88	70 - 130		
Ethylbenzene			0.100	0.09472		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.1609		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.08406		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 880-72060/2-A
Matrix: Solid
Analysis Batch: 72197

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72060

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08735		mg/Kg		87	70 - 130	4	35
Toluene			0.100	0.09318		mg/Kg		93	70 - 130	6	35
Ethylbenzene			0.100	0.1149		mg/Kg		115	70 - 130	19	35
m-Xylene & p-Xylene			0.200	0.1856		mg/Kg		93	70 - 130	14	35
o-Xylene			0.100	0.08348		mg/Kg		83	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-38486-A-2-C MS
Matrix: Solid
Analysis Batch: 72197

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 72060

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U F1 F2	0.0996	0.06222	F1	mg/Kg		62	70 - 130		
Toluene	<0.00199	U F1	0.0996	0.06767	F1	mg/Kg		68	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
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Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-38486-A-2-C MS
Matrix: Solid
Analysis Batch: 72197

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 72060

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0996	0.08010		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.199	0.1506		mg/Kg		76	70 - 130
o-Xylene	<0.00199	U F1 F2	0.0996	0.07395		mg/Kg		74	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-38486-A-2-D MSD
Matrix: Solid
Analysis Batch: 72197

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 72060

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.0990	0.1140	F2	mg/Kg		115	70 - 130	59	35
Toluene	<0.00199	U F1	0.0990	0.07298		mg/Kg		74	70 - 130	8	35
Ethylbenzene	<0.00199	U	0.0990	0.09438		mg/Kg		95	70 - 130	16	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.198	0.3115	F1 F2	mg/Kg		157	70 - 130	70	35
o-Xylene	<0.00199	U F1 F2	0.0990	0.1636	F1 F2	mg/Kg		165	70 - 130	75	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*233*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*129*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 870-17629/3-A
Matrix: Solid
Analysis Batch: 17633

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 17629

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)	<49.6	U	49.6	mg/Kg		01/29/24 11:41	02/01/24 17:50	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		01/29/24 11:41	02/01/24 17:50	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		01/29/24 11:41	02/01/24 17:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*96*		*70 - 130*	*01/29/24 11:41*	*02/01/24 17:50*	*1*
1-Chlorooctane	*92*		*70 - 130*	*01/29/24 11:41*	*02/01/24 17:50*	*1*

Lab Sample ID: LCS 870-17629/1-A
Matrix: Solid
Analysis Batch: 17633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17629

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)	1010	711.5		mg/Kg		71	70 - 130
Diesel Range Organics (Over C10-C28)	1000	782.9		mg/Kg		78	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
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Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 870-17629/1-A
Matrix: Solid
Analysis Batch: 17633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 17629

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	94		70 - 130
1-Chlorooctane	99		70 - 130

Lab Sample ID: LCSD 870-17629/2-A
Matrix: Solid
Analysis Batch: 17633

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 17629

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)			1020	763.5		mg/Kg		75	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1010	768.4		mg/Kg		76	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	90		70 - 130
1-Chlorooctane	96		70 - 130

Lab Sample ID: 880-38487-A-1-I MS
Matrix: Solid
Analysis Batch: 17633

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 17629

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)	<49.9	U	1010	780.9		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	876.3		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
o-Terphenyl	99		70 - 130
1-Chlorooctane	101		70 - 130

Lab Sample ID: 880-38487-A-1-J MSD
Matrix: Solid
Analysis Batch: 17633

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 17629

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)	<49.9	U	1010	813.2		mg/Kg		80	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	961.4		mg/Kg		96	70 - 130	9	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	108		70 - 130
1-Chlorooctane	109		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-71577/1-A
Matrix: Solid
Analysis Batch: 71737

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/29/24 01:55	1

Lab Sample ID: LCS 880-71577/2-A
Matrix: Solid
Analysis Batch: 71737

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	273.5		mg/Kg		109	90 - 110		

Lab Sample ID: LCSD 880-71577/3-A
Matrix: Solid
Analysis Batch: 71737

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	272.7		mg/Kg		109	90 - 110	0	20

Lab Sample ID: 890-6008-A-2-B MS
Matrix: Solid
Analysis Batch: 71737

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	328		251	577.2		mg/Kg		100	90 - 110		

Lab Sample ID: 890-6008-A-2-C MSD
Matrix: Solid
Analysis Batch: 71737

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	328		251	577.7		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

GC VOA

Prep Batch: 72060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Total/NA	Solid	5035	
MB 880-72060/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-72060/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-72060/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-38486-A-2-C MS	Matrix Spike	Total/NA	Solid	5035	
880-38486-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 72197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Total/NA	Solid	8021B	72060
MB 880-72060/5-A	Method Blank	Total/NA	Solid	8021B	72060
LCS 880-72060/1-A	Lab Control Sample	Total/NA	Solid	8021B	72060
LCSD 880-72060/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	72060
880-38486-A-2-C MS	Matrix Spike	Total/NA	Solid	8021B	72060
880-38486-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	72060

Analysis Batch: 72416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 17629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Total/NA	Solid	8015NM Prep	
MB 870-17629/3-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 870-17629/1-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 870-17629/2-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-38487-A-1-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-38487-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 17633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Total/NA	Solid	8015B NM	17629
MB 870-17629/3-A	Method Blank	Total/NA	Solid	8015B NM	17629
LCS 870-17629/1-A	Lab Control Sample	Total/NA	Solid	8015B NM	17629
LCSD 870-17629/2-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	17629
880-38487-A-1-I MS	Matrix Spike	Total/NA	Solid	8015B NM	17629
880-38487-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	17629

Analysis Batch: 17757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 71577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Soluble	Solid	DI Leach	
MB 880-71577/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-71577/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-71577/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

HPLC/IC (Continued)

Leach Batch: 71577 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6008-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6008-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 71737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6013-1	SS06	Soluble	Solid	300.0	71577
MB 880-71577/1-A	Method Blank	Soluble	Solid	300.0	71577
LCS 880-71577/2-A	Lab Control Sample	Soluble	Solid	300.0	71577
LCSD 880-71577/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	71577
890-6008-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	71577
890-6008-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	71577

Lab Chronicle

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Client Sample ID: SS06

Date Collected: 01/22/24 12:15
Date Received: 01/22/24 13:46

Lab Sample ID: 890-6013-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	72060	01/31/24 14:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72197	02/03/24 00:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72416	02/03/24 00:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			17757	02/02/24 01:47	CC	EET DAL
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	17629	01/29/24 11:41	WP	EET DAL
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	17633	02/02/24 01:47	WP	EET DAL
Soluble	Leach	DI Leach			5.01 g	50 mL	71577	01/25/24 10:14	SA	EET MID
Soluble	Analysis	300.0		1			71737	01/29/24 04:12	CH	EET MID

Laboratory References:

EET DAL = Eurofins Dallas, 9701 Harry Hines Blvd, Dallas, TX 75220, TEL (214)902-0300

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Laboratory: Eurofins Dallas

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704295-23-34	06-30-24

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET DAL
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET DAL
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET DAL
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET DAL = Eurofins Dallas, 9701 Harry Hines Blvd, Dallas, TX 75220, TEL (214)902-0300

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6013-1
SDG: 03C1558226

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6013-1	SS06	Solid	01/22/24 12:15	01/22/24 13:46	0.5

Loc: 890
6013

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

890-6013 Chain of Custody

6013 www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	JRU 17 Battery	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558226	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TNM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	0
Total Containers:		Corrected Temperature:	-0.2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
SS06	S	1/22/24	12:15	.5	G	1		1	1	1

CW

Preservative Codes
None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments
Incident ID: nAB1627451198
Cost Center: 1080921001
AFE: EW.2019.03168.EXP.01

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	2		2		
3	4		4		
5	6		6		

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Phone: 432-704-5440

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 880-9074.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-6013-1
Address: 9701 Harry Hines Blvd, ,	Due Date Requested: 1/26/2024			
City: Dallas	TAT Requested (days):			
State, Zip: TX, 75220				
Phone: 214-902-0300(Tel)	PO #:			
Email:	WO #:			
Project Name: JRU 17 BATTERY	Project #: 89000093			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_Calc	8015MOD_NM/8015NM_S_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SS06 (890-6013-1)	1/22/24	12:15 Mountain		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: FedEx	Date/Time: 2/1/24 1025	Company	Received by: FedEx	Date/Time: 2/1/24 1025	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6013-1
SDG Number: 03C1558226

Login Number: 6013
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6013-1
SDG Number: 03C1558226

Login Number: 6013
List Number: 3
Creator: Dabinett, Ian

List Source: Eurofins Dallas
List Creation: 02/01/24 12:48 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6013-1
SDG Number: 03C1558226

Login Number: 6013
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/23/24 12:33 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/13/2024 12:21:41 PM

JOB DESCRIPTION

JRU 17 BATTERY
03C1558226

JOB NUMBER

890-6080-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

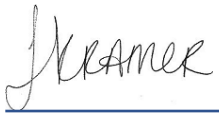
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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2/13/2024 12:21:41 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: JRU 17 BATTERY

Laboratory Job ID: 890-6080-1
SDG: 03C1558226

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: JRU 17 BATTERY

Job ID: 890-6080-1

Job ID: 890-6080-1 Eurofins Carlsbad

Job Narrative
890-6080-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/31/2024 1:15 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS 06 A (890-6080-1) and SS 06 B (890-6080-2).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SS 06 A (890-6080-1) and (890-6078-A-1-F). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-6078-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-72465 and analytical batch 880-72794 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-6080-A-1-C MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Client Sample ID: SS 06 A

Date Collected: 01/31/24 09:15
Date Received: 01/31/24 13:15
Sample Depth: 2'

Lab Sample ID: 890-6080-1
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/11/24 13:26	02/12/24 21:37	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/11/24 13:26	02/12/24 21:37	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/11/24 13:26	02/12/24 21:37	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/11/24 13:26	02/12/24 21:37	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/11/24 13:26	02/12/24 21:37	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/11/24 13:26	02/12/24 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*148*	*S1+*	*70 - 130*	*02/11/24 13:26*	*02/12/24 21:37*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*02/11/24 13:26*	*02/12/24 21:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/12/24 21:37	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5		mg/Kg			02/10/24 19:55	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		02/06/24 10:41	02/10/24 19:55	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		02/06/24 10:41	02/10/24 19:55	1
OII Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		02/06/24 10:41	02/10/24 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*02/06/24 10:41*	*02/10/24 19:55*	*1*
o-Terphenyl	*76*		*70 - 130*	*02/06/24 10:41*	*02/10/24 19:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**218**		4.95		mg/Kg			02/05/24 13:55	1

Client Sample ID: SS 06 B

Date Collected: 01/31/24 09:20
Date Received: 01/31/24 13:15
Sample Depth: 3'

Lab Sample ID: 890-6080-2
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 22:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 22:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 22:03	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/11/24 13:26	02/12/24 22:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 22:03	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/11/24 13:26	02/12/24 22:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*02/11/24 13:26*	*02/12/24 22:03*	*1*

Client Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Client Sample ID: SS 06 B

Date Collected: 01/31/24 09:20
Date Received: 01/31/24 13:15
Sample Depth: 3'

Lab Sample ID: 890-6080-2

Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*02/11/24 13:26*	*02/12/24 22:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/12/24 22:03	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			02/10/24 21:02	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		02/06/24 10:41	02/10/24 21:02	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		02/06/24 10:41	02/10/24 21:02	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		02/06/24 10:41	02/10/24 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*02/06/24 10:41*	*02/10/24 21:02*	*1*
o-Terphenyl	*83*		*70 - 130*	*02/06/24 10:41*	*02/10/24 21:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**334**		4.95		mg/Kg			02/05/24 14:02	1

Surrogate Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-6078-A-1-D MS	Matrix Spike	107	79
890-6078-A-1-E MSD	Matrix Spike Duplicate	132 S1+	105
890-6080-1	SS 06 A	148 S1+	104
890-6080-2	SS 06 B	112	101
LCS 880-72819/1-A	Lab Control Sample	124	82
LCSD 880-72819/2-A	Lab Control Sample Dup	128	77
MB 880-72819/5-A	Method Blank	84	109

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-6080-1	SS 06 A	90	76
890-6080-1 MS	SS 06 A	93	69 S1-
890-6080-1 MSD	SS 06 A	103	72
890-6080-2	SS 06 B	102	83
LCS 880-72465/2-A	Lab Control Sample	106	103
LCSD 880-72465/3-A	Lab Control Sample Dup	105	105
MB 880-72465/1-A	Method Blank	156 S1+	129

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-72819/5-A
Matrix: Solid
Analysis Batch: 72833

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72819

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 11:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 11:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 11:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/11/24 13:26	02/12/24 11:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/11/24 13:26	02/12/24 11:49	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/11/24 13:26	02/12/24 11:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*02/11/24 13:26*	*02/12/24 11:49*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*02/11/24 13:26*	*02/12/24 11:49*	*1*

Lab Sample ID: LCS 880-72819/1-A
Matrix: Solid
Analysis Batch: 72833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72819

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09323		mg/Kg		93	70 - 130		
Toluene			0.100	0.1125		mg/Kg		113	70 - 130		
Ethylbenzene			0.100	0.1134		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2559		mg/Kg		128	70 - 130		
o-Xylene			0.100	0.1187		mg/Kg		119	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*

Lab Sample ID: LCSD 880-72819/2-A
Matrix: Solid
Analysis Batch: 72833

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72819

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08552		mg/Kg		86	70 - 130	9	35
Toluene			0.100	0.09515		mg/Kg		95	70 - 130	17	35
Ethylbenzene			0.100	0.1075		mg/Kg		108	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2537		mg/Kg		127	70 - 130	1	35
o-Xylene			0.100	0.1023		mg/Kg		102	70 - 130	15	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*

Lab Sample ID: 890-6078-A-1-D MS
Matrix: Solid
Analysis Batch: 72833

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 72819

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.09774		mg/Kg		98	70 - 130		
Toluene	<0.00200	U	0.0996	0.09090		mg/Kg		91	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-6078-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 72833 — **Prep Batch: 72819**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.08805		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00401	U F2 F1	0.199	0.2238		mg/Kg		112	70 - 130
o-Xylene	<0.00200	U	0.0996	0.09037		mg/Kg		91	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*

Lab Sample ID: 890-6078-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 72833 — **Prep Batch: 72819**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0990	0.09057		mg/Kg		91	70 - 130	8	35
Toluene	<0.00200	U	0.0990	0.09825		mg/Kg		99	70 - 130	8	35
Ethylbenzene	<0.00200	U	0.0990	0.09332		mg/Kg		94	70 - 130	6	35
m-Xylene & p-Xylene	<0.00401	U F2 F1	0.198	0.2400		mg/Kg		121	70 - 130	7	35
o-Xylene	<0.00200	U	0.0990	0.1040		mg/Kg		105	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-72465/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 72794 — **Prep Batch: 72465**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/06/24 10:41	02/10/24 18:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/06/24 10:41	02/10/24 18:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/06/24 10:41	02/10/24 18:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*156*	*S1+*	*70 - 130*	*02/06/24 10:41*	*02/10/24 18:47*	*1*
o-Terphenyl	*129*		*70 - 130*	*02/06/24 10:41*	*02/10/24 18:47*	*1*

Lab Sample ID: LCS 880-72465/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 72794 — **Prep Batch: 72465**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	952.7		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)			1000	978.5		mg/Kg		98	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-72465/2-A
Matrix: Solid
Analysis Batch: 72794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72465

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-72465/3-A
Matrix: Solid
Analysis Batch: 72794

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72465

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	951.9		mg/Kg		95	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	962.2		mg/Kg		96	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 890-6080-1 MS
Matrix: Solid
Analysis Batch: 72794

Client Sample ID: SS 06 A
Prep Type: Total/NA
Prep Batch: 72465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	1000	1012		mg/Kg		101	70 - 130
Diesel Range Organics (Over C10-C28)	<49.5	U	1000	923.5		mg/Kg		92	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	69	S1-	70 - 130

Lab Sample ID: 890-6080-1 MSD
Matrix: Solid
Analysis Batch: 72794

Client Sample ID: SS 06 A
Prep Type: Total/NA
Prep Batch: 72465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	1000	1121		mg/Kg		112	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<49.5	U	1000	1002		mg/Kg		100	70 - 130	8	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	72		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72130/1-A
Matrix: Solid
Analysis Batch: 72328

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/05/24 12:34	1

Lab Sample ID: LCS 880-72130/2-A
Matrix: Solid
Analysis Batch: 72328

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	245.4		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-72130/3-A
Matrix: Solid
Analysis Batch: 72328

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	243.4		mg/Kg		97	90 - 110	1	20

Lab Sample ID: 890-6075-A-6-B MS
Matrix: Solid
Analysis Batch: 72328

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	345		252	575.9		mg/Kg		92	90 - 110		

Lab Sample ID: 890-6075-A-6-C MSD
Matrix: Solid
Analysis Batch: 72328

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	345		252	575.9		mg/Kg		92	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

GC VOA

Prep Batch: 72819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Total/NA	Solid	5035	
890-6080-2	SS 06 B	Total/NA	Solid	5035	
MB 880-72819/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-72819/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-72819/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-6078-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-6078-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 72833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Total/NA	Solid	8021B	72819
890-6080-2	SS 06 B	Total/NA	Solid	8021B	72819
MB 880-72819/5-A	Method Blank	Total/NA	Solid	8021B	72819
LCS 880-72819/1-A	Lab Control Sample	Total/NA	Solid	8021B	72819
LCSD 880-72819/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	72819
890-6078-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	72819
890-6078-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	72819

Analysis Batch: 73049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Total/NA	Solid	Total BTEX	
890-6080-2	SS 06 B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 72465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Total/NA	Solid	8015NM Prep	
890-6080-2	SS 06 B	Total/NA	Solid	8015NM Prep	
MB 880-72465/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72465/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72465/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6080-1 MS	SS 06 A	Total/NA	Solid	8015NM Prep	
890-6080-1 MSD	SS 06 A	Total/NA	Solid	8015NM Prep	

Analysis Batch: 72794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Total/NA	Solid	8015B NM	72465
890-6080-2	SS 06 B	Total/NA	Solid	8015B NM	72465
MB 880-72465/1-A	Method Blank	Total/NA	Solid	8015B NM	72465
LCS 880-72465/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72465
LCSD 880-72465/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72465
890-6080-1 MS	SS 06 A	Total/NA	Solid	8015B NM	72465
890-6080-1 MSD	SS 06 A	Total/NA	Solid	8015B NM	72465

Analysis Batch: 72960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Total/NA	Solid	8015 NM	
890-6080-2	SS 06 B	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

HPLC/IC

Leach Batch: 72130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Soluble	Solid	DI Leach	
890-6080-2	SS 06 B	Soluble	Solid	DI Leach	
MB 880-72130/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72130/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72130/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6075-A-6-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6075-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 72328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6080-1	SS 06 A	Soluble	Solid	300.0	72130
890-6080-2	SS 06 B	Soluble	Solid	300.0	72130
MB 880-72130/1-A	Method Blank	Soluble	Solid	300.0	72130
LCS 880-72130/2-A	Lab Control Sample	Soluble	Solid	300.0	72130
LCSD 880-72130/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72130
890-6075-A-6-B MS	Matrix Spike	Soluble	Solid	300.0	72130
890-6075-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	72130

Lab Chronicle

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Client Sample ID: SS 06 A
Date Collected: 01/31/24 09:15
Date Received: 01/31/24 13:15

Lab Sample ID: 890-6080-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	72819	02/11/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72833	02/12/24 21:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73049	02/12/24 21:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			72960	02/10/24 19:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	72465	02/06/24 10:41	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72794	02/10/24 19:55	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	72130	02/01/24 11:22	SMC	EET MID
Soluble	Analysis	300.0		1			72328	02/05/24 13:55	CH	EET MID

Client Sample ID: SS 06 B
Date Collected: 01/31/24 09:20
Date Received: 01/31/24 13:15

Lab Sample ID: 890-6080-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	72819	02/11/24 13:26	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72833	02/12/24 22:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73049	02/12/24 22:03	SM	EET MID
Total/NA	Analysis	8015 NM		1			72960	02/10/24 21:02	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72465	02/06/24 10:41	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72794	02/10/24 21:02	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	72130	02/01/24 11:22	SMC	EET MID
Soluble	Analysis	300.0		1			72328	02/05/24 14:02	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: JRU 17 BATTERY

Job ID: 890-6080-1
SDG: 03C1558226

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6080-1	SS 06 A	Solid	01/31/24 09:15	01/31/24 13:15	2'
890-6080-2	SS 06 B	Solid	01/31/24 09:20	01/31/24 13:15	3'

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: 6080

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad NM 88220
Phone:	303 887 2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	JRU 17 Battery	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558226	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TNM001
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.8
Total Containers:		Corrected Temperature:	2.6

Pres. Code

ANALYSIS REQUEST

Preservative Codes
None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: Chlorides (EPA 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS06A	S	1/31/24	915	2'	G	1	✓	✓	✓	ID: nAB1627451198
SS06B	S	1/31/24	920	3'	G	1	✓	✓	✓	Cost Center 1080921001
									CV	AFE EW.2019.03168.EXP.01

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			4		
3			6		
5					

1/31/24 1345

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6080-1
SDG Number: 03C1558226

Login Number: 6080
List Number: 1
Creator: Bruns, Shannon

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6080-1
SDG Number: 03C1558226

Login Number: 6080
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/01/24 11:02 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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

QUESTIONS

Action 476280

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1627451198**
Incident Name	**NAB1627451198 JAMES RANCH UNIT #017 @ 30-015-27784**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-27784] JAMES RANCH UNIT #017**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	JAMES RANCH UNIT #017
Date Release Discovered	09/19/2016
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Corrosion | Treating Tower | Produced Water | Released: 22 BBL | Recovered: 15 BBL | Lost: 7 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 06/18/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 1000 (ft.) and ½ (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission		Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.		
Have the lateral and vertical extents of contamination been fully delineated		Yes
Was this release entirely contained within a lined containment area		No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride	(EPA 300.0 or SM4500 Cl B)	2050
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	79
GRO+DRO	(EPA SW-846 Method 8015M)	79
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
On what estimated date will the remediation commence		10/05/2018
On what date will (or did) the final sampling or liner inspection occur		01/31/2024
On what date will (or was) the remediation complete(d)		01/31/2024
What is the estimated surface area (in square feet) that will be reclaimed		2650
What is the estimated volume (in cubic yards) that will be reclaimed		370
What is the estimated surface area (in square feet) that will be remediated		2650
What is the estimated volume (in cubic yards) that will be remediated		0
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)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

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.)	No
(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)	Yes
Other Non-listed Remedial Process. Please specify	No impacted soil identified
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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 06/18/2025
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)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**308025**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**01/31/2024**
What was the (estimated) number of samples that were to be gathered	**2**
What was the sampling surface area in square feet	**400**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	2650
What was the total volume (cubic yards) remediated	0
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	150
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	"Soil sampling activities were completed at the Site to assess for the presence or absence of impacts to soil resulting from the September 19, 2016, produced water release. Based on soil sample laboratory analytical results compliant with the Closure Criteria on-pad and the reclamation requirement in samples collected from the top four feet of the pasture area, no further remediation was required. Following the soil sampling activities conducted in 2024, approximately 2,500 square feet of waste-containing soil were delineated within the top 4 feet of soil at sample location SS05. Following Site decommissioning, an estimated 370 cubic yards of waste-containing soil will be reclaimed. The presence of the waste-containing soil present on-pad does not cause an imminent risk to human health, the environment, or groundwater. XTO will reclaim this soil reporting COC concentrations exceeding the reclamation requirement but below Closure Criteria during final Site reclamation. "
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.	

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 06/18/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 476280
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	6/24/2025