Received by OCD: 10/30/2019 5:53:58 PM

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

October 30, 2019

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Revised Remediation Work Plan – SVE System
James Ranch Unit #10 Battery
Remediation Permit Numbers 2RP-3179, 2RP-3464, and 2RP-5243
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), is pleased to present the New Mexico Oil Conservation Division (NMOCD) with this Revised Remediation Work Plan (Work Plan) for the James Ranch Unit #10 Battery (Site). The Site is located in Unit H, Section 1, Township 23 South, Range 30 East, in Eddy County, New Mexico (Figure 1).

This Work Plan summarizes the release history, assessment, and remediation activities completed to date and the proposed remedial actions, specifically the installation and operation of a soil vapor extraction (SVE) system, to address residual subsurface soil impacts at the Site. The Work Plan is submitted to comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018 and Bureau of Land Management (BLM) requirements for no further actions related to these releases. The Work Plan addresses comments from the NMOCD to conduct active remediation of subsurface hydrocarbon impacts.

BACKGROUND

Of the three open Remediation Permits (RPs) at the Site, two of the RPs (2RP-3179 and 2RP-3464) occurred while the facility was operated by the previous operator; however, XTO is the current operator and is committed to addressing any releases that remain unresolved. The releases were reported to NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) and were assigned RP Numbers, which are included as Attachment 1.

Since the three releases occurred in the tank battery containment area, excavation and sampling activities were completed to address the three releases concurrently. RP Numbers 2RP-3179 and 2RP-3464 are included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and NMOCD, effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with 19.15.29 NMAC. The

releases are categorized as a Tier III sites in the Compliance Agreement, meaning remediation of the releases began prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing.

Spill response activities at the Site included excavation of impacted soil from February through April of 2019. Following initial excavation activities, LTE drilled into the subsurface with a hollow stem auger drilling rig to depths ranging from approximately 10 feet to 80 feet below ground surface (bgs) to vertically delineate subsurface soil impacts. Based on results from the drilling event, a production tank was relocated, and additional excavation was conducted. A liner was proposed in a Proposed Remediation Work Plan, dated April 12, 2019, and subsequently installed to address impacts to soil not removed by excavation. The Proposed Remediation Work Plan was denied with comments from NMOCD and BLM concerning depth to groundwater, additional delineation, and active remediation of mobile petroleum hydrocarbons in the subsurface. As a result, LTE submitted a Revised Remediation Work Plan, dated June 28, 2019. The Revised Remediation Work Plan summarized additional delineation by sonic drill rig, confirmation of depth to groundwater as greater than 150 feet bgs, and an analysis of exposure pathways to nearby receptors.

The additional drilling data allowed for revision of Closure Criteria presented in earlier reports. The following NMOCD Table 1 Closure Criteria were determined for the Site:

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

The Revised Remediation Work Plan supported excavation and liner installation, relocation of the tank battery, and continued natural attenuation of residual subsurface soil impacts beneath the liner.

NMOCD denied the Revised Remediation Work Plan on July 25, 2019, and required a method for mitigating the deeper impacts, specifically, the light end hydrocarbons at depth. In response, LTE has evaluated remediation alternatives for the Site and conducted pilot testing for an SVE system. The result of these efforts is presented in the subsequent sections of this report and were used to design an active remedial approach to address petroleum hydrocarbons that exist deeper than is practical to excavate.

Completed Remediation Activities

As outlined in the Revised Remediation Action Plan submitted on June 28, 2019, XTO has performed the following remedial actions to address the releases associated with RP Numbers 2RP-3179, 2RP-3464, and 2RP-5243:

- Free standing crude oil and produced water were vacuumed off the well pad to minimize saturation into surficial soil and future vertical migration;
- Excavation and disposal of produced water and crude oil impacted soil from the top 4 feet. Surficial soil impacts have been remediated to 4 feet bgs as determined by field screening and laboratory analytical results for confirmation sidewall soil samples and delineation soil samples. Approximately 1,740 cubic yards of impacted soil were excavated and disposed of between February and April 2019; and
- A 30-mil poly liner was installed at the base of the excavation on April 12, 2019 to address any elevated subsurface chloride concentrations. The liner covered a surface area of approximately 11,230 square feet and extended up the sidewalls approximately 2 to 3 feet;
- To minimize the potential of future releases in the vicinity of these three open RPs, XTO constructed their tank battery in a different location within the Site. In addition, XTO evaluated the integrity of all equipment and components utilized in the construction of the tank battery to reduce the likelihood of future releases due to faulty and/or worn equipment and/or components.

SOIL VAPOR EXTRACTION PILOT TEST

LTE conducted an SVE pilot test to assess the viability of SVE to reduce and remediate residual petroleum hydrocarbon impacts as an alternative remediation approach. The petroleum hydrocarbon impacts are generally volatile (relatively high Henry's Constant) and amenable to microbial degradation processes. SVE has been an industry standard, cost effective technology for *in-situ* remediation of petroleum hydrocarbons. The objective of the SVE pilot test was to evaluate the effectiveness of the remedial technology to achieve site remediation cleanup goals. SVE pilot testing results assist in determining the required flow rate and applied vacuum to influence the subsurface and cause volatilization of petroleum hydrocarbons adsorbed to subsurface soil and to determine site-specific design radius of influence (ROI). The pilot testing program was designed based on previously observed geologic conditions, surface conditions, and current lateral and vertical extents of petroleum hydrocarbon impacts. Two SVE screen depths were tested (25 feet to 45 feet bgs and 15 feet to 30 feet bgs) to encourage uniform flow throughout the highest impacted interval (20 feet to 45 feet bgs).

SVE Well Installation

Four SVE wells (SVE-PT-01 through SVE-PT-04) were installed prior to testing in the locations presented on Figure 2. During the advancement of each SVE well, continuous soil sampling was conducted, which included describing the lithology based on the Unified Soil Classification System (USCS) as specified in American Society for Testing and Materials (ASTM) D2488, observations of staining and odors, and field screening of volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Soil boring logs were completed at the time of drilling and are provided with the construction diagrams of the SVE wells as Attachment 2.

Soil samples from the four SVE wells were not submitted for laboratory analysis due to their proximity of previously drilled and sampled boreholes. Based on the soil boring logs and observations made during all subsurface investigations, lithology in the vicinity of the three releases was generally characterized as the following:

- 5 feet to 20 feet bgs was a mix of poorly graded to well graded sand, and
- 20 feet to approximately 50 feet bgs was classified as sandstone and claystone.

Soil boring SVE-PT-01 was completed to a depth of approximately 45 feet bgs, while SVE-PT-02, SVE-PT-03, and SVE-PT-04 were completed to a depth of approximately 30 feet bgs. The SVE wells were constructed with 2-inch polyvinyl chloride (PVC) casing. A 10-foot section of 0.010-inch slotted PVC screen was installed at the base of SVE wells SVE-PT-02 and SVE-PT-03. A 20-foot and 15-foot section of 0.010-inch slotted PVC screens were installed at the base of SVE wells SVE-PT-01 and SVE-PT-04, respectively. A 10-20 size silica sand pack was used to fill the annular space from the bottom of the screen to approximately 1 foot above the top of screen. Two feet of hydrated bentonite chips was placed on top of the sand pack. The well was then grouted from the top of the bentonite chips to the ground surface. The PVC casing for the SVE wells extended beyond the ground surface approximately 3 feet and protected with steel well protector monuments.

Pilot Testing Procedure

Vacuum was applied to two of the SVE wells (SVE-PT-01 and SVE-PT-04), while the other two SVE wells were utilized as observation wells (SVE-PT-02 and SVE-PT-03). SVE wells SVE-PT-02 and SVE-PT-03 will ultimately be utilized for full-scale SVE design. The SVE wells were screened across different lithologies observed in the subsurface to test applied vacuum responses and influence within those lithologies.

A vacuum was applied to the SVE wells via a vacuum truck and through a manifold designed to measure applied vacuum, flowrate, and vapor concentrations. The first test was conducted by applying a vacuum at SVE well SVE-PT-01. The same procedure was repeated for the pilot test on

SVE well SVE-PT-04. Pilot test monitoring data (applied vacuum, air flow rate, and volatile aromatic hydrocarbons stack measurements) were recorded at the test well, while (vacuum response) was measured at surrounding SVE wells during performance of the test. The following procedures were followed when conducting the SVE pilot test:

1. Measured the distances from the test SVE well to each observation well;
2. Collected background volatile organic compound measurements using a calibrated PID at the test SVE and observation wells;
3. Connected the vacuum truck to the test SVE well via a flexible hose and manifold then slowly opened the valve and monitored the vacuum and flow rate;
4. Applied a vacuum ranging from approximately 10 inches of water column (wc) to 50 inches wc at the designated SVE well for each test;
5. Measured at least two events of stabilized vacuum/flow rate. Measured the vacuum at the observation wells and PID measurements from the test SVE well. Collected readings 15 minutes apart;
6. After the test SVE well vacuum readings stabilized, the applied vacuum was increased by reducing the amount of blower bypass air and collected the above measurements at the higher vacuum/flow rate;
7. Closed the valve to eliminate the vacuum pressure and collected stabilization readings from each observation well;
8. At the conclusion of the testing period, the blower was turned off, the system was allowed to equilibrate, and a final round of vacuum readings was collected from the observation wells; and
9. Collected air emission samples from SVE well SVE-PT-04 in laboratory-prepared containers and delivered under strict chain of custody (COC) protocol to Xenco Laboratories located in Midland, Texas (Xenco) for analysis of BTEX and total volatile petroleum hydrocarbons (TVPH).

The resulting field measurements were reviewed, and vacuum measurements were plotted versus distance from the appropriate SVE well. Diagrams were generated for each of the different vacuum/flowrates tested. All test forms and diagrams are provided as Attachment 3. The laboratory analytical report for the air emission sample is provided in Attachment 4.

SVE Pilot Test Results

Pilot test data appears to indicate SVE is a viable technology to remediate petroleum hydrocarbons at the Site. The introduction of a vacuum into the subsurface enhanced

volatilization of petroleum hydrocarbons throughout the tested impacted soil column. SVE vacuum influences were observed in all SVE wells during each test.

An effective SVE ROI of approximately 30 feet to 40 feet was graphically estimated from a plot of the observed vacuum response versus the distance from the applied vacuum. Influence of greater than 0.1 inches wc was observed during testing of SVE well SVE-PT-01 via vacuum and flow rates ranging from 10 inches wc at 4 actual cubic feet per minute (acfm) to 50 inches wc at 14 acfm. Influence of greater than 2.5 inches wc was observed during testing of SVE well SVE-PT-04 via vacuum and flow rates ranging from 10 inches wc at 60 acfm to 35 inches wc at 124 acfm. LTE believes a lower flow rate during testing of SVE well SVE-PT-04 would produce similar results. Full-scale design is based on 20 acfm per well at 30 inches wc.

The air emission sample collected during testing of SVE well SVE-PT-04 indicated recovery of total petroleum hydrocarbons – gasoline range organics (TPH-GRO) and BTEX. In the air stream, TPH-GRO was detected at a concentration of 20.2 milligrams per liter (mg/L) and total BTEX was detected at 0.957 mg/L. The air emission sample results are included as Table 1. At a full-scale design flow rate of 200 acfm, it is estimated the initial petroleum hydrocarbon removal rate would be as high as 360 pounds TPH per day and 17 pounds BTEX per day. As the system remediates subsurface soil, the removal rate is anticipated to decline via first order decline rate. The petroleum hydrocarbon concentration detected in the SVE pilot test emissions further demonstrates the technology is a viable remedial approach for the deeper subsurface soil impacts. Air emission samples will be collected during full scale system operation to track remediation progress and to model anticipated shutdown dates.

PROPOSED SVE SYSTEM DESIGN

An additional six SVE wells are recommended to influence the hydrocarbon impacted area in both the horizontal and vertical extents, for a total of 10 SVE wells. A well layout plan is included as Figure 3. Figures 4, 5, and 6 illustrate the SVE wells influencing different intervals at depths, 5 feet to 20 feet bgs, 15 feet to 30 feet bgs, and 25 feet to 65 feet bgs (shallow, medium, and deep), respectively. The well screened intervals are included as Table 2.

For the full-scale system, it is recommended that the vacuum blower be capable of at least 200 acfm at 50 inches wc. This would allow the system to operate 20 acfm per well at a vacuum of at least 30 inches wc. The SVE system will be powered with an electrical drop that will operate a regenerative or rotary lobe blower. The full-scale system will include a manifold with vacuum gauges to adjust system operations as necessary. Measurements of volatile organic compounds with a PID will be collected per zone or well to determine the area of the site to focus operations. Upon approval of this Work Plan, the remediation system equipment and parts will be sourced.

LTE anticipates the system will operate for a one to two-year period to remediate the residual subsurface impacts. An estimated timeline breakdown includes:

- Equipment sourcing, manufacturing, and delivery is expected to take 3 months and will be completed by January 31, 2020;
- Well installation is anticipated to take one week;
- System installation and startup is expected to take two weeks and will be completed by February 28, 2020;
- Operation and Maintenance (O&M) will be performed weekly for the first month after initial startup;
- Monthly O&M checks on the system will be performed over the lifecycle of the system;
- Air emission samples will be collected at startup, two weeks, one month, two months, three months, then quarterly for the lifecycle of the system;
- Quarterly reports documenting runtime, air emission sampling results, and O&M data with any system changes or recommendations will be provided to NMOCD;
- Once air monitoring results indicate a TPH concentration of below 1 mg/L and the system has operated for at least a one-year period, confirmation soil samples will be collected. If the stack emissions do not drop below 1 mg/L TPH then confirmation sampling will occur following two years of system operation; and
- Confirmation soil samples will be collected in the vicinity of boreholes BH01, BH07, and BH08 and pothole PH01. Continuous sampling will be conducted via field screenings with a PID. Samples will be collected from similar intervals exceeding the Closure Criteria and submitted for laboratory analysis of BTEX and TPH.

Should NMOCD require more than 30 days to review and respond to this report, XTO reserves the right to modify the proposed schedule.

LTE, on behalf of XTO, requests approval of this Work Plan and implementation of the SVE system. If you have any questions or comments, please do not hesitate to contact Mr. Robert Rebel at (303) 548-5097 or Ms. Ashley Ager at (970) 946-1093.

Sincerely,

LT ENVIRONMENTAL, INC.

Robert T Rebel

Robert Rebel, P.E.
Senior Engineer

Ashley L. Ager

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Bradford Billings, NMOCD
Robert Hamlet, NMOCD
Jim Amos, U.S. Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	FULL-SCALE SVE Pilot Test Layout
Figure 3	Proposed SVE System Layout
Figure 4	Shallow SVE Well Layout (5-20 feet bgs)
Figure 5	Medium SVE Well Layout (15-30 feet bgs)
Figure 6	Deep SVE Well Layout (25-65 feet bgs)
Table 1	Air Analytical Results
Table 2	SVE Well Completions
Attachment 1	Initial / Final NMOCD Form C-141s (2RP-3179, 2RP-3463, and 2RP-5243)
Attachment 2	Lithologic/Soil Sampling Logs
Attachment 3	Pilot Test Data
Attachment 4	Laboratory Analytical Report

FIGURES

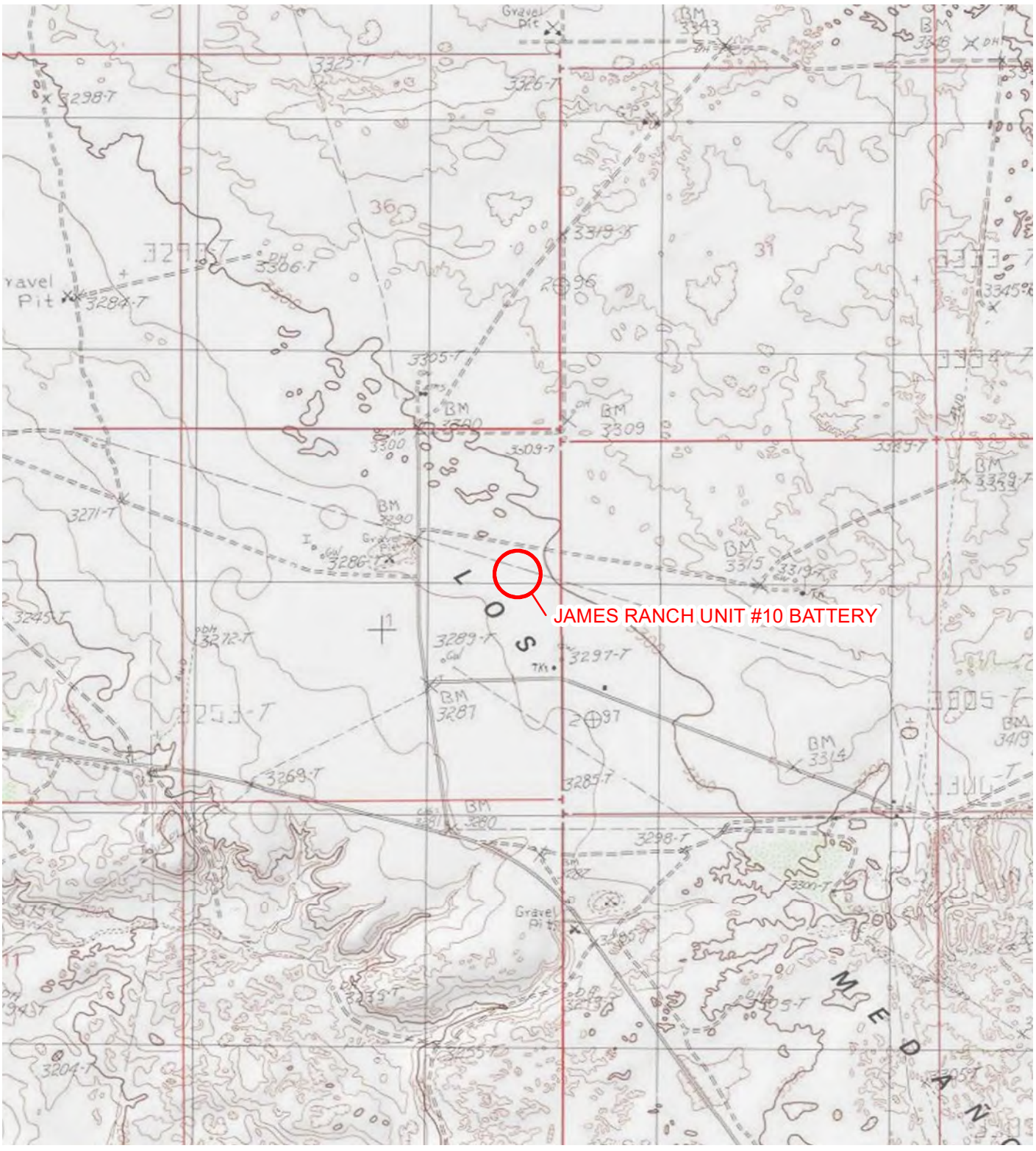

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, & 2RP-5243

FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT #10 BATTERY
UNIT H SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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LEGEND

PROPOSED SOIL VAPOR EXTRACTION WELL

ESTIMATED AREA OF IMPACTS, LINED

IMAGE COURTESY OF GOOGLE EARTH 2017

0 60 120

Feet

N

FIGURE 2
SVE PILOT TEST LAYOUT
JAMES RANCH UNIT #10 BATTERY
UNIT H SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

NOTE: REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, & 2RP-5243

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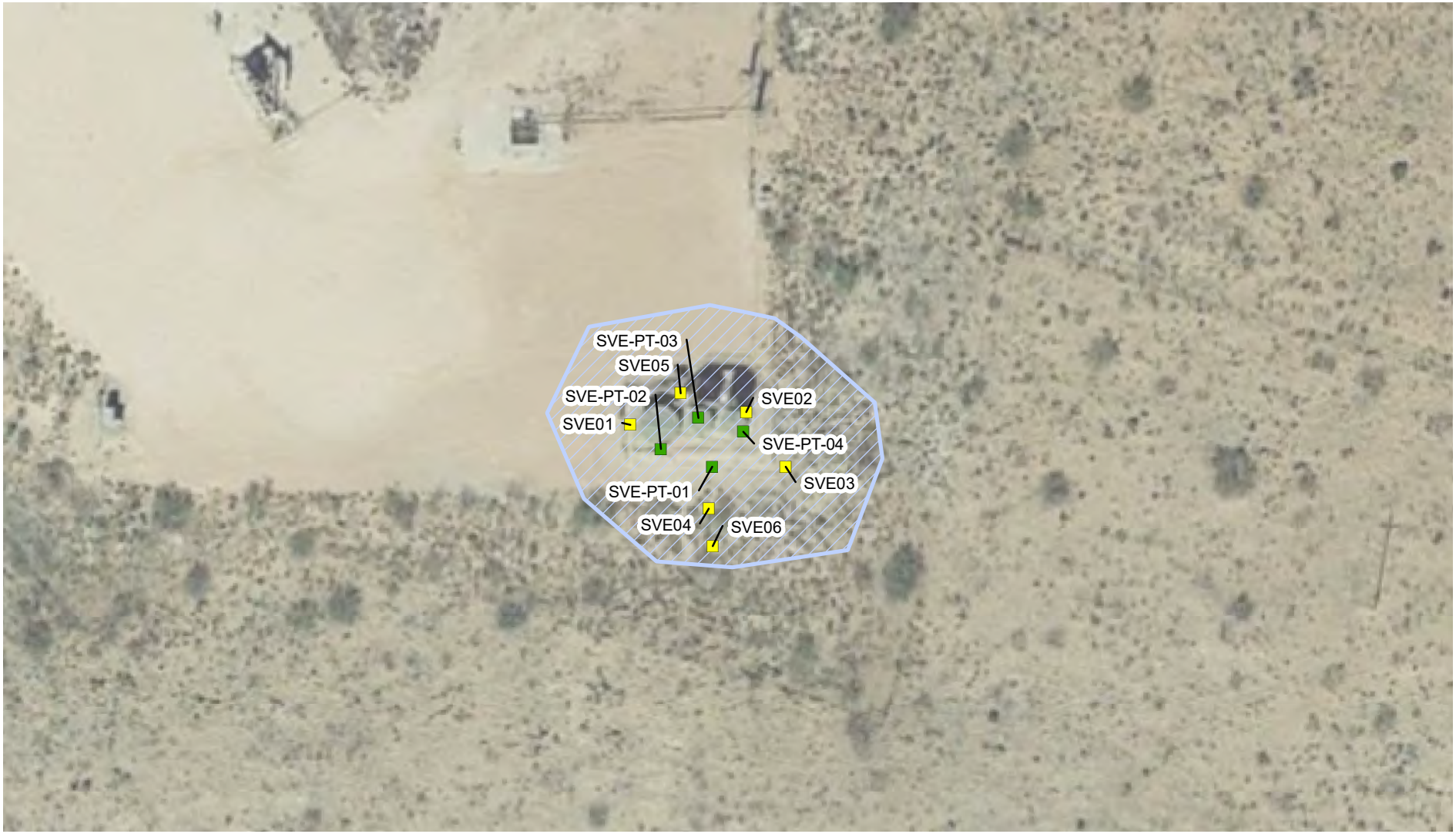

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- COMPLETED WELLS
- ADDITIONAL PROPOSED WELLS
- LINER EXTENT

0 60 120
Feet

N

SVE: SOIL VAPOR EXTRACTION
NOTE: REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, & 2RP-5243

FIGURE 3
FULL-SCALE SVE SYSTEM LAYOUT
JAMES RANCH UNIT #10 BATTERY
UNIT H SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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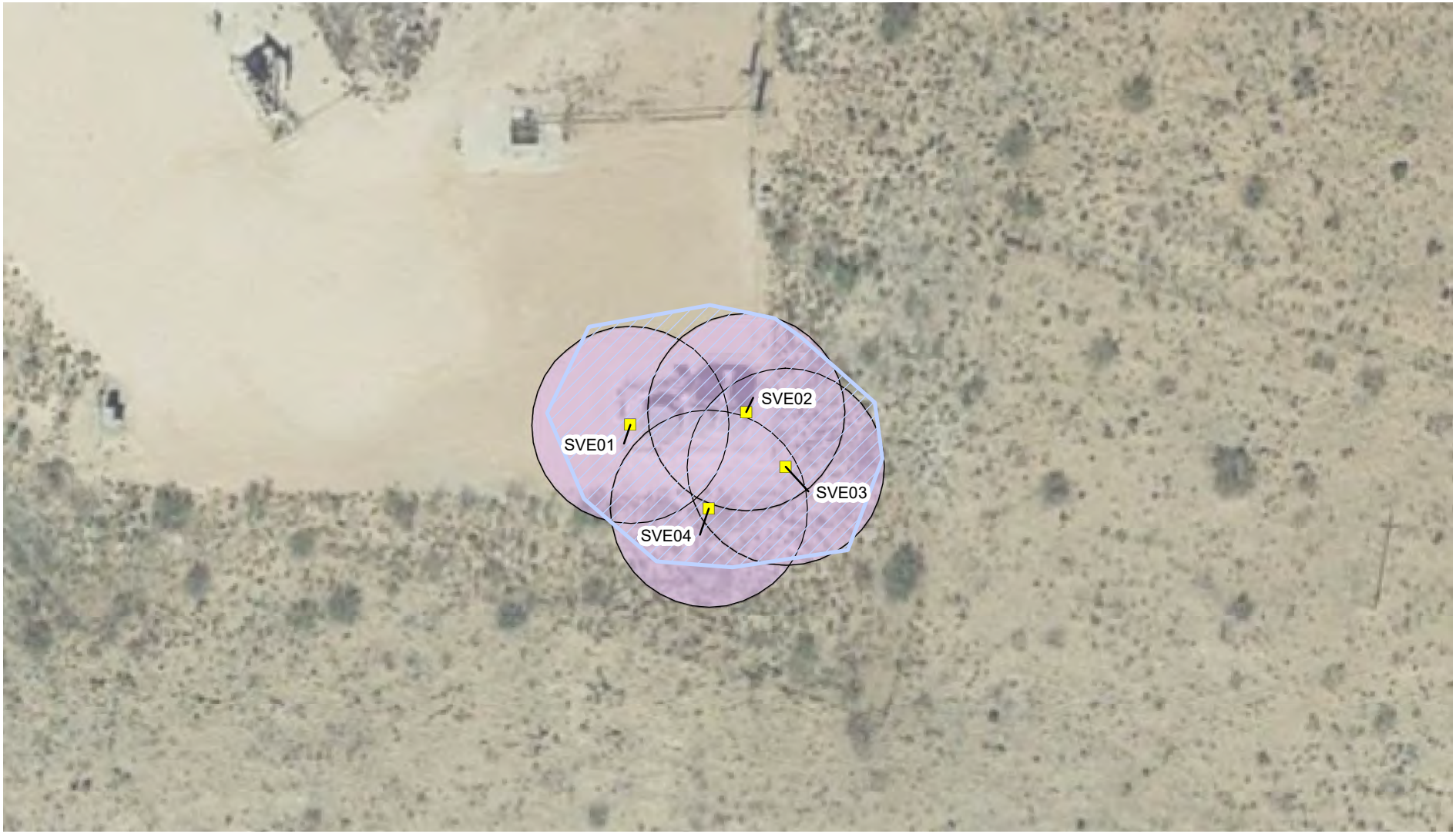

LEGEND

- ADDITIONAL PROPOSED WELLS
- LINER EXTENT
- 40 FOOT RADIUS OF influence

IMAGE COURTESY OF GOOGLE EARTH 2017

0 60 120
Feet

N

BGS: BELOW GROUND SURFACE
SVE: SOIL VAPOR EXTRACTION
NOTE: REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, & 2RP-5243

FIGURE 4
SHALLOW SVE WELL LAYOUT (5-20 FEET BGS)
JAMES RANCH UNIT #10 BATTERY
UNIT H SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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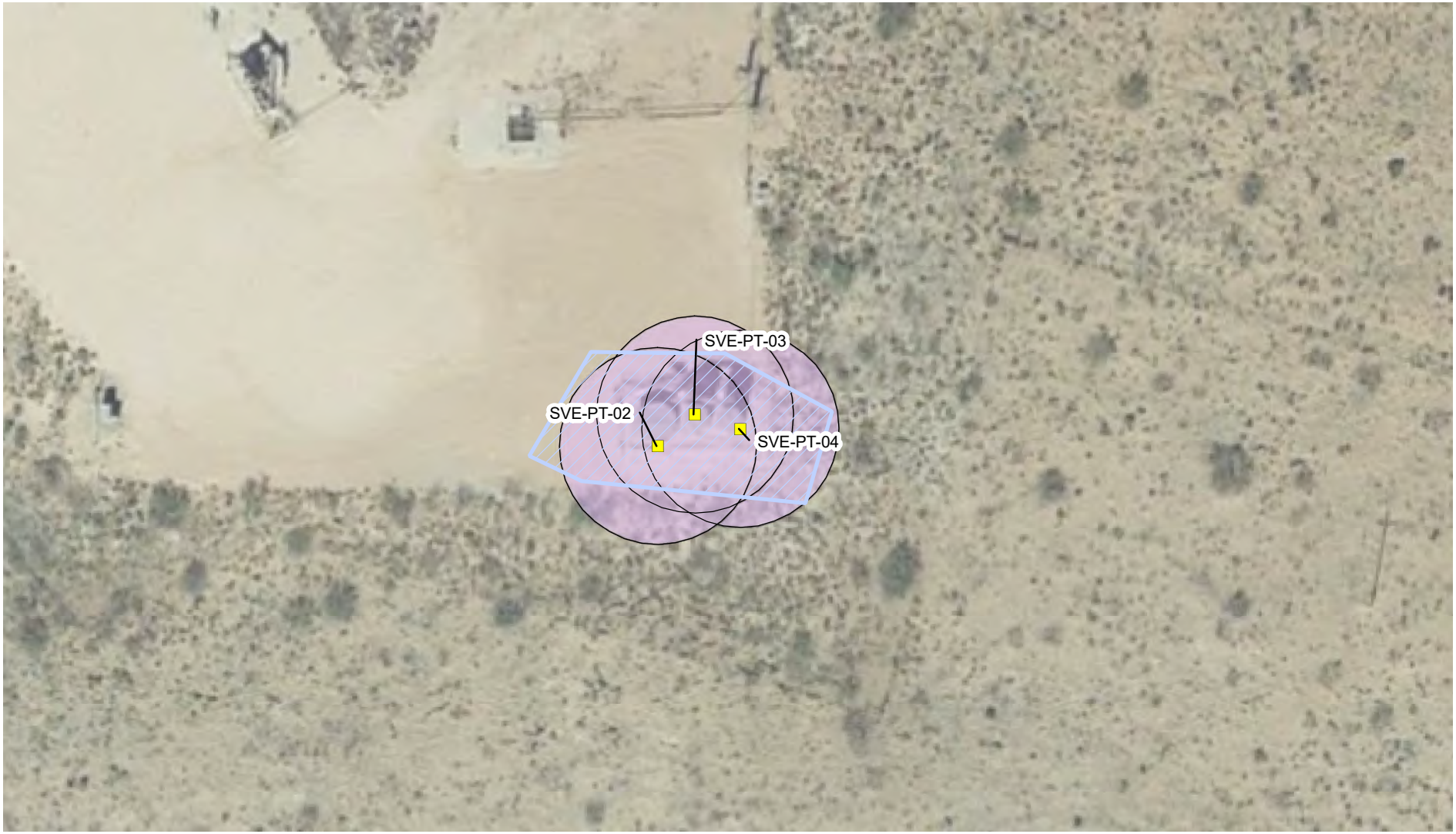

LEGEND

- ADDITIONAL PROPOSED WELLS
- ESTIMATED EXTENT OF IMPACT
- 40 FOOT RADIUS OF INFLUENCE

IMAGE COURTESY OF GOOGLE EARTH 2017

0 60 120
Feet

N

BGS: BELOW GROUND SURFACE
SVE: SOIL VAPOR EXTRACTION
NOTE: REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, & 2RP-5243

FIGURE 5
MEDIUM SVE WELL LAYOUT (15-30 FEET BGS)
JAMES RANCH UNIT #10 BATTERY
UNIT H SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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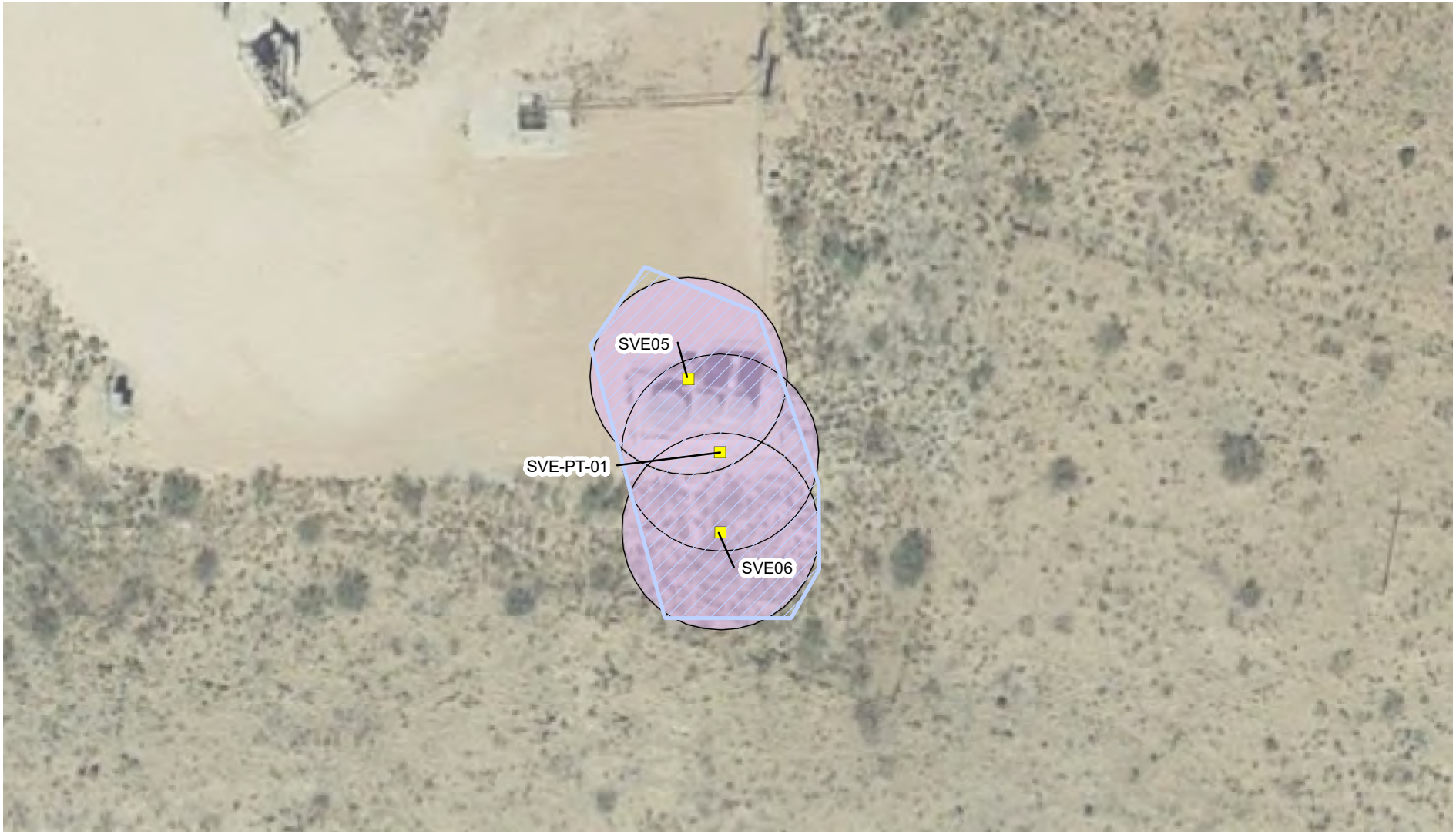

LEGEND

- ADDITIONAL PROPOSED WELLS
- ESTIMATED EXTENT OF IMPACT
- 40 FOOT RADIUS OF INFLUENCE

IMAGE COURTESY OF GOOGLE EARTH 2017

0 60 120
Feet

N

BGS: BELOW GROUND SURFACE
SVE: SOIL VAPOR EXTRACTION
NOTE: REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, & 2RP-5243

FIGURE 6
DEEP SVE WELL LAYOUT (25-65 FEET BGS)
JAMES RANCH UNIT #10 BATTERY
UNIT H SEC 1 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLES

TABLE 1
AIR ANALYTICAL RESULTS

REVISED REMEDIATION WORK PLAN
JAMES RANCH UNIT #10 BATTERY
REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, and 2RP-5243
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)	Total BTEX (mg/L)	TPH-GRO (mg/L)
SVE-PT-04	10/01/2019	0.0722	0.370	0.0208	0.494	0.957	20.2

Notes:

BTEX - benzene, toluene, ethylbenzene, and total xylenes

GRO - gasoline range organics

mg/L - milligrams per Liter

TPH - total petroleum hydrocarbons

TABLE 2
SOIL VAPOR EXTRACTION (SVE) WELL COMPLETIONS

JAMES RANCH UNIT #10 BATTERY
REMEDIATION PERMIT NUMBERS 2RP-3179, 2RP-3464, and 2RP-5243
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

SOIL VAPOR EXTRACTION WELL	TOTAL DEPTH (FEET)	BENTONITE WELL SEAL (FEET)	SAND PACK (FEET)	CASING (FEET)	WELL SCREEN (FEET)
SVE-PT-01	45	28	17	25	20
SVE-PT-02	30	18	12	20	10
SVE-PT-03	30	18	12	20	10
SVE-PT-04	30	18	12	15	15
SVE-01	20	10	10	10	10
SVE-02	15	5	10	5	10
SVE-03	20	10	10	10	10
SVE-04	20	10	10	10	10
SVE-05	60	40	20	45	15
SVE-06	65	45	20	50	15

Notes:
Drill with auger rig
0.010 slot screen
SVE-PT wells were installed on September 18, 2019 for the pilot test

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-3179, 2RP-3464, and 2RP-5243)

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1521257588 2100787

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: JRU-10	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No.30-015-23075

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	1	23S	30E	1980	North	660	East	Eddy

Latitude N 32.335568° Longitude W 103.827592°

NATURE OF RELEASE

Type of Release: Produced water and condensate	Volume of Release: 50 bbls. PW and 5 bbls. condensate	Volume Recovered: 13 bbls. PW and 2 bbls. condensate
Source of Release: Produced water tank	Date and Hour of Occurrence: 7/29/15, time unknown	Date and Hour of Discovery: 7/29/15 at approximately 8:30 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, Heather Patterson, and Jim Amos	
By Whom? Tony Savoie	Date and Hour 7/29/15, first attempt at 1:51 p.m. confirmed at 6:14 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 30 2015
RECEIVED

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A coupling on the water transfer pump failed causing the tank to overflow. The coupling was replaced the day of the release.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted about 1000 sq.ft. inside the earthen containment around the Oil and PW tanks. All of the free standing fluid was recovered with a vacuum truck.
The spill area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

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: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 7/30/15 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 7/31/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: 9/3/15

2RP-3179

* 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-3179
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 #: 2RP-3179
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.335568 Longitude -103.827592
(NAD 83 in decimal degrees to 5 decimal places)

Site Name JRU-10	Site Type Exploration and Production
Date Release Discovered 07/29/15	API# *(if applicable)* 30-015-23075

Unit Letter	Section	Township	Range	County
H	1	23S	30E	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) 50	Volume Recovered (bbls) 13
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls) 5	Volume Recovered (bbls) 2
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
A coupling on the water transfer pump failed causing the tank to overflow. The coupling was replaced the day of the release. The spill impacted about 1000 sq.ft. inside the earthen containment around the Oil and produced water tanks. All of the free standing fluid was recovered with a vacuum truck.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3179
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? The release was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by Tony Savoie to Mike Bratcher/Heather Patterson (NMOCD), and Jim Amos (BLM) on 7/29/2015.	

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: 4/12/2019

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-3179
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?	>150 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3179
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 Supervisor

Signature: Date: 10/30/2019

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-3179
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 10/30/2019

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

OCD Only

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Date:

NM OIL CONSERVATION
ARTESIA DISTRICT
DEC 22 2015
RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1535754357 dl0737

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 #10 Battery	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-23075

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	1	23S	30E	1980	North	660	East	Eddy

Latitude 32.335560° Longitude -103.827584°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 81 bbls	Volume Recovered: 40 bbls
Source of Release: Tank Overflow	Date and Hour of Occurrence: 12/14/2015 time unknown	Date and Hour of Discovery: 12/14/2015 11:15 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/Heather Patterson (NMOCD), Jim Amos (BLM)	
By Whom? Amy Ruth	Date and Hour: 12/14/2015 4:52 pm	
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.*
Coupling on water transfer pump failed and pump shut down. Produced water tank filled and overflowed into the battery earthen containment. The pump was repaired.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 1550 ft² of well pad within the tank containment and standing fluids were recovered.

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:
Printed Name: Amy C. Ruth
Title: Remediation Specialist
E-mail Address: ACRuth@basspet.com
Date: 12/22/2015 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:
Approval Date: 12/23/15 Expiration Date: N/A
Conditions of Approval: Attached ☐
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 1/24/16

2RP-3464

* 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-3464
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 #: 2RP-3464
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.335560 Longitude -103.827584
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit #10 Battery	Site Type Exploration and Production
Date Release Discovered 12/14/15	API# *(if applicable)* 30-015-23075

Unit Letter	Section	Township	Range	County
H	1	23S	30E	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) 81	Volume Recovered (bbls) 40
	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
Coupling on water transfer pump failed and pump shut down. Produced water tank filled and overflowed into the battery earthen containment. The pump was repaired. The leak affected 1550 ft² of well pad within the tank containment and standing fluids were recovered.
Fluids remained within the containment with exception of the southwest corner, though what little escaped remained on the well pad.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3464
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? The release was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, immediate notice was given by Amy Ruth to Mike Bratcher/ Heather Patterson (NMOCD), and Jim Amos (BLM) on 12/14/15.	

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: 4/12/2019

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

OCD Only

Received by: Date:

Incident ID	
District RP	2RP-3464
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?	>150 (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-3464
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 Supervisor

Signature: Date: 10/30/2019

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-3464
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 10/30/2019

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

OCD Only

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Date:

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	NAB1904653072
District RP	2RP-5243
Facility ID	
Application ID	pAB1904652533

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 #: 2RP-5243
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.335540 Longitude -103.827513
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit #10 Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 01/29/19	API# *(if applicable)* 30-015-23075

Unit Letter	Section	Township	Range	County
H	1	23S	30E	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) 9.8	Volume Recovered (bbls) 7
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	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
Just prior to unloading the tanks by oil haulers, an overload of fluids enter the facility and overran the oil tank into the earthen berm. This was due to increased production efficiency by the lease operator and the subsequent unloading of the well into the facility. A vaccum truck recovered free standing fluids and the battery is being evaluated for upgrades. An environmental contractor has been retained to assist with remediation efforts.

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Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5243
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: 4/12/2019

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-5243
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?	>150 (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-5243
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 Supervisor

Signature: Date: 10/30/2019

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-5243
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10/30/2019

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

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLING LOGS

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

Identifier:	Date:
SVE-PT01	9/18/19
Project Name: JRU 10	**RP Number:** 2RP-3424, 2RP-3179, 2RP-3464.
Logged By: WM	**Method:** Soil
Lat/Long:	**Field Screening:** CHLORIDES, PID.
Hole Diameter: 6"	**Total Depth:** 45'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: 20' screen, sand to 1' above screening, Bentonite chips (hydrated) to surface.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D		265	N		1		CCHE	0-5 CALICHE, tan, dry, no stain, no odor, poorly consolidated, fill.
					2			
					3			
					4			
	1,144	1,815			5			5-10' CALICHE w/ fine sand, tan-red, dry odor, moderately consolidated.
			Stain		6		CCHE	5.5-6', staining
			N		7			
		1,797			8			
					9			
	768	1,841			10			10-30' Sandstone, med grain, red-brown, dry, no stain, w/ odor, well cemented.
					11		SRS	
moist					12			
Dry moist		3,495			13			12.5-25' w/ well cemented
					14			14'-30', moist
	1,278	3,183			15			
					16			
					17			
		3,434			18			
					19			
	1,144	3,482			20			
					21			
					22			
		5,030			23			
					24			
	562	4260	V		25			

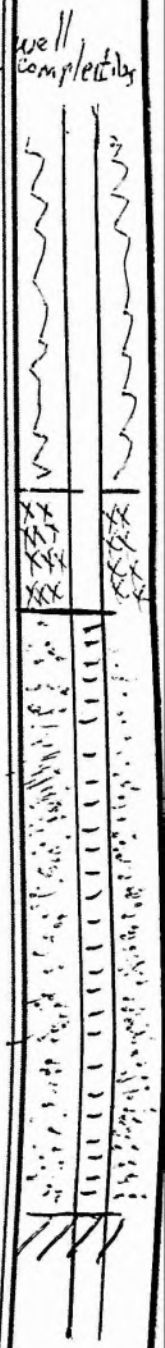
well completion Stickup

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

Identifier: SVE-PTO1 thru 3	Date: 9/18/19
Project Name: JRU10	RP Number: 2RP-3604, 2RP-3179, 2RP-3104
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: NM / Method: Sonic
Lat/Long: / Field Screening: CHLORIDES, PID.	Hole Diameter: 6" / Total Depth: 45'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Moist			N		26		SP-S	
					27			
		5,000			28			- Clasts size increase from 3mm.- 2cm.
					29			
	768	4566			30			
					31		CL-S	30-45' CLAYSTONE, red-brown, dry, highly fractured, low plasticity, non-cohesive, no stain, w/ odor, well cemented.
		5,000			32			
					33			
					34			
	352	5,000			35			
					36			
					37			
		5,000			38			
					39			
					40			- TD @ 45'
	<178	5,000			41			
					42			
		5000			43			
					44			
↓	<178	162.7	↓		45		TD@45	
					46			
					47			
					48			
					49			
					50			



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

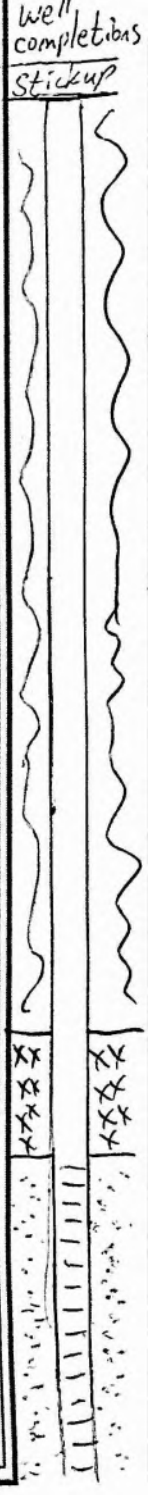
Identifier:	Date:
SVE - PTO2	9/18/19
Project Name:	**RP Number:** 2RP-3404, 2RP-3479, 2RP-3461,
JRU 10	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: WM	Method: Soil
Lat/Long:	Field Screening: CHLORIDES, PID.
Hole Diameter: 6"	Total Depth: 30'

Comments: 2" PVC, 10' screen, Sand 1' over, bentonite to surface

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
DRY			None		1		CCHE	0-2.5' CALICHE, tan, dry, no stain, w/ odor, poorly consolidated, fill.
		1387			2			
					3		SW	2.5-5' SAND, brown-tan, dry, f.-c., some gravel + cobble, no stain, w/ odor, well graded,
	2492	101.8			4			
					5			5-8' CALICHE w/ sand + cobble, tan, dry, no stain, no odor, well consolidated.
					6		CCHE	
		13.1			7			
					8			8-22' SANDSTONE, brown-red, dry, med-fine, no stain, no odor, well cemented.
					9		SP-S	
	1,144	16.5			10			
					11			
					12			
		9.5			13			13'-14' partly cemented.
					14			
	592	17.0			15			
					16			
					17			
		15.6			18			
					19			
	648	5.6			20			
					21			
Moist					22			
DRY		4.6			23		CL-S	22-30' CLAYSTONE, red-brown, moist, highly fractured, low plasticity, non-cohesive, no stain, no odor, well cemented
					24			
	K128	3.7			25			



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

Identifier: SVE-PT02	Date: 8/18/19
Project Name: JRU 10	RP Number: 2RP-3404, 2RP-3179, 2RP-3464
Logged By: WA	Method: Sonic
Hole Diameter: 6"	Total Depth: 30'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: CHLORIDES, PID.

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks	well completion
dry			None		26		a-S		
↓			↓		27				
		2,517			28			28' - odor, broken drill pipe.	
					29				
↓	<128	70.2	↓		30				
					31		TD @ 30'	TD @ 30'	
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				
					45				
					46				
					47				
					48				
					49				
					50				

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

Identifier:	Date:
SVE-PT03	9/18/19
Project Name:	**RP Number:**
JRU-10	2RP-3179
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LM / Method: Sonic
Lat/Long: / Field Screening: PID, Cl-	Hole Diameter: 6in / Total Depth: 30ft

Comments: 10ft of Screen

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
DRY			NONE		1		SW	0-14.5 Fine SAND, some gravel, Trace clay Light Brown, dry, No stain, No odor - low Plasticity - non-cohesive
	980	1740			5			
		1747			8			- moist, Darker color 7.5-14.5 cobbles, increased gravel content (some to few)
	980	1831			10			
		3247			13			
					14			HS-17
	180	3783			15		SP	- Fine sand, red/brown, dry, No stain, no odor 15-17 increasing cobble & gravel (some to few)
		188.3			18		CL-S	17.5-30 Claystone, highly fractured, block, Rd/Br dry, No stain, odor - low Plasticity - Non-cohesive
	180	5,000			20			
		4,178			22			
	129	5,000			25			

Well Completions
Stickup

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

Identifier: SVE-PT03	Date: 9/13/19
Project Name: JRV-10	RP Number: 2RP-3179
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: JM / Method: Sonic
Lat/Long:	Field Screening: PID, Cl⁻ / Hole Diameter: 6in / Total Depth: 30ft
Comments:	

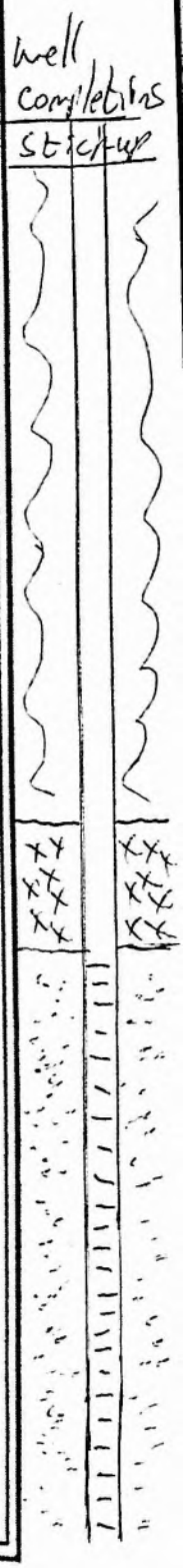
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry			None		26			well completion
↓		3832	↓		27			
					28			
					29		CL-S	
	128	3872			30			
					31			
					32			
					33			
					34			
					35			
					36			
					37			
					38			
					39			
					40			
					41			
					42			
					43			
					44			
					45			
					46			
					47			
					48			
					49			
					50			

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

Identifier:	Date:
SVE-PT04	9/12/19
Project Name:	**RP Number:**
JRU #10	2RP-3179
LITHOLOGIC / SOIL SAMPLING LOG	**Logged By:** JE / **Method:** Sonic
Lat/Long:	**Field Screening:** PID / chloride strips / **Hole Diameter:** 6" / **Total Depth:** 30'

Comments: Set well with 2" PVC, 15' screen, sand 1' over screen, bentonite to surface

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					1			0-4' Hand auger, not logged
					2			
					3			
					4			
Dry			None		5			4-19 Fine to medium sand with gravel, some cobbles, light brown, dry, no stain, odor
	<128	170.4			6		SW	
					7			- 6" of stain at 8.5'
					8			
		5900	Stain		9			- Stain from 15' - 19'
			None		10			19-25 Clayey fine to medium grained sand with gravel, some cobbles, dark brown, moist, non cohesive, low plasticity, odor, no stain
	836	5000			11			
					12			- Dry at 22.5
					13			
					14		SW	
	836	4387			15			
					16			
					17			
		4251	Stain		18			
					19			
Moist			None		20			
	276	5000			21			
					22		SW	
Dry					23			
					24			
	<128	5000			25			



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

Identifier:	Date:
SVE-PTC4	9/12/19
Project Name:	RP Number:
JRU #10	2RP-3179
Logged By: JE	Method: Sonic
Hole Diameter: 6"	Total Depth: 30'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: PID/Chloride Strips

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry ↓	>128	5000 ↓	None ↓		26–30		CLS	25–30 Claystone, highly fractured, blocky. red/brown, dry, low plasticity, non cohesive
					31–50			

Well completions

ATTACHMENT 3: PILOT TEST DATA

SOIL VAPOR EXTRACTION PILOT TEST
FIELD MEASUREMENTS
XTO ENERGY
REMEDIATION PROJECT
JRU 10 TANK BATTERY

Site: JRU 10 | Personnel: Lynda Laumbach | Test Start Time: 9:50
Date: 10/1/2019 | Test End Time: 12:20
SVE Well DTP/DTW Before Test: | SVE Well DTP/DTW After:

Test Extraction Well Name: SVE-PT-01							Monitoring Points			
SVE Vacuum (IWC)	SVE Velocity (fm)	SVE Flowrate (cfm)	VOC Stack (ppm)	Temperature (°F)		Time (minutes)	SVE-PT-04	SVE-PT-03	SVE-PT-02	
							Distance From Test Well (feet)			
							18	25	40	
				Manifold	Ambient		Vacuum (IWC)			Air Sample Collected?
Static			208			0		0	0	
10	170	3.7	1506	78.9	79.1	15	0.125	0.175	0.14	
10	175	3.8	1216	78.4	78	30	0.125	0.175	0.14	
20	343	7.5	1557	78.0	78.4	55	0.18	0.22	0.14	
20	338	7.4	1412	79.6	79.8	70	0.18	0.19	0.14	
20	342	7.5	1270	81.4	81.4	85	0.175	0.19	0.14	
50	640	14.0	1009	83.2	86.7	110	0.28	0.3	0.15	
50	627	13.7	1184	83.2	83.4	125	0.28	0.3	0.16	
Post (Static) Test		155				135	0	0	0	
Maximum Change:										

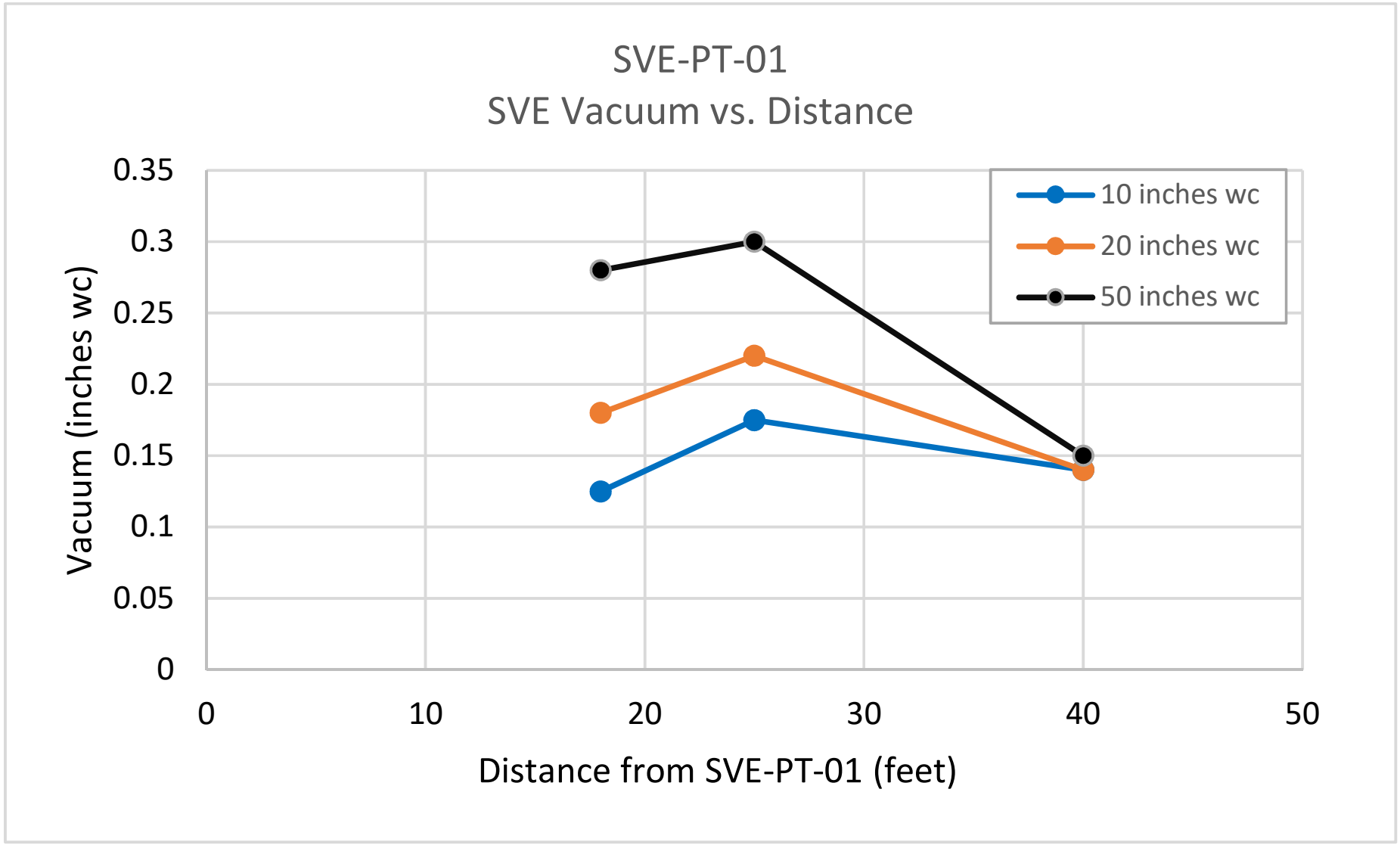
Notes:
cfm - cubic feet per minute
IWC - inches water column
ppm - parts per million
SVE - soil vapor extraction
DTW - Depth To Water
DTP - Depth to Product

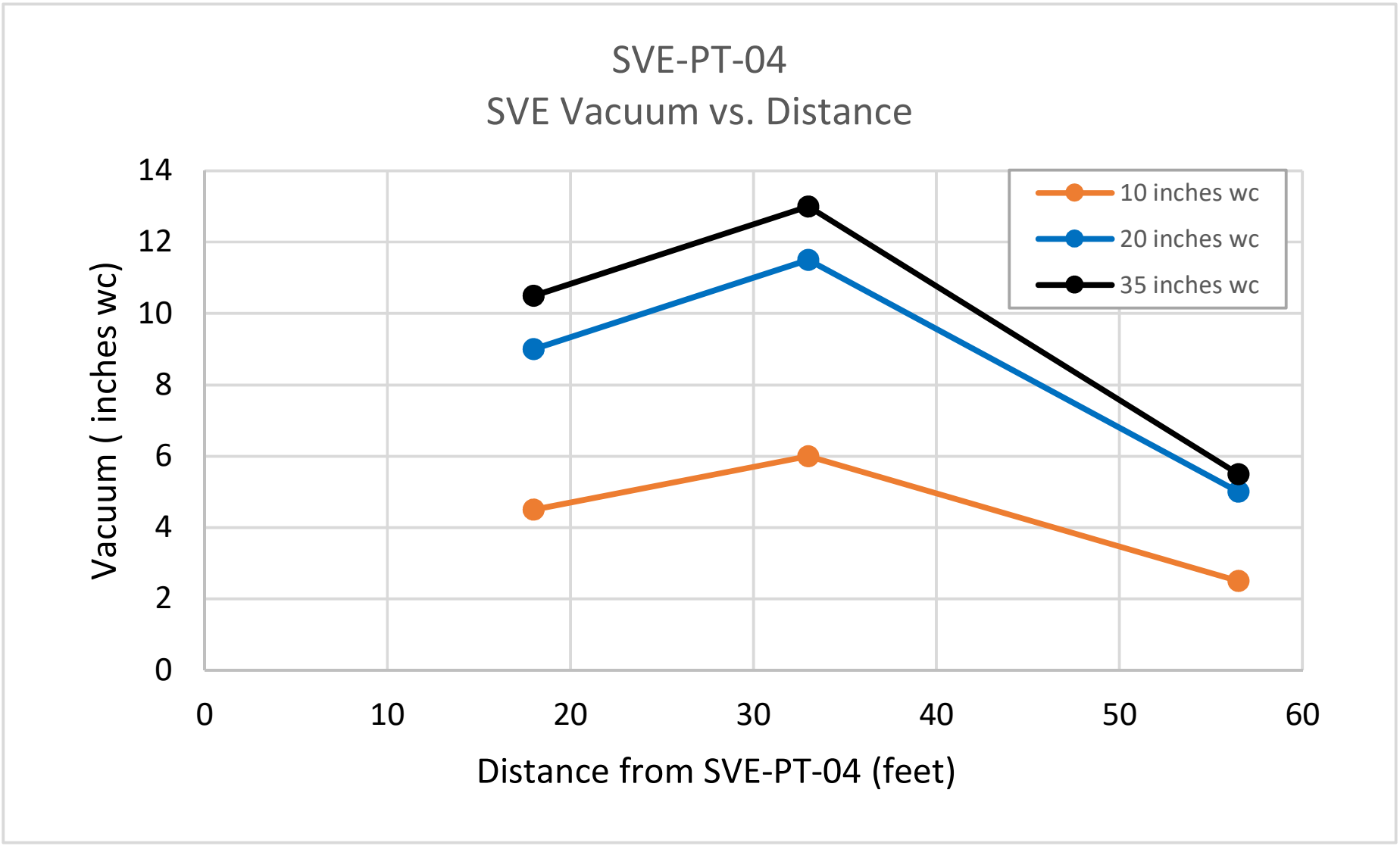
SOIL VAPOR EXTRACTION PILOT TEST
FIELD MEASUREMENTS
XTO ENERGY
REMEDIATION PROJECT
JRU 10 TANK BATTERY

Site: JRU 10 | Personnel: Lynda Laumbach | Test Start Time: 13:00
Date: 10/1/2019 | Test End Time: 15:15
SVE Well DTP/DTW Before Test: | SVE Well DTP/DTW After:

Test Extraction Well Name: SVE-PT-04							Monitoring Points			
SVE Vacuum (IWC)	SVE Velocity (fm)	SVE Flowrate (cfm)	VOC Stack (ppm)	Temperature (°F)		Time (minutes)	SVE-PT-01	SVE-PT-03	SVE-PT-02	
							Distance From Test Well (feet)			
							18	33	56.5	
				Manifold	Ambient		Vacuum (IWC)			Air Sample Collected?
Static						0		0	0	
10	2733	60	1478	79.6	84.5	15	4.5	6	2.5	
10	2765	60	1556	80.2	85.9	30	4.5	6	2.5	
20	5687	124	1380	77.5	83.6	45	9	11.5	5	
20	5683	124	1321	78.7	85	60	9	11.5	5	Yes, 14:50
35	E	E	1629	77.8	85.0	85	10.5	13	5.5	
35	E	E	1584	77.5	84.8	100	10.5	13	5.5	
Post (Static) Test						120	0	0	0	
Maximum Change:										

Notes:
cfm - cubic feet per minute
IWC - inches water column
ppm - parts per million
SVE - soil vapor extraction
DTW - Depth To Water
DTP - Depth to Product
E - Exceeds anenomenter range: 15,000 fm


SVE-PT-01
SVE Vacuum vs. Distance
Vacuum (inches wc)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
10
20
30
40
50
Distance from SVE-PT-01 (feet)
10 inches wc
20 inches wc
50 inches wc


SVE-PT-04
SVE Vacuum vs. Distance
Vacuum (inches wc)
14
12
10
8
6
4
2
0
0
10
20
30
40
50
60
Distance from SVE-PT-04 (feet)
10 inches wc
20 inches wc
35 inches wc

ATTACHMENT 4: LABORATORY ANALYTICAL REPORT

Analytical Report 638711

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 10 Tank Battery

012918003

07-OCT-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

07-OCT-19

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

Reference: XENCO Report No(s): **638711**
JRU 10 Tank Battery
Project Address: Rural Eddy County

Dan Moir:

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) 638711. 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. 638711 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 638711

LT Environmental, Inc., Arvada, CO

JRU 10 Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SVE-PT-04	A	10-01-19 14:50		638711-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 10 Tank Battery

Project ID: *012918003*
Work Order Number(s): *638711*

Report Date: *07-OCT-19*
Date Received: *10/02/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 638711

LT Environmental, Inc., Arvada, CO

Project Name: JRU 10 Tank Battery

Project Id: 012918003
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Wed Oct-02-19 08:35 am
Report Date: 07-OCT-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	638711-001					
	Field Id:	SVE-PT-04					
	Depth:						
	Matrix:	AIR					
	Sampled:	Oct-01-19 14:50					
BTEX by EPA 8021B SUB: T104704295-19-22	***Extracted:***	Oct-04-19 11:00					
	Analyzed:	Oct-04-19 14:00					
	Units/RL:	ppmv	RL				
Benzene		22.6 +	3.13				
Toluene		98.3 +	2.65				
Ethylbenzene		4.79 +	2.30				
m,p-Xylenes		98.2 +	4.61				
o-Xylene		15.6 +	2.30				
Total Xylenes		114 +	2.30				
Total BTEX		239 +	2.30				
TPH GRO by EPA 8015 Mod. SUB: T104704295-19-22	***Extracted:***	Oct-04-19 11:00					
	Analyzed:	Oct-04-19 14:00					
	Units/RL:	ppmv	RL				
TPH-GRO		5170 +	128				

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 638711

LT Environmental, Inc., Arvada, CO

JRU 10 Tank Battery

Sample Id:	**SVE-PT-04**	Matrix:	Air	Date Received:	10.02.19 08.35
Lab Sample Id:	638711-001	Date Collected:	10.01.19 14.50		

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AKC			% Moisture:	
Analyst:	AKC	Date Prep:	10.04.19 11.00		
Seq Number:	3103365			SUB:	T104704295-19-22

Parameter	Cas Number	Result mg/m3	RL mg/m3	Result ppmv	RL ppmv	Analysis Date	Flag	Dil
Benzene	71-43-2	**72.2**	10.0	**22.6**	3.13	10.04.19 14.00	+	10
Toluene	108-88-3	**370**	9.98	**98.3**	2.65	10.04.19 14.00	+	10
Ethylbenzene	100-41-4	**20.8**	9.98	**4.79**	2.30	10.04.19 14.00	+	10
m,p-Xylenes	179601-23-1	**426**	20.0	**98.2**	4.61	10.04.19 14.00	+	10
o-Xylene	95-47-6	**67.7**	9.98	**15.6**	2.30	10.04.19 14.00	+	10
Total Xylenes	1330-20-7	**494**	9.98	**114**	2.30	10.04.19 14.00	+	10
Total BTEX		**957**	9.98	**239**	2.30	10.04.19 14.00	+	10

Surrogate	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	95	%	70-135	10.04.19 14.00	

Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	AKC			% Moisture:	
Analyst:	AKC	Date Prep:	10.04.19 11.00		
Seq Number:	3103363			SUB:	T104704295-19-22

Parameter	Cas Number	Result mg/m3	RL mg/m3	Result ppmv	RL ppmv	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**20200**	501	**5170**	128	10.04.19 14.00	+	10

Surrogate	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	95	%	60-140	10.04.19 14.00	

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 638711

LT Environmental, Inc.

JRU 10 Tank Battery

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3103365 — Matrix: Air — Date Prep: 10.04.19
MB Sample Id: 7687502-1-BLK — LCS Sample Id: 7687502-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.313	31.3	29.2	93	70-125	ppmv	10.04.19 11:57	
Toluene	<0.133	26.5	22.8	86	70-125	ppmv	10.04.19 11:57	
Ethylbenzene	<0.115	23.0	19.7	86	70-125	ppmv	10.04.19 11:57	
m,p-Xylenes	<0.230	46.1	40.4	88	70-125	ppmv	10.04.19 11:57	
o-Xylene	<0.115	23.0	19.2	83	70-125	ppmv	10.04.19 11:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		104		70-135	%	10.04.19 11:57

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3103365 — Matrix: Air — Date Prep: 10.04.19
Parent Sample Id: 638711-001 — MD Sample Id: 638711-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	22.6	27.2	18	35	ppmv	10.04.19 14:13	
Toluene	98.3	117	17	35	ppmv	10.04.19 14:13	
Ethylbenzene	4.79	5.37	11	35	ppmv	10.04.19 14:13	
m,p-Xylenes	98.2	119	19	35	ppmv	10.04.19 14:13	
o-Xylene	15.6	19.5	22	35	ppmv	10.04.19 14:13	
Total Xylenes	114	139	NC	35	ppmv	10.04.19 14:13	
Total BTEX	239	288	NC	35	ppmv	10.04.19 14:13	

Analytical Method: TPH GRO by EPA 8015 Mod. — Prep Method: SW5030B
Seq Number: 3103363 — Matrix: Air — Date Prep: 10.04.19
MB Sample Id: 7687498-1-BLK — LCS Sample Id: 7687498-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO	<6.39	179	168	94	65-115	ppmv	10.04.19 11:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		104		60-140	%	10.04.19 11:57

Analytical Method: TPH GRO by EPA 8015 Mod. — Prep Method: SW5030B
Seq Number: 3103363 — Matrix: Air — Date Prep: 10.04.19
Parent Sample Id: 638711-001 — MD Sample Id: 638711-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	5170	5570	7	35	ppmv	10.04.19 14:13	

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

Setting the Standard since 1990

AIR SAMPLING CHAIN OF CUSTODY

Xenco Job #: ~~638710~~ 638711

Stafford,Texas (281-240-4200) | San Antonio, Texas (210-509-3334) | Phoenix, Arizona (480-355-0900)
Dallas, Texas (214-902-0300) | Lubbock, TX (806-794-1296) | Midland, TX (432-704-5251) | El Paso, TX (915-585-3443)

Page 1 of 1

Client/Project Information

Company Name: XTO Energy | Contact: Kyle Littrell | Email: klittrell@xtoenergy.com
Project Contact: Dan Moir | Company: LT Environmental, Inc
Email: dmoir@ltenv.com | Ph.No.: (432) 238-4292
Project Name & No.: JRU 10 Tank Battery , 012918003
Site Location: Rural Eddy County, NM
P.O. No.: Task#002
Sampler(s): Lynda Laumbach

AIR TYPE: I = Indoor SV = Soil Vapor A = Ambient

Lab #	Field ID/Point of Collection	Start Date	Start Time	Stop Date	Stop Time	AIR TYPE	Canister ID	Flow Regulator ID	Canister Pressure in field ("Hg) Start	Canister Pressure in field ("Hg) Stop	Incoming Canister Pressure ("Hg) Lab	Analysis Requested: BTEX	Analysis Requested: TVPH	Remarks
1	SVE-PT-04	10/01/2019	14:40	10/01/2019	14:50	SV	/	/	/	/	/	X	X	

Sampling Equipment Information: Canister ID | Flow Regulator ID | Canister Pressure in field ("Hg) Start | Canister Pressure in field ("Hg) Stop | Incoming Canister Pressure ("Hg) Lab

Analysis Requested: BTEX | TVPH

	Relinquished By:	Date/Time	Received By:
(1)		10/2/2019 08:35	
(2)			
(3)			
(4)			

Requested TAT

- [X] Contract TAT
- [ ] 7 Day
- [ ] 5 Day
- [ ] 3 Day
- [ ] 2 Day
- [ ] 1 Day
- [ ] Same Day
- Need By:

Shipping Information

- [ ] FedEx
- [ ] UPS
- [ ] LSO
- [ ] Other:
- Tracking No.:

Special Requests/Instructions:

Inter-Office Shipment

IOS Number **49169**

Date/Time: 10/02/19 11:52
Lab# From: **Carlsbad**
Lab# To: **Dallas**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.:

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
638711-001	A	SVE-PT-04	10/01/19 14:50	SW8015GRO	TPH GRO by EPA 8015 Mod.	10/08/19	**10/04/19 14:50**	JKR	PHCG	
638711-001	A	SVE-PT-04	10/01/19 14:50	SW8021B	BTEX by EPA 8021B	10/08/19	10/15/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 10/02/2019

Received By: Whitney Capps

Date Received: 10/03/2019 09:23

Cooler Temperature: 22.8

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Dallas

IOS #: 49169

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : XDA

Sent By: Elizabeth McClellan **Date Sent:** 10/02/2019 11:52 AM

Received By: Whitney Capps **Date Received:** 10/03/2019 09:23 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	22.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Whitney Capps Date: 10/03/2019

Whitney Capps

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/02/2019 08:35:00 AM

Work Order #: 638711

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	20	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#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)?	**Yes**	Subbed to Dallas
#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: Elizabeth McClellan Date: 10/02/2019

Checklist reviewed by: Jessica Kramer Date: 10/04/2019

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2108523564
District RP	
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.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ 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)

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

☒ 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: Melodie Sanjari Title: Environmental Professional

Signature: Melodie Sanjari Date: 5/5/2021

email: msanjari@marathonoil.com Telephone: 575-988-8753

OCD Only

Received by: Ramona Marcus Date: 5/12/2021

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: Robert Hamlet Date: 6/23/2021

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

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

CONDITIONS

Action 2174

CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 2174
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAB1521257588 James Ranch Unit #10, thank you. This closure is approved.	6/23/2021