LT Environmental, Inc.
3300 North A Street, Building 1, #103
Midland, Texas 79705
T 432.704.5178 / F 432.704.5179

May 7, 2018

Ms. Crystal Weaver
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request
PLU-CVX-JV-PB #001H
Remediation Permit Number 2RP-2800
Eddy County, New Mexico

Dear Ms. Weaver:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO) is pleased to present the following letter report detailing soil sampling activities at the PLU-CVX-JV-PB #001H well pad (Site) in Unit O, Section 1, Township 26 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the investigation was to assess impacts to soil after the water leg on the heater treater failed. The water leg failure caused a release of approximately 5 barrels (bbls) of crude oil and 26 bbls of produced water on February 3, 2015. Most of the spill was contained in the zero permeability containment surrounding the process vessels; however, approximately 6 bbls of produced water impacted approximately 2,685 square feet of the caliche pad outside the containment. The free-standing liquids were removed with a vacuum truck; approximately 5 bbls of oil and 20 bbls of produced water were recovered..

The previous operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on February 9, 2015, and was assigned Remediation Permit Number (RP) 2RP-2800 (Attachment 1). Although the impact occurred while the well was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. The sampling was conducted to assess current site conditions and determine if additional remediation is necessary. Based on the results of the sampling event as described herein, XTO is requesting no further action for this release.

BACKGROUND

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well is C 02249, located approximately 1.84 miles southeast of the Site, with a depth to groundwater of 292 feet bgs and a total depth of 300 feet bgs. The closest surface water to the Site is an arroyo located approximately 900 feet southeast of the Site. Based on these criteria, the NMOCD site ranking for remediation action levels is 10, and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 1,000 mg/kg total petroleum hydrocarbons (TPH).

Based on standard practice in this region, LTE proposes a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.

SOIL SAMPLING

Soil sample locations were based on visual inspection of the Site and the information provided on the C-141 Form. LTE made an effort to collect representative samples around the reported release source and areas potentially affected by the release. LTE collected five soil samples on February 15, 2018, as depicted on Figure 2. No visual or olfactory evidence of the release was observed at the Site.

To eliminate effects from weathering and natural degradation of contaminants at the ground surface, subsurface samples were collected from each sample location at roughly 0.5 feet bgs by hand auger. The soil samples were collected directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. The samples were submitted to Hall Environmental Analysis Laboratory, in Albuquerque, New Mexico, for analysis of BTEX by United States Environmental Protection Agency (USEPA) 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by USEPA Method 8015M, and chloride by USEPA Method 300.0.

ANALYTICAL RESULTS

Laboratory analytical results for all five soil samples indicated BTEX concentrations were below laboratory reporting limits. Laboratory analytical results for TPH indicated no detected concentrations exceeded the NMOCD remediation action levels for the Site, with values ranging from below the laboratory reporting limit in soil samples SS02, SS04, and SS05 to 10.0 mg/kg in soil sample SS01. Chloride concentrations ranged from 84 mg/kg in soil sample SS05 to 110 mg/kg in soil samples SS01 and SS02. Laboratory analytical results are presented on Figure 2 and in Table 1, and the complete laboratory analytical report is included as Attachment 2.

CONCLUSIONS

Laboratory analytical results for soil samples collected within the former release indicate impact to soil, as defined by concentrations of BTEX, TPH, and chloride, do not exceed NMOCD site-specific standards. Initial response efforts and natural degradation have remediated this Site, and XTO requests no further action for this release.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141
Attachment 2	Laboratory Analytical Report

FIGURES

Advancing Opportunity

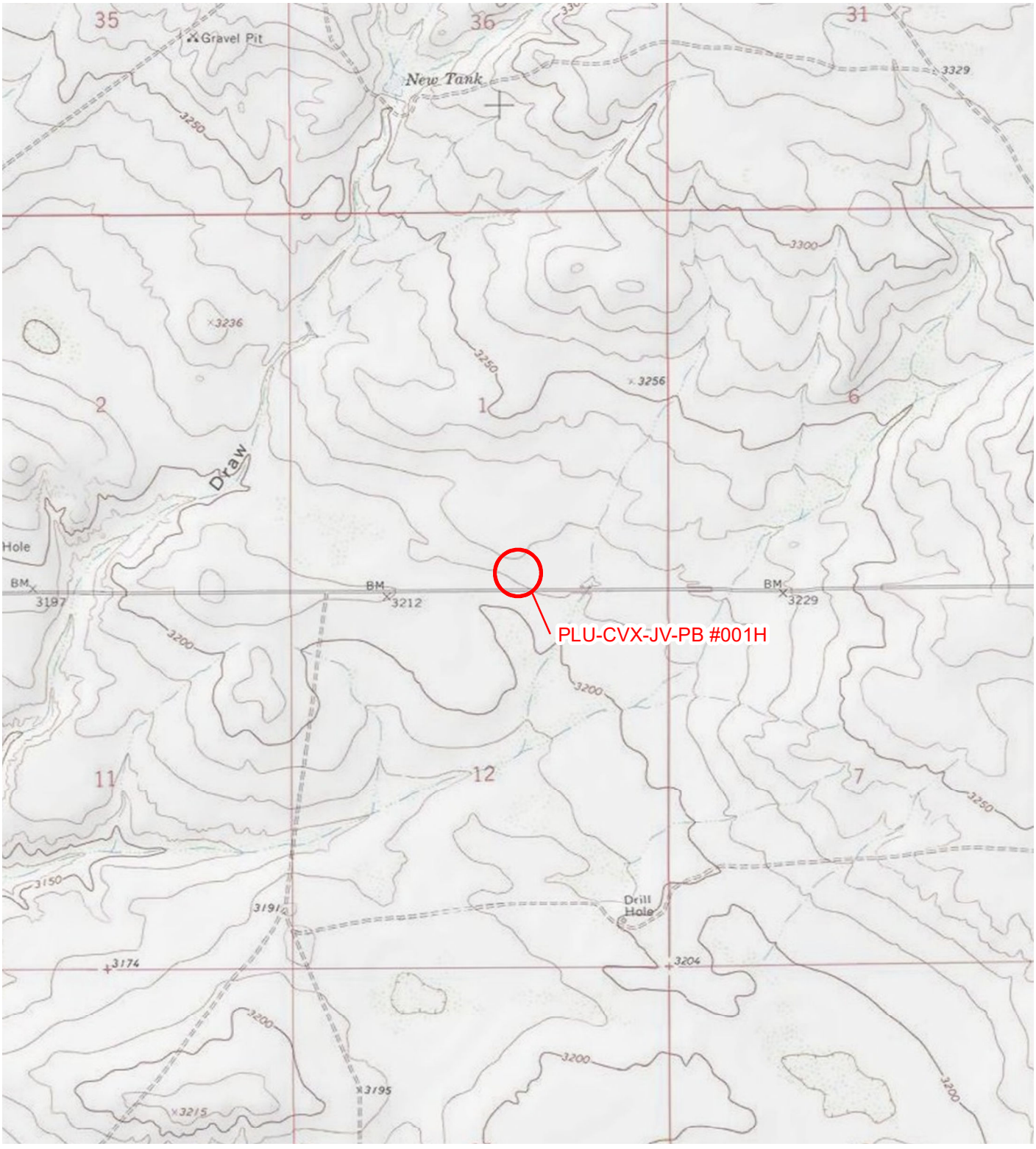


IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

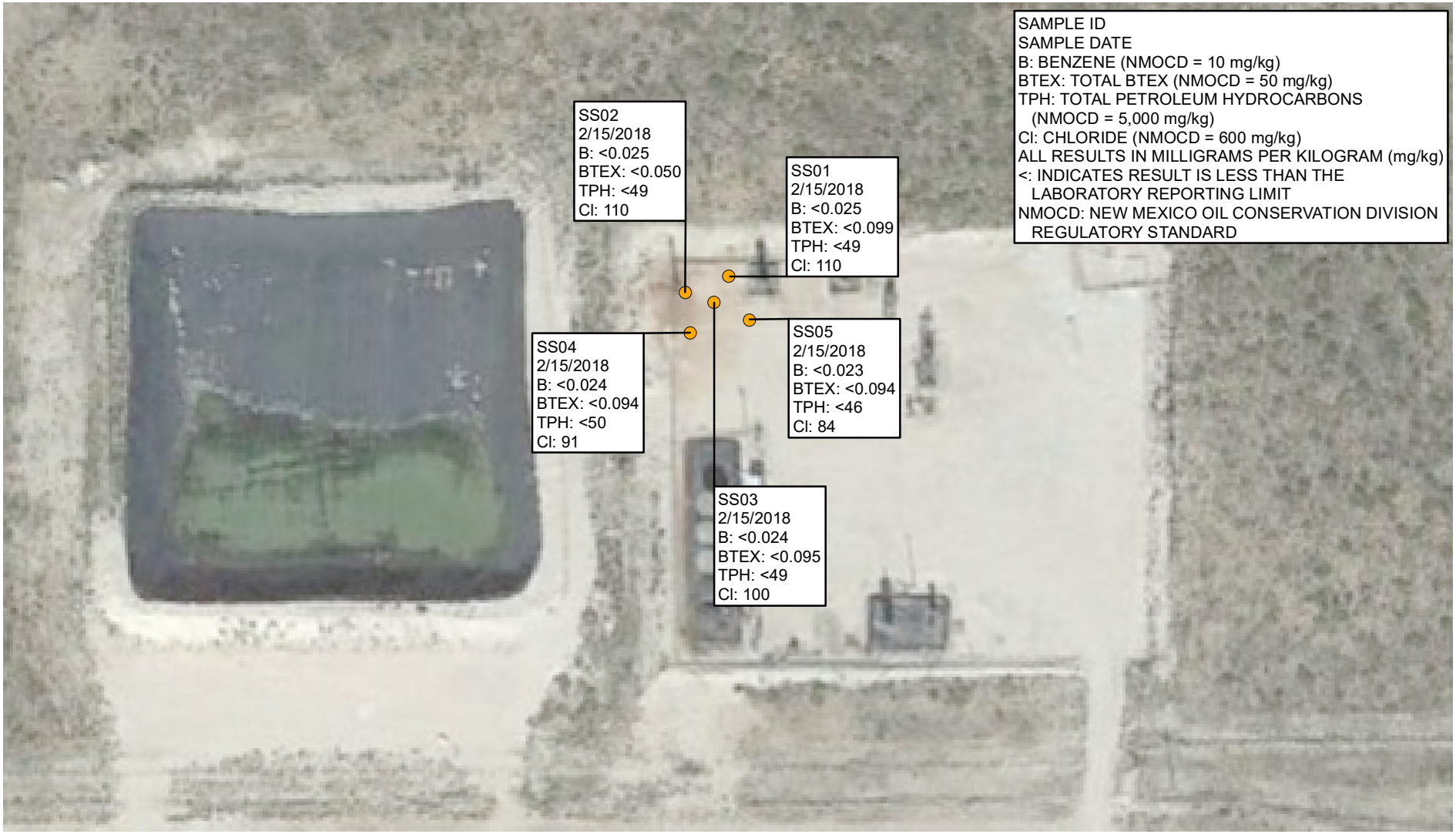
N

NEW MEXICO

NOTE: REMEDIATION PERMIT
NUMBER 2RP-2800

FIGURE 1
SITE LOCATION MAP
PLU-CVX-JV-PB #001H
UNIT O SEC 1 T26S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012918056_PLU CVX JV #001H\012918056_FIG01_SL_2018.mxd



LEGEND

SOIL SAMPLE

IMAGE COURTESY OF GOOGLE EARTH 2015

0 100 200

Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
PLU-CVX-JV-PB #001H
UNIT O SEC 1 T26S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

NOTE: REMEDIATION PERMIT NUMBER 2RP-2800

P:\XTO Energy\GIS\MXD\012918056_PLU CVX JV #001H\012918056_FIG02_SITE_2018.mxd

TABLE

Advancing Opportunity

TABLE 1
SOIL ANALYTICAL RESULTS
PLU-CVX-JV-PB #001H
REMEDIATION PERMIT NUMBER 2RP-2800
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	2/15/2018	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	10	<49	10	110
SS02	0.5	2/15/2018	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.7	<49	<49	110
SS03	0.5	2/15/2018	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	9.7	<49	9.7	100
SS04	0.5	2/15/2018	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	<9.9	<50	<50	91
SS05	0.5	2/15/2018	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.2	<46	<46	84
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	1,000	600

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram
NMOCD - New Mexico Oil Conservation Division
NE - not established
TPH - total petroleum hydrocarbons
< - indicates result is below laboratory detection limit

ATTACHMENT 1

INITIAL/FINAL NMOCD FORM C-141

Advancing Opportunity

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

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 09 2015
RECEIVED

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

nAB1504136865

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 260737	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU-CVX-JV-PB #001H	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-37030

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County:
O	1	26S	30E	400	South	1980	East	Eddy

Latitude N 32.065962 **Longitude** W 103.832944

NATURE OF RELEASE

Type of Release: Crude oil and produced water	Volume of Release: 5 bbls oil and 26 bbls produced water	Volume Recovered: 5 bbls of oil and 20 bbls of pw from 0 perm Cont.
Source of Release: Heater-treater	Date and Hour of Occurrence: 2/3/15 time unknown	Date and Hour of Discovery: 2/3/15 at approximately 11:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, Heather Patterson, Jim Amos (e-mail)	
By Whom? Bradley Blevins	Date and Hour: 2/3/15 at 1:56 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The water leg on the heater-treater failed. The vessel was by-passed until the problem could be corrected.

Describe Area Affected and Cleanup Action Taken.*
The majority of the spill was contained in the 0-perm containment that was built around the process vessels. Due to the pressure approximately 6 bbls of produced water impacted about 2685 sq.ft. of caliche pad. The fluid in the containment was recovered, the fluid on the ground soaked in.
The spill area will be cleaned up in accordance to the NMOCD and BLM 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: T Guy Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 2/9/15 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 2/10/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: 3/10/15

2RP-2800

* 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

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company XTO Energy	Contact: Kyle Littrell
Address 3104 E Greene Street, Carlsbad, NM 88220	Telephone No: 432-221-7331
Facility Name: PLU-CVX-JV-PB #001H	Facility Type: Exploration and Production

Surface Owner Federal	Mineral Owner: Federal	API No. 30-015-37030

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	1	26S	30E	400	South	1980	East	Eddy

Latitude_____ 32.065962_____ **Longitude**_____ -103.832944_____ NAD83

NATURE OF RELEASE

Type of Release Crude oil and produced water	Volume of Release 5bbls oil and 26 bbls produced water	Volume Recovered 5 bbls of oil and 20 bbls of pw from 0 perm Cont.
Source of Release: Heater Treater	Date and Hour of Occurrence 2/13/15 time unknown	Date and Hour of Discovery: 2/3/15 at approximately 11:00 am.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, Heather Patterson, OCD; Jim Amos, BLM via email	
By Whom? Brad Blevins	Date and Hour: 2/3/15 at 1:56 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse: Not Applicable	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The water leg on the heater-treater failed. The vessel was by-passed until the problem could be corrected.

Describe Area Affected and Cleanup Action Taken.*
The majority of the spill was contained in the 0-perm containment that was built around the process vessels. Due to the pressure approximately 6 bbls of produced water impacted about 2,685 sq.ft. of caliche pad. The fluid in the containment was recovered, the fluid on the ground soaked in.

LTE collected five soil samples from on February 15, 2018 to assess current site conditions. Laboratory analytical results for the five soil samples indicated BTEX, TPH, and chloride were below the NMOCD remediation action levels for this Site. XTO requests no further action for this release.

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:	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist: Bradford Billings	
Title: SH&E Coordinator	Approval Date: 03/19/2020	Expiration Date:
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval:	Attached ☐
Date: 5/7/18 Phone: 432-221-7331		

* Attach Additional Sheets If Necessary

ATTACHMENT 2

LABORATORY ANALYTICAL REPORT

Advancing Opportunity

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 26, 2018

Kyle Littlrell
LTE
3300 N A St Bldg 1 #103
Midland, TX 79705
TEL: (432) 704-5178
FAX

RE: PLU CVX JV PB 001H OrderNo.: 1802A06

Dear Kyle Littlrell:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/17/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS01
Project: PLU CVX JV PB 001H
Collection Date: 2/15/2018 5:40:00 PM
Lab ID: 1802A06-001
Matrix: SOIL
Received Date: 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	10	9.8		mg/Kg	1	2/21/2018 9:43:30 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2018 9:43:30 AM
Surr: DNOP	85.4	70-130		%Rec	1	2/21/2018 9:43:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/21/2018 9:50:30 AM
Surr: BFB	91.0	15-316		%Rec	1	2/21/2018 9:50:30 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/21/2018 9:50:30 AM
Toluene	ND	0.049		mg/Kg	1	2/21/2018 9:50:30 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/21/2018 9:50:30 AM
Xylenes, Total	ND	0.099		mg/Kg	1	2/21/2018 9:50:30 AM
Surr: 4-Bromofluorobenzene	86.5	80-120		%Rec	1	2/21/2018 9:50:30 AM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	110	30		mg/Kg	20	2/23/2018 1:47:19 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS02
Project: PLU CVX JV PB 001H
Collection Date: 2/15/2018 5:45:00 PM
Lab ID: 1802A06-002
Matrix: SOIL
Received Date: 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/21/2018 11:05:31 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2018 11:05:31 AM
Surr: DNOP	84.3	70-130		%Rec	1	2/21/2018 11:05:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/21/2018 11:01:42 AM
Surr: BFB	84.5	15-316		%Rec	1	2/21/2018 11:01:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	2/21/2018 11:01:42 AM
Toluene	ND	0.050		mg/Kg	1	2/21/2018 11:01:42 AM
Ethylbenzene	ND	0.050		mg/Kg	1	2/21/2018 11:01:42 AM
Xylenes, Total	ND	0.10		mg/Kg	1	2/21/2018 11:01:42 AM
Surr: 4-Bromofluorobenzene	77.3	80-120	S	%Rec	1	2/21/2018 11:01:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	110	30		mg/Kg	20	2/23/2018 2:24:33 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS03
Project: PLU CVX JV PB 001H
Collection Date: 2/15/2018 5:50:00 PM
Lab ID: 1802A06-003
Matrix: SOIL
Received Date: 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	9.7	9.7		mg/Kg	1	2/21/2018 11:33:10 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/21/2018 11:33:10 AM
Surr: DNOP	84.9	70-130		%Rec	1	2/21/2018 11:33:10 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/21/2018 12:13:11 PM
Surr: BFB	90.0	15-316		%Rec	1	2/21/2018 12:13:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/21/2018 12:13:11 PM
Toluene	ND	0.048		mg/Kg	1	2/21/2018 12:13:11 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/21/2018 12:13:11 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/21/2018 12:13:11 PM
Surr: 4-Bromofluorobenzene	85.8	80-120		%Rec	1	2/21/2018 12:13:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	100	30		mg/Kg	20	2/23/2018 2:36:57 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS04
Project: PLU CVX JV PB 001H
Collection Date: 2/15/2018 5:55:00 PM
Lab ID: 1802A06-004
Matrix: SOIL
Received Date: 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/21/2018 12:00:34 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/21/2018 12:00:34 PM
Surr: DNOP	84.9	70-130		%Rec	1	2/21/2018 12:00:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/21/2018 12:36:57 PM
Surr: BFB	86.6	15-316		%Rec	1	2/21/2018 12:36:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	2/21/2018 12:36:57 PM
Toluene	ND	0.047		mg/Kg	1	2/21/2018 12:36:57 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/21/2018 12:36:57 PM
Xylenes, Total	ND	0.094		mg/Kg	1	2/21/2018 12:36:57 PM
Surr: 4-Bromofluorobenzene	82.3	80-120		%Rec	1	2/21/2018 12:36:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	91	30		mg/Kg	20	2/23/2018 2:49:22 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: LTE
Client Sample ID: SS05
Project: PLU CVX JV PB 001H
Collection Date: 2/15/2018 6:00:00 PM
Lab ID: 1802A06-005
Matrix: SOIL
Received Date: 2/17/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	2/21/2018 12:28:21 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/21/2018 12:28:21 PM
Surr: DNOP	83.8	70-130		%Rec	1	2/21/2018 12:28:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/21/2018 1:00:37 PM
Surr: BFB	89.2	15-316		%Rec	1	2/21/2018 1:00:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	2/21/2018 1:00:37 PM
Toluene	ND	0.047		mg/Kg	1	2/21/2018 1:00:37 PM
Ethylbenzene	ND	0.047		mg/Kg	1	2/21/2018 1:00:37 PM
Xylenes, Total	ND	0.094		mg/Kg	1	2/21/2018 1:00:37 PM
Surr: 4-Bromofluorobenzene	84.2	80-120		%Rec	1	2/21/2018 1:00:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **CJS**
Chloride	84	30		mg/Kg	20	2/23/2018 3:01:47 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A06**

26-Feb-18

Client: LTE

Project: PLU CVX JV PB 001H

Sample ID	**MB-36684**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**36684**	RunNo:	**49353**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593362**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-36684**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**36684**	RunNo:	**49353**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593363**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A06**

26-Feb-18

Client: LTE

Project: PLU CVX JV PB 001H

Sample ID **1802A06-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SS01**	Batch ID: **36618**	RunNo: **49270**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1590092** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.3	46.60	10.24	89.8	55.8	125			
Surr: DNOP	4.1		4.660		87.4	70	130			

Sample ID **1802A06-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **SS01**	Batch ID: **36618**	RunNo: **49270**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1590093** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.61	10.24	88.6	55.8	125	5.54	20	
Surr: DNOP	4.2		5.061		83.3	70	130	0	0	

Sample ID **LCS-36618**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **36618**	RunNo: **49270**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1590096** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.0	70	130			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID **MB-36618**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **36618**	RunNo: **49270**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1590097** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.2	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A06**

26-Feb-18

Client: LTE

Project: PLU CVX JV PB 001H

Sample ID **MB-36607**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1590999** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		86.4	15	316			

Sample ID **LCS-36607**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1591000** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.7	75.9	131			
Surr: BFB	1100		1000		107	15	316			

Sample ID **1802A06-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SS02**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1591003** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	24.80	0	104	77.8	128			
Surr: BFB	1100		992.1		107	15	316			

Sample ID **1802A06-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **SS02**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1591004** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	23.95	0	108	77.8	128	0.531	20	
Surr: BFB	1100		957.9		112	15	316	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802A06**

26-Feb-18

Client: LTE

Project: PLU CVX JV PB 001H

Sample ID **MB-36607**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1591037** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.83		1.000		82.8	80	120			

Sample ID **LCS-36607**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1591038** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.025	1.000	0	79.4	77.3	128			
Toluene	0.88	0.050	1.000	0	87.9	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	95.7	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	95.2	81.6	129			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	80	120			

Sample ID **1802A06-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SS01**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1591041** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.72	0.024	0.9625	0	75.3	80.9	132			S
Toluene	0.82	0.048	0.9625	0	85.2	79.8	136			
Ethylbenzene	0.89	0.048	0.9625	0	92.9	79.4	140			
Xylenes, Total	2.6	0.096	2.887	0	91.6	78.5	142			
Surr: 4-Bromofluorobenzene	0.86		0.9625		89.3	80	120			

Sample ID **1802A06-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **SS01**	Batch ID: **36607**	RunNo: **49303**
Prep Date: **2/20/2018**	Analysis Date: **2/21/2018**	SeqNo: **1591042** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.78	0.024	0.9756	0	79.7	80.9	132	7.08	20	S
Toluene	0.85	0.049	0.9756	0	87.2	79.8	136	3.72	20	
Ethylbenzene	0.93	0.049	0.9756	0	95.1	79.4	140	3.63	20	
Xylenes, Total	2.8	0.098	2.927	0	94.8	78.5	142	4.72	20	
Surr: 4-Bromofluorobenzene	0.88		0.9756		90.4	80	120	0	0	

Qualifiers:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: LTE MIDLAND | Work Order Number: 1802A06 | RcptNo: 1

Received By: Ashley Gallegos 2/17/2018 10:00:00 AM

Completed By: Ashley Gallegos 2/19/2018 2:30:03 PM

Reviewed By: AG 02/19/18 Labeled by: SRC 02/19/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client:	LTE Permian
Mailing Address:	3300 N. A St. Bldg 1, #103 Midland TX 79705
Phone #:	432-704-5178
email or Fax#:	Abaker@ltenv.com
QA/QC Package:	☒ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other ☐ EDD (Type) PDF
Turn-Around Time:	☒ Standard ☐ Rush
Project Name:	PLU CVX JV PB #001H
Project #:	30-015-37030
Project Manager:	XTO - Kyle Littrell
Sampler:	Danny Burns 701-570-4727
On Ice:	☒ Yes ☐ No
Sample Temperature:	1.9+0.1 = 2.0

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1802A06	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1) + MRO	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.1)	Air Bubbles (Y or N)
2-15	1740	S	SS01	1-4oz.	cool	001	X		X									X	
↓	1745	↓	SS02	↓	↓	-002	↓		↓									↓	
	1750		SS03			-003													
	1755		SS04			-004													
↓	1800	↓	SS05	↓	↓	-005	↓		↓									↓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
2-16-18	1530			2/16/18	1530
2/16/18	1900			02/17/18	10:00

Remarks:

API: 30-015-37030

2RP-2800

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.