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	NAB1928444850
District RP	2RP-5663
Facility ID	
Application ID	pAB1928444589

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.12438 Longitude -103.85384
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Big Sinks 14-25-30 Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 09/11/2019	API# *(if applicable)* 30-015-39508

Unit Letter	Section	Township	Range	County
N	14	25S	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) 10	Volume Recovered (bbls) 10
	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

Discharge line from transfer pumps had a pin hole leak due to corrosion. 10 bbls of produced water was released inside the containment and recovered by vacuum truck. A 48-hour advance notice of liner inspection was provided by email to NMOCD District 2. The liner was visually inspected and determined to be inadequate. Liner is scheduled for repair and returned to impervious condition. XTO requests deferral of potential impacts under liner until facility upgrades or is abandoned. It is XTO safety policy to restrict disturbance to within 3 feet of equipment. The containment is congested by lines, tanks, and equipment making access for vertical delineation via heavy equipment or drilling rig problematic.

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Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1928444850
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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:
N/A

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 Supervisor
Signature:
Date: 9/26/2019
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

OCD Only

Received by: *Amalia Bustamante*
Date: *10/11/2019*

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NAB1928444850
District RP	2RP-5663
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Site Assessment/Characterization

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

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

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

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

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

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

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State of New Mexico
Oil Conservation Division

Incident ID	NAB1928444850
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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: 12/12/2019

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

OCD Only

Received by: Cristina Eads Date: 02/20/2020

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAB1928444850
District RP	2RP-5663
Facility ID	
Application ID	pAB1928444589

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: 12/12/2019

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

OCD Only

Received by: Cristina Eads Date: 02/20/2020

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

Signature:  Date: 02/27/2020

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

December 12, 2019

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

RE: Closure Request
Poker Lake Unit Big Sinks 14-25-30 Battery
Remediation Permit Number 2RP-5663
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment and soil sampling activities at the Poker Lake Unit Big Sinks 14-25-30 Battery (Site) in Unit N, Section 14, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to confirm the presence or absence of impacts to soil following a release of produced water at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Closure Report and requesting no further action for Remediation Permit (RP) Number 2RP-5663.

RELEASE BACKGROUND

On September 11, 2019, a discharge line from a produced water transfer pump leaked due to corrosion, resulting in the release 10 barrels (bbls) of produced water into the lined tank battery containment. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 10 bbls of produced water was recovered. A liner integrity inspection was conducted. A 48-hour notification was provided to the New Mexico Oil Conservation Division (NMOCD) via email prior to the liner inspection. The liner was determined to have a hole. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on September 26, 2019, and was assigned RP Number 2RP-5663 (Attachment 1).

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). 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. The closest permitted water well with depth to water data is New Mexico Office of State Engineer (NM OSE) well C 03781, located

approximately 3,901 feet east of the Site. The water well has a depth to groundwater of approximately 325 feet bgs and a total depth of 720 feet bgs. The closest continuously flowing water or significant watercourse to the Site is an intermittent dry wash, located approximately 446 feet northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low potential karst area.

CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

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

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On November 18 and December 3, 2019, LTE evaluated the release extent based on information provided on the Form C-141 and visual observations. LTE personnel advanced a borehole via hand-auger at the location of the hole found during the liner integrity inspection conducted by XTO. The hole was within the lined tank battery containment on the northern edge of the caliche well pad. Four soil samples were collected for vertical delineation at depths ranging from 1 foot to 4 feet bgs (BH01/BH01A/BH01B/BH01C). No soil staining was observed during the site visit. Soil from the borehole was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each sample were documented on a lithologic/soil sample log and are included as Attachment 2. The borehole was backfilled with the soil removed and XTO repaired the liner. The borehole and vertical delineation soil sample location is depicted on Figure 2.

The soil samples from were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States

Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following EPA Method 300.0. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples BH01B and BH01C at depths of approximately 3 feet and 4 feet bgs, respectively.

Laboratory analytical results indicated that GRO and DRO and TPH concentrations exceeded the Closure Criteria in soil samples BH01 and BH01A, collected at depths of 1 foot and 2 feet bgs.

Laboratory analytical results are presented on Figure 2, and summarized in Table 1. The complete laboratory analytical reports are included as Attachment 4.

DEFERRAL REQUEST

Following the failed liner integrity inspection, LTE personnel advanced a borehole in the location of the hole in the compromised liner. Laboratory analytical results indicated that GRO and DRO concentrations exceeded the Closure Criteria in soil samples BH01 and BH01A, collected at 1 foot and 2 feet bgs. Laboratory analytical results indicated that benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in soil samples BH01B and BH01C, collected at 3 feet and 4 feet bgs. Residual impacted soil in the area of BH01 and BH01A was left in place for compliance because full remediation of soil around and beneath the equipment would require major facility and pad deconstruction.

The impacted soil remaining in place in the area of soil samples BH01 and BH01A is delineated vertically by soil sample BH01B, collected at a depth of 3 feet bgs. The lateral extent of impacted soil remaining in place is defined by the lined tank battery containment. An estimated 410 cubic yards of impacted soil remains in place surrounding borehole BH01 and beneath the lined tank battery containment, assuming a maximum 3-foot depth based on sample BH01B collected at a depth of 3 feet bgs that was compliant with the Closure Criteria.

LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. No saturated soil remains in place. XTO requests deferral of final remediation for RP Number 2RP-5663. An updated NMOCD Form C-141 is included as Attachment 1.

If you have any questions or comments, please do not hesitate to contact Ashley Ager at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
United States Bureau of Land Management – New Mexico
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5663)
Attachment 2	Lithologic / Soil Sampling Logs
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES

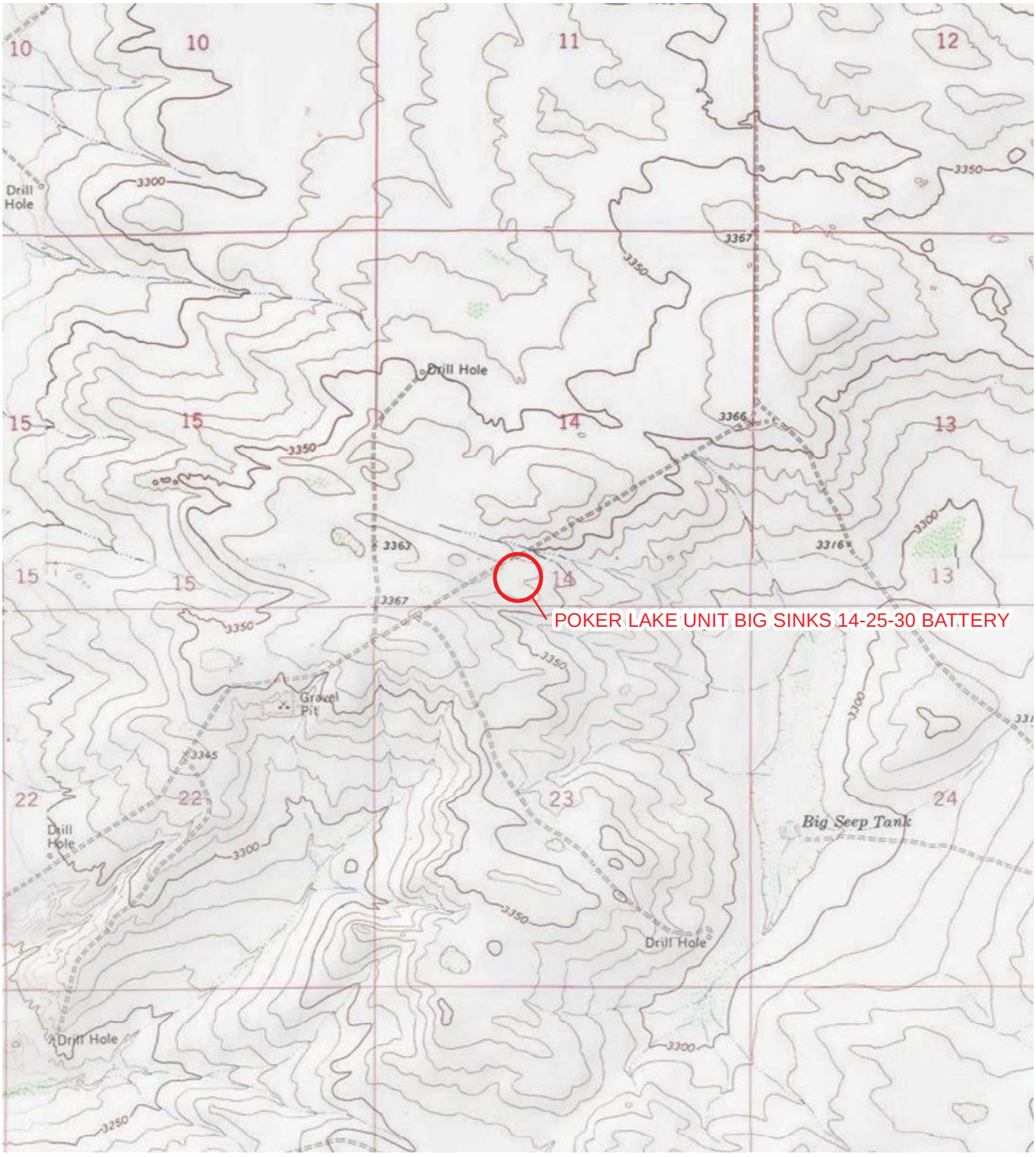

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-5663

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT BIG SINKS 14-25-30 BATTERY
UNIT N SEC 14 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919269_PLU BIG SINKS 14-25-30 BATTERY\012919269_FIG01_SL_5663.mxd

LEGEND

IMAGE COURTESY OF ESRI

SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5663

0 50 100
Feet

N

FIGURE 2
SOIL SAMPLE LOCATIONS
POKER LAKE UNIT BIG SINKS 14-25-30 BATTERY
UNIT N SEC 14 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919269_PLU BIG SINKS 14-25-30 BATTERY\012919269_FIG02_SS LOC_5663.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT BIG SINKS 14-25-30 BATTERY
REMEDIATION PERMIT NUMBER 2RP-5663
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)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
BH01	1	11/18/2019	<0.00202	<0.00202	0.0248	0.309	0.334	96.1	2,820	230	**2,920**	**3,150**	1,080
BH01A	2	11/18/2019	<0.00201	<0.00201	0.00426	0.0449	0.0492	<50.2	1,350	124	**1,350**	1,470	1,000
BH01B	3	12/03/2019	<0.00200	0.00539	<0.00200	<0.00200	0.00539	<50.1	502	52.4	502	554	587
BH01C	4	12/03/2019	<0.00199	0.00252	<0.00199	0.0161	0.0186	<50.3	309	<50.3	309	309	52.0

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
TPH - total petroleum hydrocarbons
Bold - indicates result exceeds the applicable regulatory standard
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-5663)

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

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Submit to appropriate OCD District office

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Facility ID	
Application ID	pAB1928444589

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.12438 Longitude -103.85384
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Big Sinks 14-25-30 Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 09/11/2019	API# *(if applicable)* 30-015-39508

Unit Letter	Section	Township	Range	County
N	14	25S	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) 10	Volume Recovered (bbls) 10
	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

Discharge line from transfer pumps had a pin hole leak due to corrosion. 10 bbls of produced water was released inside the containment and recovered by vacuum truck. A 48-hour advance notice of liner inspection was provided by email to NMOCD District 2. The liner was visually inspected and determined to be inadequate. Liner is scheduled for repair and returned to impervious condition. XTO requests deferral of potential impacts under liner until facility upgrades or is abandoned. It is XTO safety policy to restrict disturbance to within 3 feet of equipment. The containment is congested by lines, tanks, and equipment making access for vertical delineation via heavy equipment or drilling rig problematic.

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Oil Conservation Division

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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:
N/A

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.

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Printed Name: Kyle Littrell
Title: SH&E Supervisor
Signature:
Date: 9/26/2019
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

OCD Only

Received by: *Amalia Bustamante*
Date: *10/11/2019*

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Page 3

State of New Mexico
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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	NAB1928444850
District RP	2RP-5663
Facility ID	
Application ID	pAB1928444589

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: 12/12/2019

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

OCD Only

Received by: Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAB1928444850
District RP	2RP-5663
Facility ID	
Application ID	pAB1928444589

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: 12/12/2019

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

OCD Only

Received by: _____ Date: _____

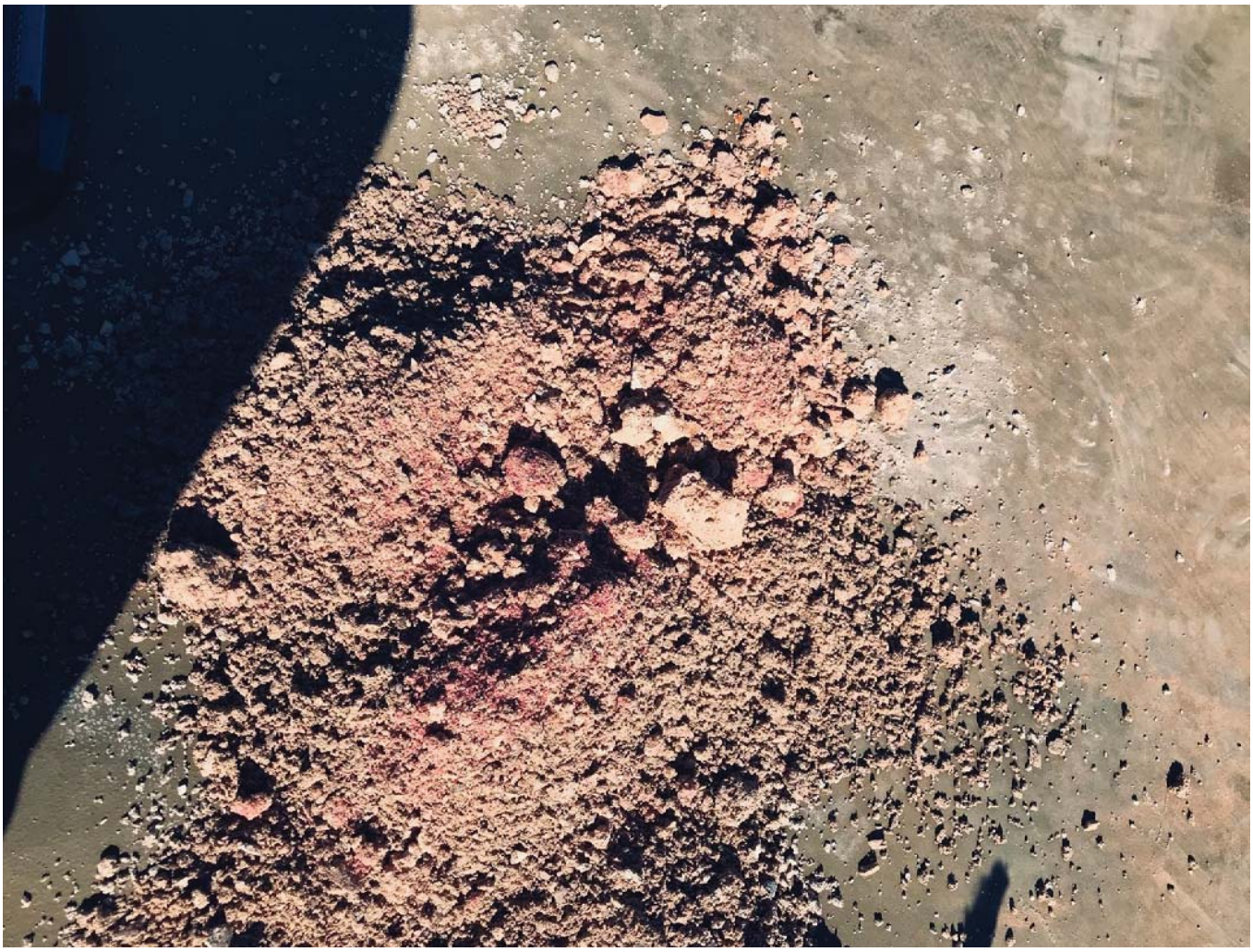
☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

ATTACHMENT 2: PHOTOGRAPHIC LOG

View of hole in the tank battery containment liner identified during the liner integrity inspection.

Project: 012919269	XTO Energy, Inc. Poker Lake Unit Big Sinks 14-25-30 Battery	LTE Advancing Opportunity
November 18, 2019	Photographic Log	



View of tank battery containment liner and borehole location during delineation soil sampling activities.

Project: 012919269	XTO Energy, Inc. Poker Lake Unit Big Sinks 14-25-30 Battery	LTE Advancing Opportunity
November 18, 2019	Photographic Log	

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 643716

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 14-25-31

012919269

26-NOV-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 (2019-058), North Carolina (681), Arkansas (19-037-0)

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-Carlsbad (LELAP): Louisiana (05092)
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)

26-NOV-19

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

Reference: XENCO Report No(s): **643716**
PLU Big Sinks 14-25-31
Project Address: 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) 643716. 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. 643716 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 643716

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-31

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01A	S	11-18-19 12:15	1 ft	643716-001
BH01A	S	11-18-19 12:50	2 ft	643716-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 14-25-31

Project ID: *012919269*
Work Order Number(s): *643716*

Report Date: *26-NOV-19*
Date Received: *11/19/2019*

Sample receipt non conformances and comments:

Corrected sample names per client email. See below. NEW VERSION GENERATED JK 11/26/19
SS01 --> SS01A
BH01 --> BH01A

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3108004 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 643716

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 14-25-31

Project Id: 012919269
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Nov-19-19 03:15 pm
Report Date: 26-NOV-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	643716-001		643716-002					
	Field Id:	SS01A		BH01A					
	Depth:	1- ft		2- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Nov-18-19 12:15		Nov-18-19 12:50					
BTEX by EPA 8021B	***Extracted:***	Nov-19-19 17:11		Nov-19-19 17:11					
	Analyzed:	Nov-19-19 23:19		Nov-19-19 23:38					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00201	0.00201				
Toluene		<0.00202	0.00202	<0.00201	0.00201				
Ethylbenzene		0.0248	0.00202	0.00426	0.00201				
m,p-Xylenes		0.147	0.00202	0.0199	0.00201				
o-Xylene		0.162	0.00202	0.0250	0.00201				
Total Xylenes		0.309	0.00202	0.0449	0.00201				
Total BTEX		0.334	0.00202	0.0492	0.00201				
Chloride by EPA 300	***Extracted:***	Nov-19-19 18:11		Nov-19-19 18:11					
	Analyzed:	Nov-19-19 19:29		Nov-19-19 19:46					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		1080	49.5	1000	49.9				
TPH by SW8015 Mod	***Extracted:***	Nov-19-19 16:30		Nov-19-19 16:30					
	Analyzed:	Nov-19-19 23:11		Nov-19-19 23:50					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		96.1	50.2	<50.2	50.2				
Diesel Range Organics (DRO)		2820	50.2	1350	50.2				
Motor Oil Range Hydrocarbons (MRO)		230	50.2	124	50.2				
Total GRO-DRO		2920	50.2	1350	50.2				
Total TPH		3150	50.2	1470	50.2				

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 643716

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-31

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	11.19.19 15.15
Lab Sample Id:	643716-001	Date Collected:	11.18.19 12.15	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.19.19 18.11	Basis:	Wet Weight
Seq Number:	3108003				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1080**	49.5	mg/kg	11.19.19 19.29		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.19.19 16.30	Basis:	Wet Weight
Seq Number:	3108033				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**96.1**	50.2	mg/kg	11.19.19 23.11		1
Diesel Range Organics (DRO)	C10C28DRO	**2820**	50.2	mg/kg	11.19.19 23.11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**230**	50.2	mg/kg	11.19.19 23.11		1
Total GRO-DRO	PHC628	**2920**	50.2	mg/kg	11.19.19 23.11		1
Total TPH	PHC635	**3150**	50.2	mg/kg	11.19.19 23.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	11.19.19 23.11	
o-Terphenyl	84-15-1	119	%	70-135	11.19.19 23.11	

Certificate of Analytical Results 643716

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-31

Sample Id:	**SS01A**	Matrix:	Soil	Date Received:	11.19.19 15.15
Lab Sample Id:	643716-001	Date Collected:	11.18.19 12.15	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.19.19 17.11	Basis:	Wet Weight
Seq Number:	3108004				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.19.19 23.19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.19.19 23.19	U	1
Ethylbenzene	100-41-4	**0.0248**	0.00202	mg/kg	11.19.19 23.19		1
m,p-Xylenes	179601-23-1	**0.147**	0.00202	mg/kg	11.19.19 23.19		1
o-Xylene	95-47-6	**0.162**	0.00202	mg/kg	11.19.19 23.19		1
Total Xylenes	1330-20-7	**0.309**	0.00202	mg/kg	11.19.19 23.19		1
Total BTEX		**0.334**	0.00202	mg/kg	11.19.19 23.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	70-130	11.19.19 23.19	
1,4-Difluorobenzene	540-36-3	95	%	70-130	11.19.19 23.19	

Certificate of Analytical Results 643716

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-31

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	11.19.19 15.15
Lab Sample Id:	643716-002	Date Collected:	11.18.19 12.50	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.19.19 18.11	Basis:	Wet Weight
Seq Number:	3108003				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1000**	49.9	mg/kg	11.19.19 19.46		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	11.19.19 16.30	Basis:	Wet Weight
Seq Number:	3108033				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.19.19 23.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1350**	50.2	mg/kg	11.19.19 23.50		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**124**	50.2	mg/kg	11.19.19 23.50		1
Total GRO-DRO	PHC628	**1350**	50.2	mg/kg	11.19.19 23.50		1
Total TPH	PHC635	**1470**	50.2	mg/kg	11.19.19 23.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	11.19.19 23.50	
o-Terphenyl	84-15-1	80	%	70-135	11.19.19 23.50	

Certificate of Analytical Results 643716

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-31

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	11.19.19 15.15
Lab Sample Id:	643716-002	Date Collected:	11.18.19 12.50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	11.19.19 17.11	Basis:	Wet Weight
Seq Number:	3108004				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.19.19 23.38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.19.19 23.38	U	1
Ethylbenzene	100-41-4	**0.00426**	0.00201	mg/kg	11.19.19 23.38		1
m,p-Xylenes	179601-23-1	**0.0199**	0.00201	mg/kg	11.19.19 23.38		1
o-Xylene	95-47-6	**0.0250**	0.00201	mg/kg	11.19.19 23.38		1
Total Xylenes	1330-20-7	**0.0449**	0.00201	mg/kg	11.19.19 23.38		1
Total BTEX		**0.0492**	0.00201	mg/kg	11.19.19 23.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	11.19.19 23.38	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.19.19 23.38	

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 643716

LT Environmental, Inc.

PLU Big Sinks 14-25-31

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108003 — Matrix: Solid — Date Prep: 11.19.19
MB Sample Id: 7690696-1-BLK — LCS Sample Id: 7690696-1-BKS — LCSD Sample Id: 7690696-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	254	102	253	101	90-110	0	20	mg/kg	11.19.19 17:55	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108003 — Matrix: Soil — Date Prep: 11.19.19
Parent Sample Id: 643713-001 — MS Sample Id: 643713-001 S — MSD Sample Id: 643713-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	300	198	508	105	509	106	90-110	0	20	mg/kg	11.19.19 18:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3108003 — Matrix: Soil — Date Prep: 11.19.19
Parent Sample Id: 643716-001 — MS Sample Id: 643716-001 S — MSD Sample Id: 643716-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1080	200	1270	95	1280	101	90-110	1	20	mg/kg	11.19.19 19:35	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3108033 — Matrix: Solid — Date Prep: 11.19.19
MB Sample Id: 7690720-1-BLK — LCS Sample Id: 7690720-1-BKS — LCSD Sample Id: 7690720-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1140	114	1090	109	70-135	4	35	mg/kg	11.19.19 11:27	
Diesel Range Organics (DRO)	<50.0	1000	1160	116	1250	125	70-135	7	35	mg/kg	11.19.19 11:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		132		129		70-135	%	11.19.19 11:27
o-Terphenyl	118		132		129		70-135	%	11.19.19 11:27

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3108033 — Matrix: Solid — Date Prep: 11.19.19
MB Sample Id: 7690720-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.19.19 11:07	

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

QC Summary 643716

LT Environmental, Inc.

PLU Big Sinks 14-25-31

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3108033 — Matrix: Soil — Date Prep: 11.19.19
Parent Sample Id: 643713-001 — MS Sample Id: 643713-001 S — MSD Sample Id: 643713-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	937	94	863	86	70-135	8	35	mg/kg	11.19.19 17:52	
Diesel Range Organics (DRO)	<50.1	1000	1090	109	992	99	70-135	9	35	mg/kg	11.19.19 17:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		110		70-135	%	11.19.19 17:52
o-Terphenyl	120		111		70-135	%	11.19.19 17:52

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3108004 — Matrix: Solid — Date Prep: 11.19.19
MB Sample Id: 7690695-1-BLK — LCS Sample Id: 7690695-1-BKS — LCSD Sample Id: 7690695-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.101	101	70-130	2	35	mg/kg	11.19.19 15:03	
Toluene	<0.00200	0.100	0.101	101	0.100	100	70-130	1	35	mg/kg	11.19.19 15:03	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0996	100	71-129	1	35	mg/kg	11.19.19 15:03	
m,p-Xylenes	<0.00200	0.200	0.213	107	0.211	106	70-135	1	35	mg/kg	11.19.19 15:03	
o-Xylene	<0.00200	0.100	0.106	106	0.105	105	71-133	1	35	mg/kg	11.19.19 15:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		103		70-130	%	11.19.19 15:03
4-Bromofluorobenzene	104		111		110		70-130	%	11.19.19 15:03

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3108004 — Matrix: Soil — Date Prep: 11.19.19
Parent Sample Id: 643713-001 — MS Sample Id: 643713-001 S — MSD Sample Id: 643713-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.103	104	0.0909	91	70-130	12	35	mg/kg	11.19.19 18:19	
Toluene	<0.00198	0.0992	0.101	102	0.0849	85	70-130	17	35	mg/kg	11.19.19 18:19	
Ethylbenzene	<0.00198	0.0992	0.0989	100	0.0758	76	71-129	26	35	mg/kg	11.19.19 18:19	
m,p-Xylenes	<0.00198	0.198	0.209	106	0.159	80	70-135	27	35	mg/kg	11.19.19 18:19	
o-Xylene	<0.00198	0.0992	0.105	106	0.0807	81	71-133	26	35	mg/kg	11.19.19 18:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		106		70-130	%	11.19.19 18:19
4-Bromofluorobenzene	116		118		70-130	%	11.19.19 18:19

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

XENCO LABORATORIES

Chain of Custody

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

Work Order No: ~~643~~ 643716

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

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

		Turn Around
Project Name:	PLU Big Sinks 14-25-31	Routine X
Project Number:	012919269	Rush:
P.O. Number:	Eddy County	
Sampler's Name:	Elizabeth Naka	Due Date:

SAMPLE RECEIPT

Temp Blank:	Yes / No (circled)	Wet Ice:	Yes (circled) No
Temperature (°C):	2.0	Thermometer ID	T-NM-007
Received Intact:	Yes (circled) No		
Cooler Custody Seals:	Yes No (circled) N/A	Correction Factor:	
Sample Custody Seals:	Yes No (circled) N/A	Total Containers:	2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS01	S	11/18/19	1215	1'	1	X	X	X	discrete
SS01A	S	11/18/19	1250	2'	↓	↓	↓	↓	

Elizabeth Naka

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

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

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	11/19/19 15:06	2 [signature]	[signature]	11/19/19 15:15
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Analytical Report 644992

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 14-25-30

012919269

05-DEC-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 (2019-058), North Carolina (681), Arkansas (19-037-0)

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-Carlsbad (LELAP): Louisiana (05092)
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)

05-DEC-19

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

Reference: XENCO Report No(s): **644992**
PLU Big Sinks 14-25-30
Project Address: 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) 644992. 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. 644992 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 644992

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01 B	S	12-03-19 13:35	3 ft	644992-001
BH01 C	S	12-03-19 13:50	4 ft	644992-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 14-25-30

Project ID: *012919269*
Work Order Number(s): *644992*

Report Date: *05-DEC-19*
Date Received: *12/04/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3109452 BTEX by EPA 8021B

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

Certificate of Analysis Summary 644992

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 14-25-30

Project Id: 012919269
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Wed Dec-04-19 08:43 am
Report Date: 05-DEC-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	644992-001		644992-002					
	Field Id:	BH01 B		BH01 C					
	Depth:	3- ft		4- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Dec-03-19 13:35		Dec-03-19 13:50					
BTEX by EPA 8021B	***Extracted:***	Dec-04-19 10:00		Dec-04-19 10:00					
	Analyzed:	Dec-04-19 19:06		Dec-04-19 19:25					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199				
Toluene		0.00539	0.00200	0.00252	0.00199				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199				
m,p-Xylenes		<0.00400	0.00400	<0.00398	0.00398				
o-Xylene		<0.00200	0.00200	0.0161	0.00199				
Total Xylenes		<0.00200	0.00200	0.0161	0.00199				
Total BTEX		0.00539	0.00200	0.0186	0.00199				
Chloride by EPA 300	***Extracted:***	Dec-04-19 16:00		Dec-04-19 16:00					
	Analyzed:	Dec-04-19 19:43		Dec-04-19 20:02					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		587	50.4	52.0	49.9				
TPH by SW8015 Mod	***Extracted:***	Dec-04-19 13:30		Dec-04-19 13:30					
	Analyzed:	Dec-04-19 19:34		Dec-04-19 19:54					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.3	50.3				
Diesel Range Organics (DRO)		502	50.1	309	50.3				
Motor Oil Range Hydrocarbons (MRO)		52.4	50.1	<50.3	50.3				
Total GRO-DRO		502	50.1	309	50.3				
Total TPH		554	50.1	309	50.3				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 644992

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-30

Sample Id:	**BH01 B**	Matrix:	Soil	Date Received:	12.04.19 08.43
Lab Sample Id:	644992-001	Date Collected:	12.03.19 13.35	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.04.19 16.00	Basis:	Wet Weight
Seq Number:	3109469				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**587**	50.4	mg/kg	12.04.19 19.43		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.04.19 13.30	Basis:	Wet Weight
Seq Number:	3109453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.04.19 19.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**502**	50.1	mg/kg	12.04.19 19.34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**52.4**	50.1	mg/kg	12.04.19 19.34		1
Total GRO-DRO	PHC628	**502**	50.1	mg/kg	12.04.19 19.34		1
Total TPH	PHC635	**554**	50.1	mg/kg	12.04.19 19.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.04.19 19.34	
o-Terphenyl	84-15-1	119	%	70-135	12.04.19 19.34	

Certificate of Analytical Results 644992

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-30

Sample Id:	**BH01 B**	Matrix:	Soil	Date Received:	12.04.19 08.43
Lab Sample Id:	644992-001	Date Collected:	12.03.19 13.35	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.04.19 10.00	Basis:	Wet Weight
Seq Number:	3109452				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.04.19 19.06	U	1
Toluene	108-88-3	**0.00539**	0.00200	mg/kg	12.04.19 19.06		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.04.19 19.06	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.04.19 19.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.04.19 19.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.04.19 19.06	U	1
Total BTEX		**0.00539**	0.00200	mg/kg	12.04.19 19.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.04.19 19.06	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.04.19 19.06	

Certificate of Analytical Results 644992

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-30

Sample Id:	**BH01 C**	Matrix:	Soil	Date Received:	12.04.19 08.43
Lab Sample Id:	644992-002	Date Collected:	12.03.19 13.50	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.04.19 16.00	Basis:	Wet Weight
Seq Number:	3109469				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.0**	49.9	mg/kg	12.04.19 20.02		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.04.19 13.30	Basis:	Wet Weight
Seq Number:	3109453				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.04.19 19.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**309**	50.3	mg/kg	12.04.19 19.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.04.19 19.54	U	1
Total GRO-DRO	PHC628	**309**	50.3	mg/kg	12.04.19 19.54		1
Total TPH	PHC635	**309**	50.3	mg/kg	12.04.19 19.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.04.19 19.54	
o-Terphenyl	84-15-1	127	%	70-135	12.04.19 19.54	

Certificate of Analytical Results 644992

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 14-25-30

Sample Id:	**BH01 C**	Matrix:	Soil	Date Received:	12.04.19 08.43
Lab Sample Id:	644992-002	Date Collected:	12.03.19 13.50	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.04.19 10.00	Basis:	Wet Weight
Seq Number:	3109452				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.04.19 19.25	U	1
Toluene	108-88-3	**0.00252**	0.00199	mg/kg	12.04.19 19.25		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.04.19 19.25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.04.19 19.25	U	1
o-Xylene	95-47-6	**0.0161**	0.00199	mg/kg	12.04.19 19.25		1
Total Xylenes	1330-20-7	**0.0161**	0.00199	mg/kg	12.04.19 19.25		1
Total BTEX		**0.0186**	0.00199	mg/kg	12.04.19 19.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.04.19 19.25	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.04.19 19.25	

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 644992

LT Environmental, Inc.

PLU Big Sinks 14-25-30

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109469 — Matrix: Solid — Date Prep: 12.04.19
MB Sample Id: 7691689-1-BLK — LCS Sample Id: 7691689-1-BKS — LCSD Sample Id: 7691689-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	261	104	264	106	90-110	1	20	mg/kg	12.04.19 19:31	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109469 — Matrix: Soil — Date Prep: 12.04.19
Parent Sample Id: 644992-001 — MS Sample Id: 644992-001 S — MSD Sample Id: 644992-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	587	200	790	102	772	93	90-110	2	20	mg/kg	12.04.19 19:49	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3109469 — Matrix: Soil — Date Prep: 12.04.19
Parent Sample Id: 645005-001 — MS Sample Id: 645005-001 S — MSD Sample Id: 645005-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.18	200	211	104	209	104	90-110	1	20	mg/kg	12.04.19 21:17	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109453 — Matrix: Solid — Date Prep: 12.04.19
MB Sample Id: 7691711-1-BLK — LCS Sample Id: 7691711-1-BKS — LCSD Sample Id: 7691711-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	914	91	940	94	70-135	3	35	mg/kg	12.04.19 15:37	
Diesel Range Organics (DRO)	<50.0	1000	1040	104	1140	114	70-135	9	35	mg/kg	12.04.19 15:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		124		130		70-135	%	12.04.19 15:37
o-Terphenyl	108		123		128		70-135	%	12.04.19 15:37

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109453 — Matrix: Solid — Date Prep: 12.04.19
MB Sample Id: 7691711-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.04.19 15:17	

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

QC Summary 644992

LT Environmental, Inc.

PLU Big Sinks 14-25-30

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3109453 — Matrix: Soil — Date Prep: 12.04.19
Parent Sample Id: 644983-001 — MS Sample Id: 644983-001 S — MSD Sample Id: 644983-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	902	90	916	91	70-135	2	35	mg/kg	12.04.19 15:57	
Diesel Range Organics (DRO)	62.4	1000	1090	103	1080	101	70-135	1	35	mg/kg	12.04.19 15:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		126		70-135	%	12.04.19 15:57
o-Terphenyl	132		126		70-135	%	12.04.19 15:57

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3109452 — Matrix: Solid — Date Prep: 12.04.19
MB Sample Id: 7691694-1-BLK — LCS Sample Id: 7691694-1-BKS — LCSD Sample Id: 7691694-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0892	89	0.0958	96	70-130	7	35	mg/kg	12.04.19 10:39	
Toluene	<0.00200	0.100	0.0913	91	0.0974	97	70-130	6	35	mg/kg	12.04.19 10:39	
Ethylbenzene	<0.00200	0.100	0.0913	91	0.0970	97	71-129	6	35	mg/kg	12.04.19 10:39	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.205	103	70-135	6	35	mg/kg	12.04.19 10:39	
o-Xylene	<0.00200	0.100	0.0970	97	0.103	103	71-133	6	35	mg/kg	12.04.19 10:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		102		102		70-130	%	12.04.19 10:39
4-Bromofluorobenzene	109		115		115		70-130	%	12.04.19 10:39

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3109452 — Matrix: Soil — Date Prep: 12.04.19
Parent Sample Id: 644979-001 — MS Sample Id: 644979-001 S — MSD Sample Id: 644979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0903	90	0.0737	74	70-130	20	35	mg/kg	12.04.19 11:18	
Toluene	<0.00200	0.100	0.0910	91	0.0740	74	70-130	21	35	mg/kg	12.04.19 11:18	
Ethylbenzene	<0.00200	0.100	0.0904	90	0.0720	72	71-129	23	35	mg/kg	12.04.19 11:18	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.154	77	70-135	22	35	mg/kg	12.04.19 11:18	
o-Xylene	<0.00200	0.100	0.0963	96	0.0760	76	71-133	24	35	mg/kg	12.04.19 11:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		105		70-130	%	12.04.19 11:18
4-Bromofluorobenzene	119		118		70-130	%	12.04.19 11:18

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

Chain of Custody

Work Order No: 44492

XENCO LABORATORIES

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

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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 14-25-30	Turn Around	
Project Number:	012919269	Routine ☐	
P.O. Number:	Eddy County	Rush: 24hour	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.2	Thermometer ID		
Received Intact:	Yes No	T-NM-009		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	2	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
BH01B	S	12/3/19	1335	3'	1	X	X	X
BH01C	S	12/3/19	1350	4'	1	X	X	X

Elizabeth Naka

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

discrete ↓

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

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Elizabeth Naka		12-4-2019	2		12/4/19 08:43
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/04/2019 08:43:00 AM

Work Order #: 644992

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)?	1.2
#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)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 12/04/2019

Checklist reviewed by: Jessica Kramer Date: 12/05/2019

Jessica Kramer