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	NRM2002948523
District RP	
Facility ID	
Application ID	

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 32.412235 Longitude -104.064223
(NAD 83 in decimal degrees to 5 decimal places)

Site Name BEU 156 (BEGS) CS	Site Type Well Location
Date Release Discovered 12/04/2019	API# *(if applicable)* 30-015-35269 (Big Eddy Unit #156)

Unit Letter	Section	Township	Range	County
D	11	22S	28E	EDDY

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

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) 0.0	Volume Recovered (bbls) 0.0
☒ Produced Water	Volume Released (bbls) 41.65	Volume Recovered (bbls) 41.65
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls) 4.63	Volume Recovered (bbls) 4.63
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Two tanks overflowed due to an unanticipated slug of fluid moving through the system. All fluids were recovered. A 48-hour advance notice of liner inspection was provided by email to NMOCD District 2. The liner was visually inspected and located two holes. Additional delineation for deferral will be completed by a third party contractor.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM2002948523
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? YES – An unauthorized release of fluid over 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? YES, by Amy Ruth : Mike Bratcher; Rob Hamlet; Victoria Venegas; "Griswold, Jim, EMNRD"; blm_nm_cfo_spill@blm.gov; Crisha Morgan ; by email December 04, 2019 10:39 AM	

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 12/17/2019

email: Kyle_Littrell@xtoenergy.com Telephone:

OCD Only

Received by: Ramona Marcus Date: 1/29/2020

Location:	**BEU 156 (BEGS) CS**	
Spill Date:	**12/4/2019**	

Approximate Area =	**259.84**	**cubic ft.**

TOTAL VOLUME OF LEAK		
Total Produced Water =	**41.65**	**bbls**
Total Condensate =	**4.63**	**bbls**

VOLUME RECOVERED

Total Produced Water =	**41.65**	**bbls**
Total Condensate =	**4.63**	**bbls**

NRM2002948523

State of New Mexico
Oil Conservation Division

Incident ID	NRM2002948523
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NRM2002948523
District RP	
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 08/25/2020

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

OCD Only

Received by: Date:

Incident ID	NRM2002948523
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 08/25/2020

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

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

A proud member of WSP

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

August 27, 2020

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

RE: Closure Request Addendum
BEU 156 (BEGS) CS
Incident Number: NRM2002948523
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following addendum to the original Closure Request submitted April 22, 2020. This addendum provides an update to the delineation activities and depth to groundwater determination at the BEU 156 (BEGS) CS (Site) in Unit D, Section 11, Township 22 South, Range 28 East, in Eddy County, New Mexico (Figure 1) in response to the denial of the Closure Request by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD requested additional investigation and remediation of underlying bedrock encountered at the Site. Based on the nearest water well being greater than ½ mile away from the Site, the NMOCD also applied the most stringent Table 1 Closure Criteria to confirm remediation activities. In response, XTO has completed additional investigation sampling and collected supplemental depth to groundwater data to support the original Closure Request. The new information is described below and XTO is requesting no further action (NFA) for Incident Number NRM2002948523.

BACKGROUND

On April 22, 2020, LTE submitted a Closure Request to the NMOCD for a tank overflow release of approximately 41.65 barrels (bbls) of produced water and 4.63 bbls of condensate into the lined tank battery containment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids, of which approximately 41.65 bbls of produced water and 4.63 bbls of condensate were recovered. A 48-hour advance notice of liner inspection was provided via email to NMOCD District 2 and, upon inspection, the liner was determined to be insufficient. Following the failed liner integrity inspection, LTE personnel advanced one borehole via hand auger in the location of the hole in the compromised liner. Delineation soil sample BH01 was collected from a depth of approximately 0.75 feet bgs, where auger refusal by bedrock was encountered. Closure was requested based on laboratory analytical results for delineation soil sample BH01 indicating benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.

The Closure Request detailed site characterization 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 was estimated to be greater than 100 feet below ground surface (bgs) based on data from United States Geological Survey (USGS) well 322547104035001, located approximately 1.21 miles north of the Site, which indicated depth to groundwater was last measured at 129 feet bgs. The site characterization did not identify any other potential sensitive receptors within the distance criteria defined by 19.15.29.12 NMAC. As such, the following NMOCD Table 1 Closure Criteria were applied:

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

On June 12, 2020, NMOCD denied closure, via email, for the following reasons:

- *OCD doesn't expect XTO to dig out the rock below the liner, but requests the bullet points below be addressed:*
  - *If the rock is immovable and target depth cannot be reached, use a hydrovac to clean the contaminated soil off the rock surface and outline specific locations and steps taken in the Closure Report.*
  - *Use a rotary drill to drill an 18''-24'' hole into the rock, pull sample to ensure contaminants haven't permeated deep through the rock surface.*
  - *Layer the cleaned rock with Micro-Blaze or liquid with microbial strains, surfactants and nutrients designed to digest organics and hydrocarbons.*
  - *Backfill with clean material.*
- *With no wells located within a 0.5-mile radius from the release location, the spill would need to meet Table 1 Closure Criteria for groundwater at a depth of 50 feet or less. Sample location BH01 would need to be below closure criteria standards of 600 mg/kg for chlorides and 100 mg/kg for TPH.*

ADDITIONAL DELINEATION ACTIVITIES

LTE conducted additional delineation sampling on August 3, 2020, to confirm the vertical extent of impacted soil. Based on the location of the investigation within the middle of an active tank battery containment, neither use of a hydrovac nor air rotary drill was possible. Alternatively, a hammer drill was used to deepen borehole BH01 into the underlying bedrock, where hand auger

refusal was previously encountered. The hammer drill was utilized to pulverize the rock. LTE used the cuttings from the drill bit to collect delineation sample BH01A from a depth of approximately 1.5 feet bgs. Soil from the borehole was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the borehole were logged on lithologic/soil sampling logs, which are included in Attachment 1. The delineation soil sample location is depicted on Figure 2.

The delineation soil sample was placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler initials, method of analysis, and immediately placed on ice. The soil sample was transported at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories (Xenco) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for delineation soil sample BH01A, indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria previously applied to the Site and below the strictest Closure Criteria of 600 mg/kg for chloride and 100 mg/kg for TPH. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 2.

ADDITIONAL DEPTH TO GROUNDWATER DETERMINATION ACTIVITIES

In an effort to provide additional information for depth to water determination, LTE conducted a two-dimensional (2-D) electrical resistivity (ER) survey on July 29, 2020, to confirm depth to water at the Site is greater than 100 feet bgs and the correct Closure Criteria were originally applied. An ER survey was selected as an alternative method to subsurface drilling for accurately confirming depth to groundwater using non-destructive electrical resistivity imaging. LTE initiated conversations with the NMOCD earlier this year regarding utilization of ER surveys to identify groundwater. After a positive verbal conversation in which NMOCD recommended a path forward to verify the accuracy of the method, LTE submitted a report on June 8, 2020 and again on August 14, 2020, documenting three ER surveys conducted adjacent to existing monitoring wells or boreholes and correlating the geophysical results with depth to water measurements. The report provided details on the technology and referenced published white papers supporting its use for identifying depth to water.

ER Theory

The background for applying ER geophysical technique to identify groundwater is best presented in the previously submitted technical report but is summarized here. The theory is based on the flow of electrical current through the underlying media, creating measurements and producing a 2-D model, presented as a cross-section, of the subsurface. As the current migrates through the underlying media, a potential difference (apparent resistivity) in current is measured. The

apparent resistivity is dependent on properties of the subsurface, including porosity, saturation, and concentration of total dissolved solids (TDS).

Because a controlling factor to the flow of electrical current through the subsurface is saturation, resistivity measurements can be correlated to water saturation and the connectivity of pore spaces between sediments. Using the resultant resistivity values with the visible presentation of the subsurface in the 2-D model, geophysicists are able to determine the depth of groundwater. A highly saturated lithology will enable the current to move with less resistance, resulting in lower resistivity values. When a material is completely saturated with fresh groundwater, the resistivity values typically range from 1 to 10 Ohm-Meter (ohm-m). As the salinity and TDS of the groundwater increases, resistivity values can decrease below 1 ohm-m. A lithology with low porosity can also decrease resistivity values without the presence of groundwater. However, groundwater can be differentiated from unsaturated, less-porous lithology based on the direct resistivity values higher than 10 ohm-m, as well as geometry/distribution of those values in the cross-sections and geologic setting.

ER Survey Methods

The ER survey was conducted using an Advanced Geosciences, Inc. (AGI) SuperSting™ Wifi R8 with a multi-electrode switchbox, with a 56-electrode array configured to a dipole-dipole array. GPS locations for each electrode along the survey line were collected using a Trimble R1 GPS. EarthImager™ 2D software was implemented to process the data and produce the models required to make the interpretations. The data was processed, analyzed, and interpreted by LTE.

For this Site, the 2D ER line (BEUL) was oriented west to east and was conducted using a 4-meter (13 feet) electrode spacing for a total length of 224 meters (735 feet), allowing for a total depth of investigation of 43.6 meters (143 feet) bgs. The location of the survey line is presented on Figure 3. The ER survey line was placed off the well pad in order to prevent interference from metallic infrastructure. If the resistivity survey line is placed near metallic infrastructure, a large amount of error can be recorded, due to “signal sapping”. This means the electrical current being injected into the subsurface will be pulled to the infrastructure rather than the electrodes, creating inaccurate data.

Resolution is controlled by electrode spacing and higher resolution is sometimes obtained at the expense of depth. The goal of this survey was to confirm the presence or absence of groundwater in the top 100 feet of the subsurface and to provide enough resolution to distinguish any shallow groundwater near 50 feet or less. Resolution for this survey is between 4 and 6.5 feet and total depth reached 155 feet, allowing those goals to be met.

ER Survey Results

The results of the survey are presented in a cross-section on Figure 4. The cross-section displays measured resistivity values with colors distinguishing resistivity ranges defined by the scale to the right of the profile. Reds and yellows represent the higher value data points and blues represent the lower value data points. Please note the range of values presented on the scale. Low resistivity values, or blue colors, do not necessarily represent presence of saturation. The blue values are simply lower resistivity values than the other colors presented. The scale provided for this survey was chosen for best demonstration and differentiation of the range of measurements identified in the subsurface, from 26.1 to 1,128 ohm-m. Based on the numerical resistivity values measured and the range and distribution of those resistivity values in the subsurface, the following model of the subsurface is presented and illustrated on Figure 4 with dashed lines on the cross-section separating the identified materials:

- A slightly porous to porous material exists from ground surface to a depth of approximately 5.5 meters (18 feet) bgs. This unit corresponds to thin layer of poorly sorted sand with caliche gravel. Caliche content increases after the first foot according to the borehole log. Resistivity values range from 93 to 1,128 ohm-m and are depicted by shades of red, orange, yellow, and green in the upper portion of the cross-section. The more porous areas are identified by the reds and the less porous material is identified by the green color. The higher porosity may be the result of increased sand content or less consolidated caliche formation.
- The upper material is underlain by a thin layer of tightly compacted and well-cemented lithology to a depth of approximately 16 meters (52.5 feet) bgs. This is represented by resistivity values ranging from 26.1 to 80 ohm-m and is depicted by the light to dark blue colors between 5.5 and 16 meters (18 to 52.5 feet) bgs. When a lithology contains more fine-grained and tightly compacted material, the ER values will demonstrate a decrease in resistivity due to the decrease in pore space. Although the values are lower than the overlying sediments, they are still demonstrating values well above the threshold for sediment saturation.
- Finally, from approximately 16 meters (52.5 feet) to 43.6 meters (143 feet), a thick porous material is identified. This is represented by resistivity values ranging from 93 to 500 ohm-m and corresponds to the predominant yellow and green colors in the lower portion of the cross-section.

The ER survey did not identify the presence of groundwater, indicating the absence of water from ground surface to the total depth of the survey at 43.6 meters (143 feet) bgs.

Depth to Water in Nearby Groundwater Wells

- The nearest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 322547104035001, located approximately 1.21 miles north of the Site. The water well has a depth to groundwater of 128 feet bgs, total depth is not determined. USGS well 322547104035001 was most recently sampled in January 1998. Ground surface elevation at the water well location is 3,162 feet above mean sea level (AMSL), which is approximately 1 foot higher in elevation than the Site and in a comparable topographic/hydrogeological setting near the shallow southern flank of Indian Flats.
- There are 4 additional groundwater wells within a 2.5-mile radius of the Site with depth to groundwater data. A significant number of these water wells exist north, south, and west of the Site. The water wells typically source shallower groundwater (less than 50 feet) associated with the Pecos River and Lone Tree Draw, a tributary of the Pecos. In general, the groundwater in these wells is associated with the prominent surface water features, which is not the case at the Site. Although USGS well 322547104035001 and the Site are located near Old Indian Draw, both are greater than 6 miles from the Pecos and almost 160 feet higher in elevation. The Site is well distanced from the sharper erosional features closer to the Pecos.
- The ER survey results confirmed depth to groundwater is greater than 143 feet, which correlates to the depth to water of 128 feet in USGS well 322547104035001. As such, the Table 1 Closure Criteria identified in the original report are applicable and appropriate for protection of groundwater and other nearby receptors at this Site.

CLOSURE REQUEST

Site assessment and soil sampling activities were completed to delineate the vertical extent of impacted soil resulting from the release of produced water and condensate at the Site. Additional investigation through ER survey has confirmed depth to groundwater is greater than 100 feet bgs. No other nearby receptors meet the distance thresholds requiring stricter standards. The Table 1 Closure Criteria originally applied are appropriate for this Site. Laboratory analytical results for delineation soil samples BH01 and BH01A, indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.

Based on the confirmed depth to water greater than 100 feet bgs as presented in this addendum and laboratory analytical results below the Closure Criteria in the delineation soil samples, XTO requests no further action for Incident Number NRM2002948523. XTO backfilled the borehole and repaired the liner.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Kalei Jennings
Project Environmental Scientist

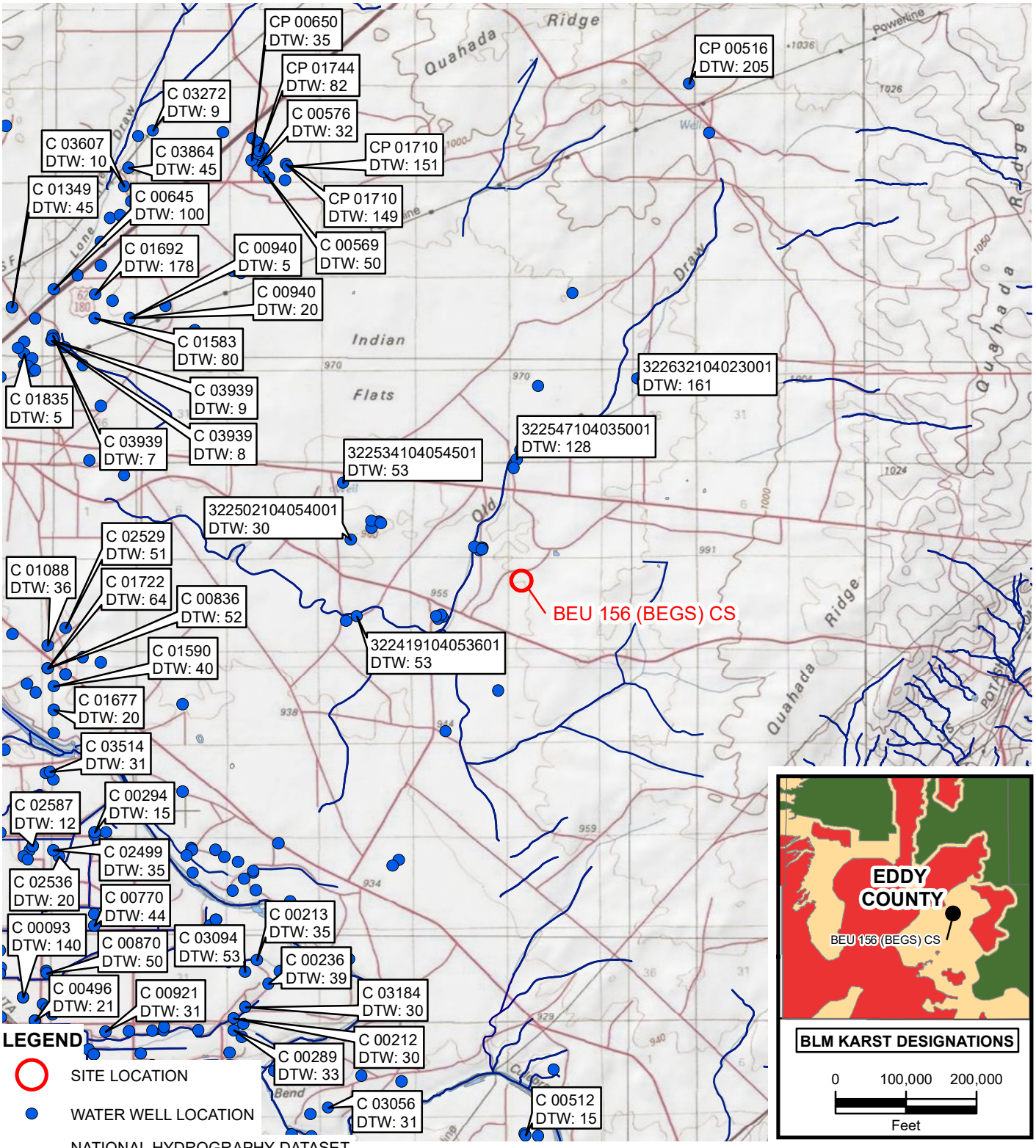
Ashley L. Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Electrical Resistivity Survey Line Location
Figure 4	Electrical Resistivity Survey Model (BEUL)
Table 1	Soil Analytical Results
Attachment 1	Lithologic / Soil Sample Logs
Attachment 2	Laboratory Analytical Reports

FIGURES



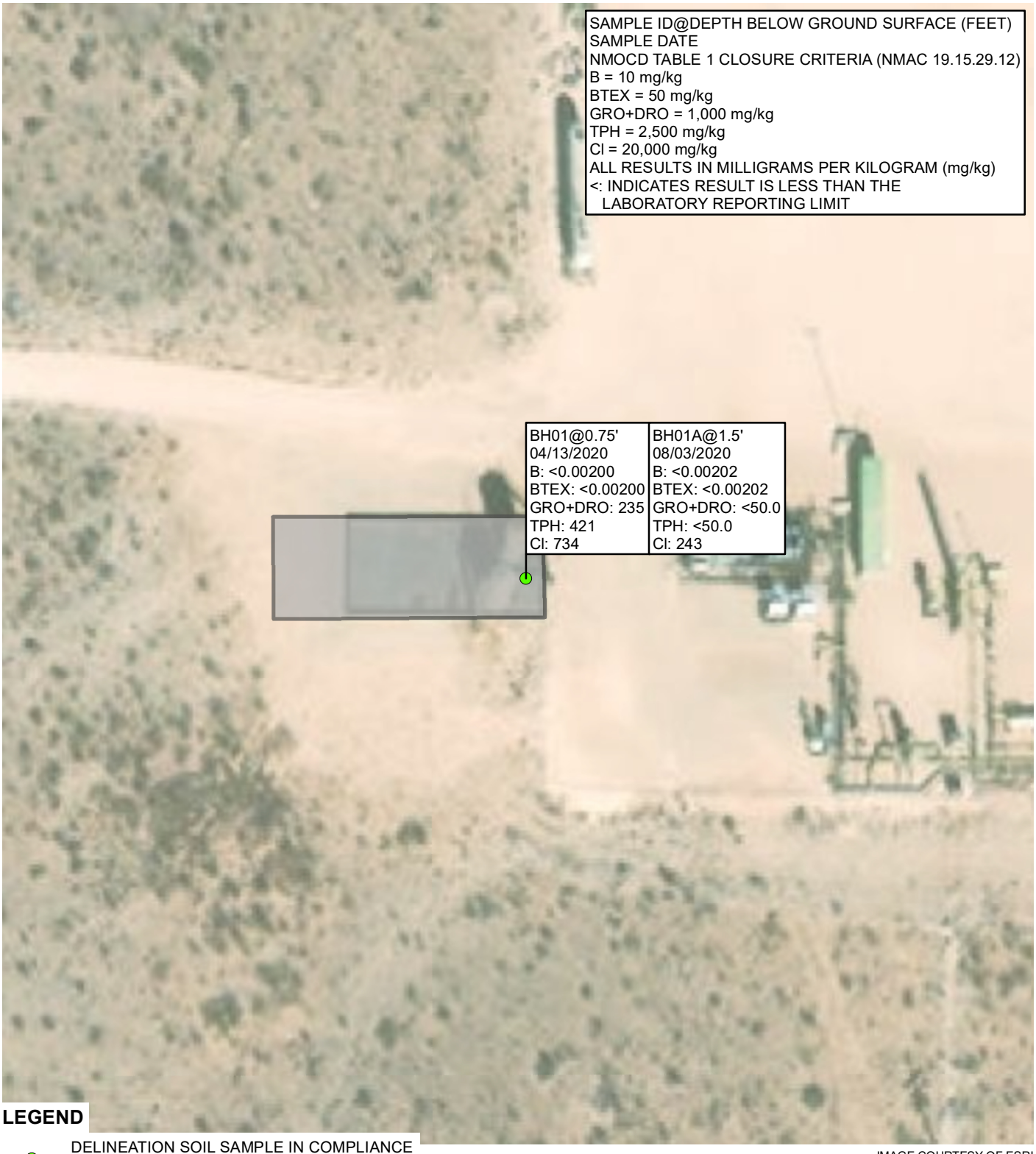
LEGEND

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

NOTE: INCIDENT NUMBER NRM2002948523
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
BEU 156 (BEGS) CS
UNIT D SEC 11 T22S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920051_BEU 156\012920051_FIG01_SL_2020.mxd



LEGEND

DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

CONTAINMENT

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: INCIDENT NUMBER NRM2002948523

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
BEU 156 (BEGS) CS
UNIT D SEC 11 T22S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920051_BEU 156\012920051_FIG02_DELINEATION_2020.mxd

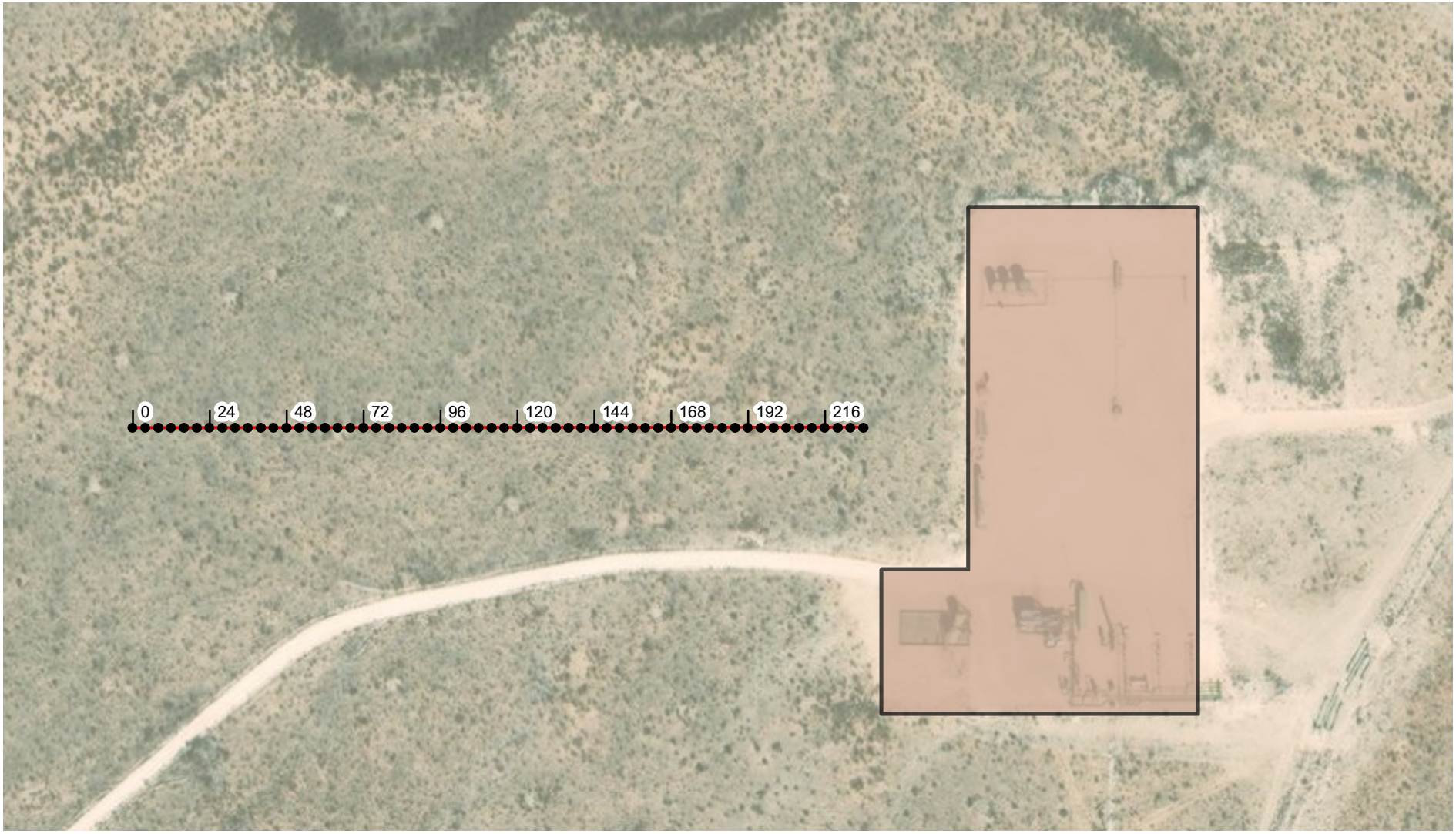


IMAGE COURTESY OF ESRI

LEGEND

- ELECTRODE POINT
- ELECTRICAL RESISTIVITY SURVEY LINE
- WELLPAD EXTENT

0 150 300
Feet

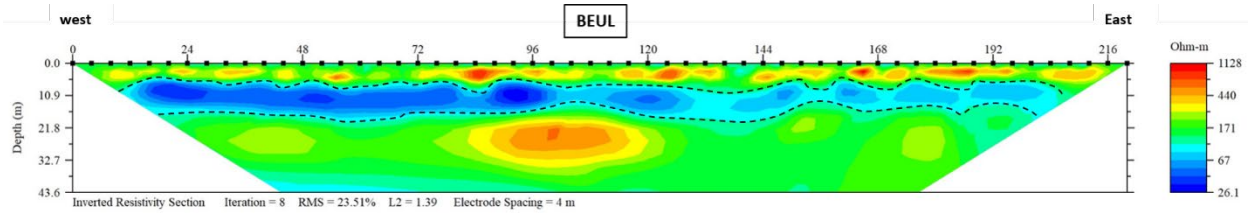
N

NOTE: INCIDENT NUMBER NRM2002948523

FIGURE 3
ELECTRICAL RESISTIVITY SURVEY LINE LOCATION
BEU 156 (BEGS) CS
UNIT D SEC 11 T22S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920051_BEU 156\012920051_FIG03_ER_SURVEY_2020.mxd

FIGURE 4
ELECTRICAL RESISTIVITY SURVEY MODEL
BEU 156 (BEGS) CS



TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

BEU 156 (BEGS) CS
INCIDENT NUMBER NRM2002948523
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	0.75	04/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	235	186	235	421	734
BH01A	1.5	08/03/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	243

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

A proud member of WSP

ATTACHMENT 1: LITHOLOGIC SOIL SAMPLE LOGS

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

Identifier: BH01A	Date: 8-3-2020
Project Name: BEU 156 (BEGS) CS	Incident Number: NRM2002948523

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: WM	Method: Jack Hammer		
Lat/Long: 32.412235, -104.064223	Field Screening: HACH chloride strips & PID	Hole Diame	Total Depth: 1.5'

Comments: Advanced through hole in containment on East side of containment.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
M	392	3.7	N	BH01	1			Sand, Med-Lg, well graded, some clay, caliche gravel, Br. Moist No stain or odor. Refusal at 9", large caliche gravel prohibiting progress.
M	229	0	N	BH01A	1.5			Caliche, highly consolidated. Tan/white. No odor or staining
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 658691

for

LT Environmental, Inc.

Project Manager: Kyle Littrell

BEU 156 (BEGS) CS

012920051

04.14.2020

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)

04.14.2020

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

Reference: XENCO Report No(s): **658691**
BEU 156 (BEGS) CS
Project Address:

Kyle Littrell:

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) 658691. 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. 658691 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 Manager

A Small Business and Minority Company

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

Sample Cross Reference 658691

LT Environmental, Inc., Arvada, CO

BEU 156 (BEGS) CS

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	04.13.2020 10:45	9 ft	658691-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 156 (BEGS) CS

Project ID: *012920051*
Work Order Number(s): *658691*

Report Date: *04.14.2020*
Date Received: *04.13.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122895 BTEX by EPA 8021B

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

Certificate of Analysis Summary 658691

LT Environmental, Inc., Arvada, CO

Project Name: BEU 156 (BEGS) CS

Project Id: 012920051
Contact: Kyle Littrell
Project Location:

Date Received in Lab: Mon 04.13.2020 13:30
Report Date: 04.14.2020 13:51
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	658691-001					
	Field Id:	BH01					
	Depth:	9- ft					
	Matrix:	SOIL					
	Sampled:	04.13.2020 10:45					
BTEX by EPA 8021B	***Extracted:***	04.13.2020 14:30					
	Analyzed:	04.13.2020 15:14					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	04.13.2020 14:11					
	Analyzed:	04.13.2020 16:32					
	Units/RL:	mg/kg	RL				
Chloride		734	9.98				
TPH by SW8015 Mod	***Extracted:***	04.13.2020 17:05					
	Analyzed:	04.14.2020 04:44					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0				
Diesel Range Organics (DRO)		235	50.0				
Motor Oil Range Hydrocarbons (MRO)		186	50.0				
Total GRO-DRO		235	50.0				
Total TPH		421	50.0				

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

Jessica Kramer
Project Manager

Certificate of Analytical Results 658691

LT Environmental, Inc., Arvada, CO

BEU 156 (BEGS) CS

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.13.2020 13:30
Lab Sample Id:	658691-001	Date Collected:	04.13.2020 10:45	Sample Depth:	9 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 14:11	Basis:	Wet Weight
Seq Number:	3122891				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**734**	9.98	mg/kg	04.13.2020 16:32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.13.2020 17:05	Basis:	Wet Weight
Seq Number:	3122934				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.14.2020 04:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	**235**	50.0	mg/kg	04.14.2020 04:44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**186**	50.0	mg/kg	04.14.2020 04:44		1
Total GRO-DRO	PHC628	**235**	50.0	mg/kg	04.14.2020 04:44		1
Total TPH	PHC635	**421**	50.0	mg/kg	04.14.2020 04:44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.14.2020 04:44	
o-Terphenyl	84-15-1	109	%	70-135	04.14.2020 04:44	

Certificate of Analytical Results 658691

LT Environmental, Inc., Arvada, CO

BEU 156 (BEGS) CS

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	04.13.2020 13:30
Lab Sample Id:	658691-001	Date Collected:	04.13.2020 10:45	Sample Depth:	9 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 14:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 15:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 15:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 15:14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.13.2020 15:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 15:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 15:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 15:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	04.13.2020 15:14	
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.13.2020 15:14	

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. **ND** Not Detected.

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 658691

LT Environmental, Inc.

BEU 156 (BEGS) CS

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3122891 Matrix: Solid Date Prep: 04.13.2020
MB Sample Id: 7701194-1-BLK LCS Sample Id: 7701194-1-BKS LCSD Sample Id: 7701194-1-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	259	104	260	104	90-110	0	20	mg/kg	04.13.2020 16:21	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3122891 Matrix: Soil Date Prep: 04.13.2020
Parent Sample Id: 658691-001 MS Sample Id: 658691-001 S MSD Sample Id: 658691-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	734	200	941	104	935	101	90-110	1	20	mg/kg	04.13.2020 16:37	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3122891 Matrix: Soil Date Prep: 04.13.2020
Parent Sample Id: 658696-010 MS Sample Id: 658696-010 S MSD Sample Id: 658696-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.9	200	218	101	220	102	90-110	1	20	mg/kg	04.13.2020 17:54	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122934 Matrix: Solid Date Prep: 04.13.2020
MB Sample Id: 7701154-1-BLK LCS Sample Id: 7701154-1-BKS LCSD Sample Id: 7701154-1-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	1060	106	1020	102	70-135	4	35	mg/kg	04.14.2020 02:24	
Diesel Range Organics (DRO)	<50.0	1000	1240	124	1180	118	70-135	5	35	mg/kg	04.14.2020 02:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		133		129		70-135	%	04.14.2020 02:24
o-Terphenyl	115		112		109		70-135	%	04.14.2020 02:24

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122934 Matrix: Solid Date Prep: 04.13.2020
MB Sample Id: 7701154-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.14.2020 02:03	

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

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

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

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

QC Summary 658691

LT Environmental, Inc.

BEU 156 (BEGS) CS

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122934 Matrix: Soil Date Prep: 04.13.2020
Parent Sample Id: 658613-006 MS Sample Id: 658613-006 S MSD Sample Id: 658613-006 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)	<50.0	1000	1020	102	1010	102	70-135	1	35	mg/kg	04.14.2020 03:24	
Diesel Range Organics (DRO)	<50.0	1000	1180	118	1160	117	70-135	2	35	mg/kg	04.14.2020 03:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		116		70-135	%	04.14.2020 03:24
o-Terphenyl	114		112		70-135	%	04.14.2020 03:24

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122895 Matrix: Solid Date Prep: 04.13.2020
MB Sample Id: 7701119-1-BLK LCS Sample Id: 7701119-1-BKS LCSD Sample Id: 7701119-1-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	0.121	121	0.110	110	70-130	10	35	mg/kg	04.13.2020 10:29	
Toluene	<0.00200	0.100	0.109	109	0.0994	99	70-130	9	35	mg/kg	04.13.2020 10:29	
Ethylbenzene	<0.00200	0.100	0.100	100	0.0909	91	71-129	10	35	mg/kg	04.13.2020 10:29	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.176	88	70-135	10	35	mg/kg	04.13.2020 10:29	
o-Xylene	<0.00200	0.100	0.100	100	0.0906	91	71-133	10	35	mg/kg	04.13.2020 10:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	113		108		108		70-130	%	04.13.2020 10:29
4-Bromofluorobenzene	91		85		87		70-130	%	04.13.2020 10:29

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122895 Matrix: Soil Date Prep: 04.13.2020
Parent Sample Id: 658610-003 MS Sample Id: 658610-003 S MSD Sample Id: 658610-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00197	0.0986	0.106	108	0.104	104	70-130	2	35	mg/kg	04.13.2020 11:10	
Toluene	<0.00197	0.0986	0.0968	98	0.0936	94	70-130	3	35	mg/kg	04.13.2020 11:10	
Ethylbenzene	<0.00197	0.0986	0.0907	92	0.0854	85	71-129	6	35	mg/kg	04.13.2020 11:10	
m,p-Xylenes	<0.00394	0.197	0.176	89	0.165	83	70-135	6	35	mg/kg	04.13.2020 11:10	
o-Xylene	<0.00197	0.0986	0.0875	89	0.0852	85	71-133	3	35	mg/kg	04.13.2020 11:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		70-130	%	04.13.2020 11:10
4-Bromofluorobenzene	88		84		70-130	%	04.13.2020 11:10

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 658691

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

Project Manager:	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:	wmather@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 ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU 156 (BEGS) CS	Turn Around	
Project Number:	012920051	Routine ☐	
P.O. Number:	Eddy	Rush: 24hr	
Sampler's Name:	William Mather	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.5	Thermometer ID	
Received Intact:	(Yes) No	NM007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Work Order Notes / Sample Comments
BH01	s	4/13/2020	10:45	9"	1	x	x	x	Discrete

ANALYSIS REQUEST

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		4/13/20 13:30	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.13.2020 01.30.00 PM

Work Order #: 658691

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)?	.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**Yes**
#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: Martha Castro Date: 04.13.2020

Checklist reviewed by: Jessica Kramer Date: 04.14.2020

Jessica Kramer

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 668916

LT Environmental, Inc., Arvada, CO

Project Name: BEU 156 BEGS CS

Project Id: 012920051
Contact: Dan Moir
Project Location: Eddy

Date Received in Lab: Mon 08.03.2020 11:48
Report Date: 08.04.2020 11:00
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	668916-001					
	Field Id:	BH01A					
	Depth:	1.5- ft					
	Matrix:	SOIL					
	Sampled:	08.03.2020 09:30					
BTEX by EPA 8021B	***Extracted:***	08.03.2020 15:34					
	Analyzed:	08.03.2020 17:48					
	Units/RL:	mg/kg RL					
Benzene		<0.00202 0.00202					
Toluene		<0.00202 0.00202					
Ethylbenzene		<0.00202 0.00202					
m,p-Xylenes		<0.00404 0.00404					
o-Xylene		<0.00202 0.00202					
Total Xylenes		<0.00202 0.00202					
Total BTEX		<0.00202 0.00202					
Chloride by EPA 300	***Extracted:***	08.03.2020 16:01					
	Analyzed:	08.03.2020 17:07					
	Units/RL:	mg/kg RL					
Chloride		243 9.94					
TPH by SW8015 Mod	***Extracted:***	08.03.2020 12:26					
	Analyzed:	08.03.2020 13:05					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

BRL - Below Reporting Limit

Jessica Kramer

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

eurofins | Environment Testing Xenco

Analytical Report 668916

for

LT Environmental, Inc.

Project Manager: Dan Moir

BEU 156 BEGS CS

012920051

08.04.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

eurofins | Environment Testing Xenco

08.04.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **668916**
BEU 156 BEGS CS
Project Address: Eddy

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 Eurofins Xenco, LLC Report Number(s) 668916. 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 Eurofins Xenco, LLC. 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. 668916 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

eurofins | Environment Testing Xenco

Sample Cross Reference 668916

LT Environmental, Inc., Arvada, CO

BEU 156 BEGS CS

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01A	S	08.03.2020 09:30	1.5 ft	668916-001

eurofins | Environment Testing Xenco

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 156 BEGS CS

Project ID: *012920051*
Work Order Number(s): *668916*

Report Date: *08.04.2020*
Date Received: *08.03.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

eurofins | Environment Testing Xenco

Certificate of Analytical Results 668916

LT Environmental, Inc., Arvada, CO

BEU 156 BEGS CS

Sample Id: **BH01A** Matrix: Soil Date Received:08.03.2020 11:48
Lab Sample Id: 668916-001 Date Collected: 08.03.2020 09:30 Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB % Moisture:
Analyst: MAB Date Prep: 08.03.2020 16:01 Basis: Wet Weight
Seq Number: 3133430

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**243**	9.94	mg/kg	08.03.2020 17:07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
Tech: DTH % Moisture:
Analyst: DTH Date Prep: 08.03.2020 12:26 Basis: Wet Weight
Seq Number: 3133363

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	08.03.2020 13:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	08.03.2020 13:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	08.03.2020 13:05	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	08.03.2020 13:05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	08.03.2020 13:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	08.03.2020 13:05	
o-Terphenyl	84-15-1	91	%	70-135	08.03.2020 13:05	

eurofins | Environment Testing Xenco

Certificate of Analytical Results 668916

LT Environmental, Inc., Arvada, CO

BEU 156 BEGS CS

Sample Id: **BH01A**
Lab Sample Id: 668916-001
Matrix: Soil
Date Collected: 08.03.2020 09:30
Date Received: 08.03.2020 11:48
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B
Tech: MAB
Analyst: MAB
Seq Number: 3133428
Date Prep: 08.03.2020 15:34
Prep Method: SW5035A
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.03.2020 17:48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.03.2020 17:48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.03.2020 17:48	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	08.03.2020 17:48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.03.2020 17:48	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.03.2020 17:48	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.03.2020 17:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	08.03.2020 17:48	
1,4-Difluorobenzene	540-36-3	98	%	70-130	08.03.2020 17:48	

eurofins | Environment Testing Xenco

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. **ND** Not Detected.

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

eurofins | Environment Testing Xenco

QC Summary 668916

LT Environmental, Inc.

BEU 156 BEGS CS

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3133430 — Matrix: Solid — Date Prep: 08.03.2020
MB Sample Id: 7708638-1-BLK — LCS Sample Id: 7708638-1-BKS — LCSD Sample Id: 7708638-1-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	268	107	267	107	90-110	0	20	mg/kg	08.03.2020 16:56	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3133430 — Matrix: Soil — Date Prep: 08.03.2020
Parent Sample Id: 668916-001 — MS Sample Id: 668916-001 S — MSD Sample Id: 668916-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	243	200	448	103	449	103	90-110	0	20	mg/kg	08.03.2020 17:13	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3133430 — Matrix: Soil — Date Prep: 08.03.2020
Parent Sample Id: 668975-004 — MS Sample Id: 668975-004 S — MSD Sample Id: 668975-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	61.3	200	271	105	269	104	90-110	1	20	mg/kg	08.03.2020 19:06	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3133363 — Matrix: Solid — Date Prep: 08.03.2020
MB Sample Id: 7708598-1-BLK — LCS Sample Id: 7708598-1-BKS — LCSD Sample Id: 7708598-1-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	893	89	900	90	70-135	1	35	mg/kg	08.03.2020 12:24	
Diesel Range Organics (DRO)	<50.0	1000	950	95	962	96	70-135	1	35	mg/kg	08.03.2020 12:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		107		108		70-135	%	08.03.2020 12:24
o-Terphenyl	93		100		102		70-135	%	08.03.2020 12:24

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3133363 — Matrix: Solid — Date Prep: 08.03.2020
MB Sample Id: 7708598-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	08.03.2020 12:04	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

eurofins | Environment Testing Xenco

QC Summary 668916

LT Environmental, Inc.

BEU 156 BEGS CS

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3133363 Matrix: Soil Date Prep: 08.03.2020
Parent Sample Id: 668916-001 MS Sample Id: 668916-001 S MSD Sample Id: 668916-001 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	869	87	884	88	70-135	2	35	mg/kg	08.03.2020 13:25	
Diesel Range Organics (DRO)	<50.1	1000	956	96	978	98	70-135	2	35	mg/kg	08.03.2020 13:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		106		70-135	%	08.03.2020 13:25
o-Terphenyl	101		102		70-135	%	08.03.2020 13:25

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3133428 Matrix: Solid Date Prep: 08.03.2020
MB Sample Id: 7708618-1-BLK LCS Sample Id: 7708618-1-BKS LCSD Sample Id: 7708618-1-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	0.105	105	0.113	113	70-130	7	35	mg/kg	08.03.2020 15:45	
Toluene	<0.00200	0.100	0.0997	100	0.108	108	70-130	8	35	mg/kg	08.03.2020 15:45	
Ethylbenzene	<0.00200	0.100	0.0930	93	0.100	100	71-129	7	35	mg/kg	08.03.2020 15:45	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.204	102	70-135	8	35	mg/kg	08.03.2020 15:45	
o-Xylene	<0.00200	0.100	0.0928	93	0.100	100	71-133	7	35	mg/kg	08.03.2020 15:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		98		70-130	%	08.03.2020 15:45
4-Bromofluorobenzene	94		101		100		70-130	%	08.03.2020 15:45

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3133428 Matrix: Soil Date Prep: 08.03.2020
Parent Sample Id: 668916-001 MS Sample Id: 668916-001 S MSD Sample Id: 668916-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.129	129	0.130	129	70-130	1	35	mg/kg	08.03.2020 16:30	
Toluene	<0.00201	0.100	0.122	122	0.123	122	70-130	1	35	mg/kg	08.03.2020 16:30	
Ethylbenzene	<0.00201	0.100	0.114	114	0.113	112	71-129	1	35	mg/kg	08.03.2020 16:30	
m,p-Xylenes	<0.00402	0.201	0.231	115	0.228	113	70-135	1	35	mg/kg	08.03.2020 16:30	
o-Xylene	<0.00201	0.100	0.113	113	0.112	111	71-133	1	35	mg/kg	08.03.2020 16:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	08.03.2020 16:30
4-Bromofluorobenzene	103		104		70-130	%	08.03.2020 16:30

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Chain of Custody

Work Order No: 12C89116

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

Page 1 of 1

Project Manager:	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:	wmather@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 ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	BEU 156 BEGS CS	Turn Around	
Project Number:	012920051	Routine	☐
P.O. Number:	Eddy	Rush:	24hr
Sampler's Name:	William Mather	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	2.6/2.4	Thermometer ID	
Received Intact:	Yes / No	T-NM-007	
Cooler Custody Seals:	Yes / No / N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes / No / N/A	Total Containers:	1

Temp Blank: Yes / No Wet Ice: Yes / No

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
BH01A	S	8/3/2020	9:30	1.5'	1	x	x	x

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
		8/3/20 1148	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08.03.2020 11.48.00 AM

Work Order #: 668916

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)?	2.4	
#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**	Sample received in bulk container.
#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: 08.03.2020

Checklist reviewed by: Jessica Kramer Date: 08.04.2020

Jessica Kramer

State of New Mexico
Oil Conservation Division

Incident ID	NRM2002948523
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 08/25/2020

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

OCD Only

Received by: Robert Hamlet Date: 12/14/2020

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

Closure Approved by: Robert Hamlet Date: 12/14/2020

Printed Name: Robert Hamlet Title: Environmental Eng. Tech. III

From:	Hamlet, Robert, EMNRD
To:	Baker, Adrian
Cc:	Bratcher, Mike, EMNRD; Eads, Cristina, EMNRD; CFO_Spill, BLM_NM
Subject:	Closure Approval Addendum - XTO - BEU 156 (BEGS) CS - (Incident #NRM2002948523)
Date:	Thursday, December 17, 2020 11:55:00 AM
Attachments:	Closure Approval Addendum - XTO - BEU 156 (BEGS) CS - (Incident #NRM2002948523).pdf

Adrian,

We have received your closure report and final C-141 for **Incident #NRM2002948523 BEU 156 (BEGS) CS**, thank you. This closure is approved.

- The incident was closed because the closure criteria met the most stringent standards (<50' depth to water)
- The OCD does not accept field screening results from Petro FLAG Analyzer Systems, PID Meters, and Ground Conductivity Meters (EM Surveys) for closure criteria sampling determination. Additionally, please be aware that the OCD does not accept (EM Survey) results for ground water depth determination.

Please let me know if you have any further questions.

Regards,

Robert Hamlet ● Environmental Eng. Tech. III
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
505.748.1283 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

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

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

CONDITIONS

Action 9896

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707	5380	9896	C-141

OCD Reviewer	Condition
rhamlet	We have received your closure report and final C-141 for Incident #NRM2002948523 BEU 156 (BEGS) CS, thank you. This closure is approved.