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	NAB1902551172
District RP	2RP-5205
Facility ID	
Application ID	pAB1902550841

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)* NAB1902551172
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.363293° Longitude -103.836224°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit DI #2	Site Type Production Drill Island
Date Release Discovered 1/16/2019	API# *(if applicable)* 30-015-43370 (JRU DI2 #192H)

Unit Letter	Section	Township	Range	County
F	25	22S	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) 5	Volume Recovered (bbls) 4.5
	Is the concentration of total dissolved solids (TDS) 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

Contractor overflowed the tub on a pump truck and released fluids to the well pad. Vacuum truck on site recovered free standing fluid. An environmental contractor will be retained to assist with remediation as soon as frac and flowback activities are completed at the drill island.

Incident ID	NAB1902551
District RP	2RP-5205
Facility ID	
Application ID	pAB1902550841

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? N/A

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
N/A

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 Coordinator

Signature: Date: 1-24-19

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

OCD Only

Received by: Date: 1/25/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1902551172
District RP	2RP-5205
Facility ID	
Application ID	pAB1902550841

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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAB1902551172
District RP	2RP-5205
Facility ID	
Application ID	pAB1902550841

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: __07/24/20_____

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

OCD Only

Received by: _____ Date: _____

Incident ID	NAB1902551172
District RP	2RP-5205
Facility ID	
Application ID	pAB1902550841

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: 07/24/20

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 222
Midland, Texas 79705
432.704.5178

July 24, 2020

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

RE: Closure Request
James Ranch Unit DI #2
Incident Number NAB1902551172
Remediation Permit Number 2RP-5205
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, soil sampling, and remediation activities at the James Ranch Unit DI #2 (Site) in Unit F, Section 25, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from 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 Request and requesting no further action (NFA) for Incident Number NAB1902551172.

RELEASE BACKGROUND

On January 16, 2019, the tub on a pump truck overflowed, resulting in the release of 5 barrels (bbls) of produced water onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover the freestanding fluids; approximately 4.5 bbls of produced water were recovered. The net volume of produced water released was approximately 0.5 bbls. XTO reported the release to the NMOCD on a Form C-141 on January 24, 2019 and was assigned Incident Number NAB1902551172.

Site assessment and remediation work was delayed due to ongoing drilling operations at the Site. To ensure the safety of all personnel, non-essential personnel are not permitted on Site during drilling operations. XTO provided regular operational updates ensuring remediation could begin as soon as all frac, flowback, and drilling operations were complete at the Site. Per NMAC 19.15.29.12.B.(1), three extensions for submission of a remediation plan or closure report were requested. The final extension was approved by NMOCD on November 15, 2019 and extended the deadline to April 1, 2020. Drilling operations continued past the April 1, 2020 deadline; therefore, XTO submitted a Remediation Work Plan, detailing remediation activities to be completed upon completion of drilling operations at the Site. NMOCD approved the Remediation

Work Plan on May 20, 2020. LTE personnel were able to access the Site to execute the Remediation Work Plan on July 1, 2020. The remediation activities are described below.

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 groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 322215103502701, located approximately 0.6 miles northwest of the Site. The groundwater well has a reported depth to groundwater of 419 feet bgs. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash, located approximately 0.9 miles northeast of the Site. All wells used for depth to groundwater determination are depicted on Figure 1 and reference well records are included as Attachment 1. 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 not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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 ACTIVITIES AND ANALYTICAL RESULTS

As reported in the Remediation Work Plan, LTE personnel were able to access the Site on March 25, 2020 during a short break in the drilling schedule to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected three preliminary soil samples (SS01 through SS03) within the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of the release. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positing System (GPS)

and are presented on Figure 2. Photographic documentation was conducted during the assessment and a photographic log is included in Attachment 2.

The preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. All soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) 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 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS02 and SS03. Laboratory analytical results indicated that TPH-GRO/TPH-DRO concentrations exceeded the Closure Criteria in the preliminary soil sample SS01. Based on visible staining in the release area, field screening results, and laboratory analytical results for the preliminary soil samples, delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

On July 1, 2020, LTE returned to the Site to oversee delineation and excavation activities as indicated by visual observations, field screening, and laboratory analytical results for the preliminary soil samples.

Three potholes (PH01/PH01A through PH03/PH03A) were advanced to a depth of four feet bgs via track mounted backhoe at the SS01 through SS03 preliminary soil sample locations. Two discrete delineation soil samples were collected from each pothole at depths of 2 feet and 4 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach© chloride QuanTab© test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 3. The locations of delineation potholes (PH01/PH01A through PH03/PH03A) are presented on Figure 3.

Impacted soil was excavated as indicated by visual observations, field screening activities, and laboratory analytical results for preliminary soil sample SS01. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips. The excavation was completed to a depth of 1 foot bgs. Following removal of impacted soil, LTE collected one 5-point composite soil sample from the sidewalls and floor of the excavation. The 5-point composite sample was collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing.

The excavation measured approximately 16 square feet in area and was completed to a depth of 1 foot bgs. As such, one composite floor soil sample (FS01) was collected from the floor and sidewalls of the excavation. The location of the final excavation extent and confirmation soil sample are presented on Figure 4. The delineation and excavation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico.

Approximately 1 cubic yard of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

ANALYTICAL RESULTS

Laboratory analytical results indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS02 and SS03. Laboratory analytical results indicated that TPH-GRO/TPH-DRO concentrations exceeded the Closure Criteria in the preliminary soil sample SS01. Based on the laboratory analytical results, excavation and delineation activities were conducted.

Laboratory analytical results for the excavation floor sample (FS01) indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for the pothole delineation soil samples (PH01/PH01A through PH03/PH03A) indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations compliant with the Closure Criteria.

The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are provided in Attachment 4.

CONCLUSIONS

Site assessment and excavation activities were conducted at the Site to address the January 16, 2019, release of produced water. Based on laboratory analytical results for the preliminary soil samples collected within the release extent, impacted soil was excavated. Laboratory analytical results for the excavation soil sample, collected from the final excavation extent, and delineation soil samples collected within the release extent indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the soil sample analytical results, no further remediation was required.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for Incident Number NAB1902551172.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Elizabeth Naka
Staff Environmental Scientist

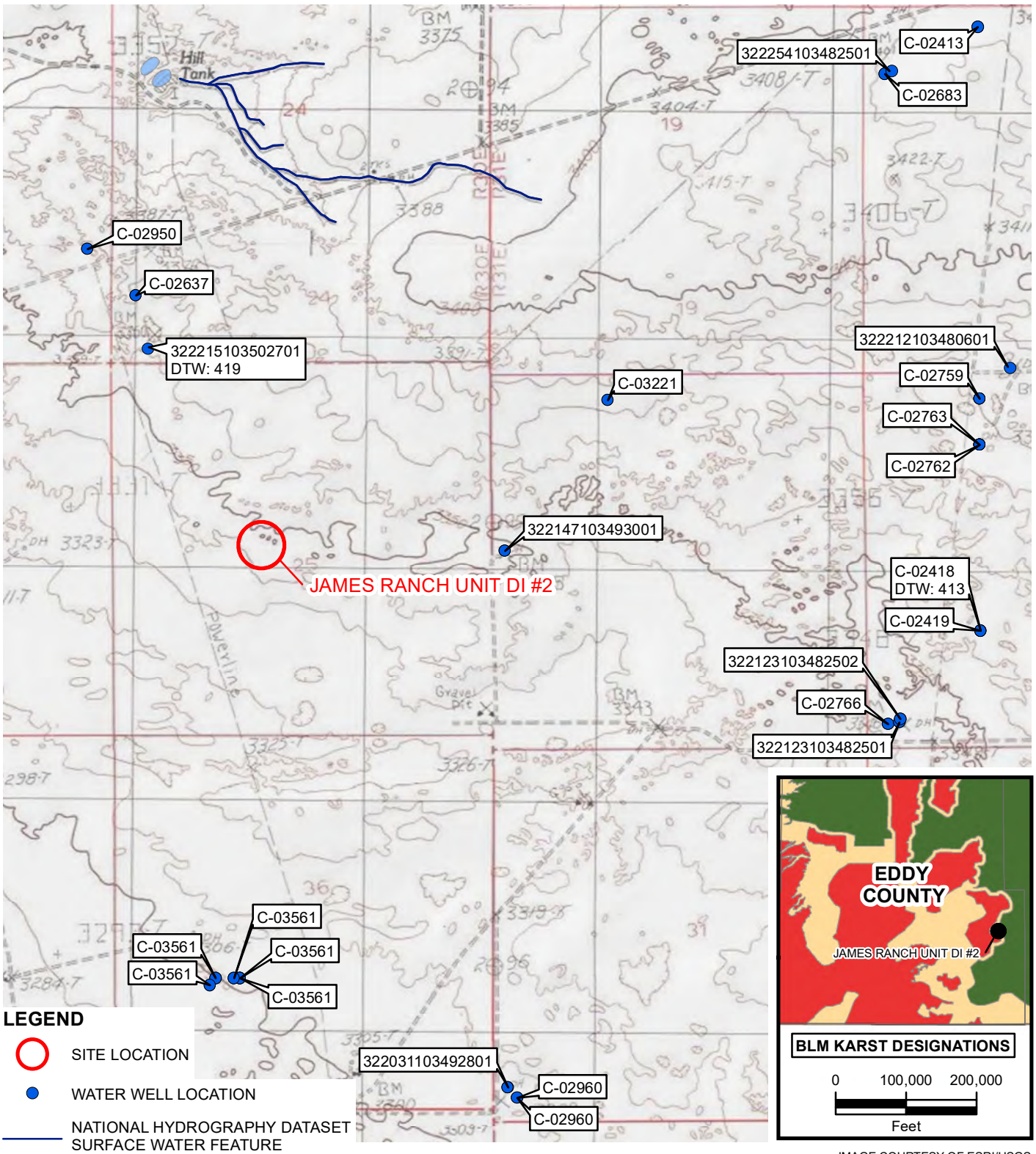
Ashley L Ager, P.G.
Senior Geologist

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

Attachments:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Referenced Well Records
Attachment 2	Photographic Log
Attachment 3	Lithologic/Soil Sampling Logs
Attachment 4	Laboratory Analytical Reports

FIGURES



NOTE: REMEDIATION PERMIT NUMBER 2RP-5205,
INCIDENT NUMBER NAB1902551172
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT DI #2
UNIT F SEC 25 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919065_JAMES RANCH UNIT DI #2\012919065_FIG01_RECEPTOR_SL_2020.mxd

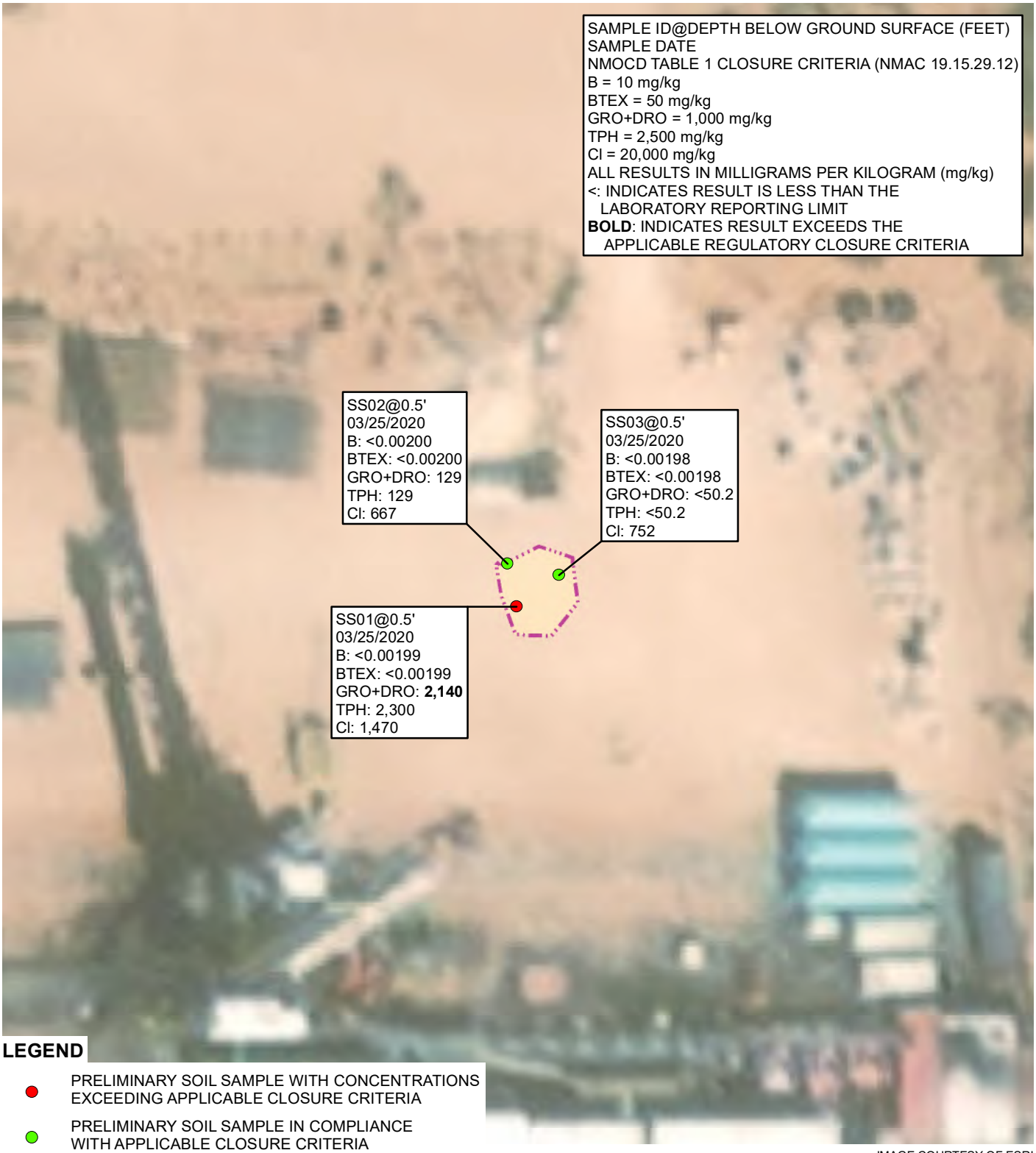


FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT DI #2
UNIT F SEC 25 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919065_JAMES RANCH UNIT DI #2\012919065_FIG02_PRELIMINARY_2020.mxd

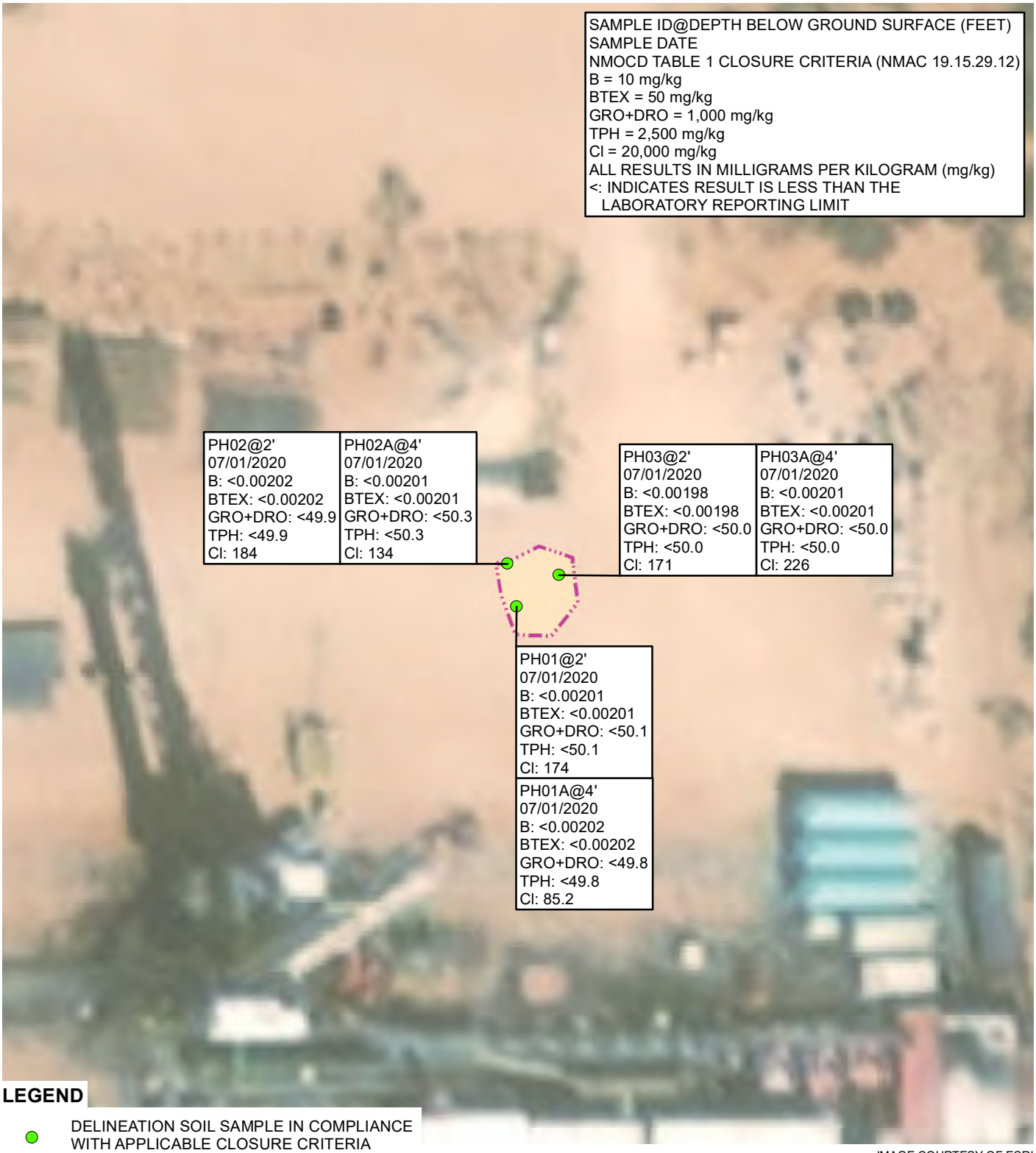


FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT DI #2
UNIT F SEC 25 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919065_JAMES RANCH UNIT DI #2\012919065_FIG03_DELINEATION_2020.mxd

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-5205, INCIDENT NUMBER NAB1902551172

FIGURE 4
EXCAVATION SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT DI #2
UNIT F SEC 25 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919065_JAMES RANCH UNIT DI #2\012919065_FIG04_EXCAVATION_2020.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

JAMES RANCH UNIT DI #2
INCIDENT NUMBER NAB1902551172
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**
SS01	0.5	03/25/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	2,140	160	**2,140**	2,300	1,470
SS02	0.5	03/25/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	129	<50.1	129	129	667
SS03	0.5	03/25/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	752
PH01	2	07/01/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	174
PH01A	4	07/01/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	85.2
PH02	2	07/01/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	184
PH02A	4	07/01/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	134
PH03	2	07/01/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	171
PH03A	4	07/01/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	226
FS01	1	07/01/2020	<0.00980	<0.00980	<0.00980	<0.00980	<0.00980	<50.0	73.0	<50.0	73.0	73.0	182

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
TEXT – indicates soil removed during excavation activities

A proud member of WSP

ATTACHMENT 1: REFERENCE WELL RECORDS

National Water Information System: Web Interface

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 322215103502701

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

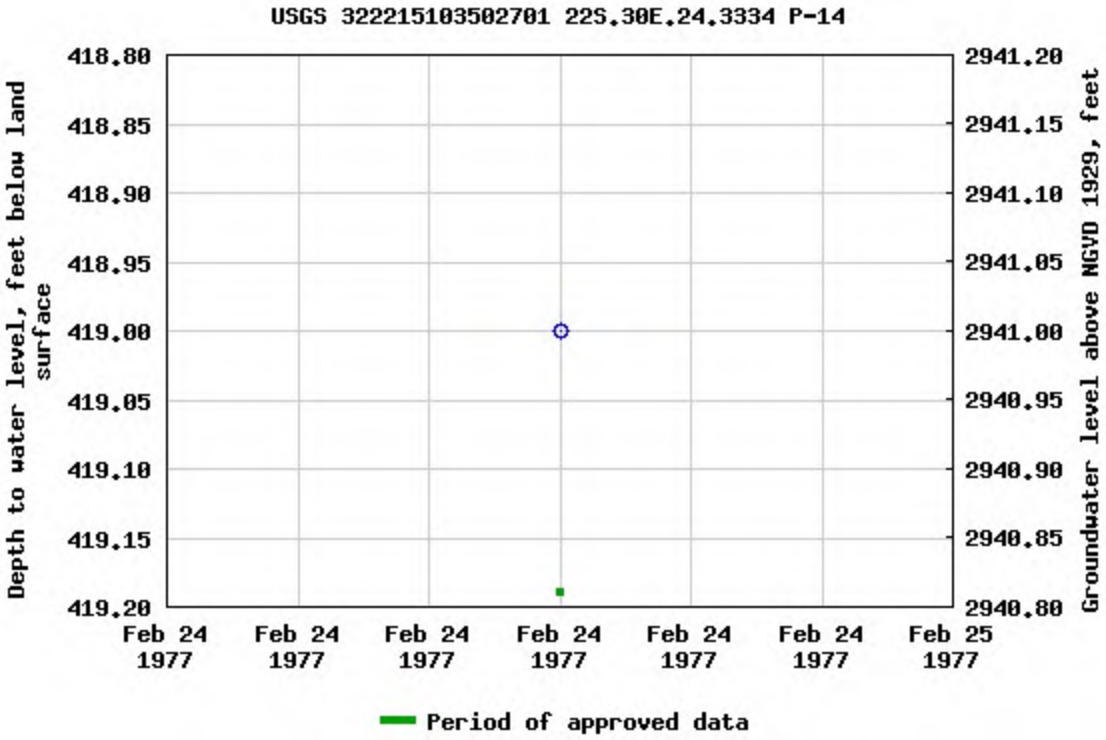
USGS 322215103502701 22S.30E.24.3334 P-14

Available data for this site Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°22'15", Longitude 103°50'27" NAD27
Land-surface elevation 3,360 feet above NGVD29

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility Plug-Ins FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2020-07-14 12:33:53 EDT
0.64 0.55 nadww01

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y
	C 02418	3	2	3	29	22S	31E	612613	3580948*

Driller License: 1311 **Driller Company:** GEOPROJECTS INTERNATIONAL, INC

Driller Name:

Drill Start Date:	09/26/1994	**Drill Finish Date:**	10/04/1994	**Plug Date:**	
Log File Date:	05/07/2003	**PCW Rcv Date:**	10/29/1998	**Source:**	Artesian
Pump Type:	SUBMER	**Pipe Discharge Size:**	.75"	**Estimated Yield:**	
Casing Size:	5.00	**Depth Well:**	617 feet	**Depth Water:**	413 feet

Meter Number:	729	**Meter Make:**	NONE
Meter Serial Number:	NONE	**Meter Multiplier:**	1.0000
Number of Dials:	6	**Meter Type:**	Diversion
Unit of Measure:	Gallons	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
01/01/2000	2000	0	A	ms		0	
01/27/2000	2000	9	A	ms		0.003	
07/03/2000	2000	19	A	mb		0.003	
01/08/2001	2000	1096	A	RPT		0.003	
06/30/2001	2001	2170	A	RPT		0.003	
01/08/2002	2001	3473	A	tg		0.004	
07/03/2002	2002	4451	A	rm		0.003	
01/09/2003	2002	5103	A	RPT		0.002	

**YTD Meter Amounts:	Year	Amount
	2000	0.009
	2001	0.007
	2002	0.005

***UTM location was derived from PLSS - see Help**

ATTACHMENT 2: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: View of Site facing east.

Photograph 2: View of Site facing southeast.

Photograph 3: View of final excavation facing south.

Photograph 4: View of final excavation facing south.

James Ranch Unit DI #2
NAB1902551172
Photographs Taken: March 25 through July 1, 2020

ATTACHMENT 3: LITHOLOGIC / SOIL SAMPLING LOG

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: PH01	Date: 7/1/2020
Site Name: James Ranch Unit DI 2	
RP or Incident Number: NAB1902551172	
LTE Job Number: 012919065	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: EM	Method: Excavator		
Lat/Long: 32.363293, -103.836224	Field Screening: Chloride, PID	Hole Diameter:	Total Depth: 4'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CHCE	CALICHE, tan to white, dry, no stain, no odor, decreasing consolidation with increasing depth.
D	397	0.5	N	PH01	2	2		
D	397	0	N	PH01A	4	4		Total depth: 4 feet bgs

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: PH02	Date: 7/1/2020
Site Name: James Ranch Unit DI 2	
RP or Incident Number: NAB1902551172	
LTE Job Number: 012919065	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: EM	Method: Excavator		
Lat/Long: 32.363293, -103.836224	Field Screening: Chloride, PID	Hole Diameter:	Total Depth: 4'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CHCE	CALICHE, tan to white, dry, no stain, no odor, decreasing consolidation with increasing depth.
D	448	0	N	PH02	2	2		
D	352	0	N	PH02A	4	4		Total depth: 4 feet bgs

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
A proud member of WSP
Compliance · Engineering · Remediation

BH or PH Name: PH03	Date: 7/1/2020
Site Name: James Ranch Unit DI 2	
RP or Incident Number: NAB1902551172	
LTE Job Number: 012919065	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: EM	Method: Excavator		
Lat/Long: 32.363293, -103.836224	Field Screening: Chloride, PID	Hole Diameter:	Total Depth: 4'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CHCE	CALICHE, tan to white, dry, no stain, no odor, decreasing consolidation with increasing depth.
D	397	0.1	N	PH03	2	2		
D	397	0	N	PH03A	4	4		Total depth: 4 feet bgs

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 656941

for

LT Environmental, Inc.

Project Manager: Dan Moir

James Ranch Unit D1 H2

012919065

03.27.2020

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)

03.27.2020

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

Reference: XENCO Report No(s): **656941**
James Ranch Unit D1 H2
Project Address:

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) 656941. 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. 656941 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 656941

LT Environmental, Inc., Arvada, CO

James Ranch Unit D1 H2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS 01	S	03.25.2020 11:45	0.5 ft	656941-001
SS 02	S	03.25.2020 12:05	0.5 ft	656941-002
SS 03	S	03.25.2020 12:50	0.5 ft	656941-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: James Ranch Unit D1 H2

Project ID: *012919065*
Work Order Number(s): *656941*

Report Date: *03.27.2020*
Date Received: *03.26.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3121125 BTEX by EPA 8021B

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

Certificate of Analysis Summary 656941

LT Environmental, Inc., Arvada, CO

Project Name: James Ranch Unit D1 H2

Project Id: 012919065
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu 03.26.2020 08:20
Report Date: 03.27.2020 13:10
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	656941-001		656941-002		656941-003					
	Field Id:	SS 01		SS 02		SS 03					
	Depth:	0.5- ft		0.5- ft		0.5- ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	03.25.2020 11:45		03.25.2020 12:05		03.25.2020 12:50					
BTEX by EPA 8021B	***Extracted:***	03.26.2020 10:00		03.26.2020 10:00		03.26.2020 10:00					
	Analyzed:	03.26.2020 12:23		03.26.2020 12:43		03.26.2020 13:04					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198				
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198				
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198				
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00396	0.00396				
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198				
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198				
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	03.26.2020 10:00		03.26.2020 10:00		03.26.2020 10:00					
	Analyzed:	03.26.2020 12:45		03.26.2020 12:51		03.26.2020 12:57					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		1470	50.1	667	49.9	752	49.6				
TPH by SW8015 Mod	***Extracted:***	03.26.2020 15:00		03.26.2020 15:00		03.26.2020 15:00					
	Analyzed:	03.27.2020 03:34		03.27.2020 03:54		03.27.2020 04:14					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.1	50.1	<50.2	50.2				
Diesel Range Organics (DRO)		2140	50.2	129	50.1	<50.2	50.2				
Motor Oil Range Hydrocarbons (MRO)		160	50.2	<50.1	50.1	<50.2	50.2				
Total GRO-DRO		2140	50.2	129	50.1	<50.2	50.2				
Total TPH		2300	50.2	129	50.1	<50.2	50.2				

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

Jessica Kramer
Project Manager

Certificate of Analytical Results 656941

LT Environmental, Inc., Arvada, CO

James Ranch Unit D1 H2

Sample Id:	**SS 01**	Matrix:	Soil	Date Received:	03.26.2020 08:20
Lab Sample Id:	656941-001	Date Collected:	03.25.2020 11:45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.26.2020 10:00	Basis:	Wet Weight
Seq Number:	3121135				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1470**	50.1	mg/kg	03.26.2020 12:45		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.26.2020 15:00	Basis:	Wet Weight
Seq Number:	3121134				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.27.2020 03:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**2140**	50.2	mg/kg	03.27.2020 03:34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**160**	50.2	mg/kg	03.27.2020 03:34		1
Total GRO-DRO	PHC628	**2140**	50.2	mg/kg	03.27.2020 03:34		1
Total TPH	PHC635	**2300**	50.2	mg/kg	03.27.2020 03:34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	03.27.2020 03:34	
o-Terphenyl	84-15-1	126	%	70-135	03.27.2020 03:34	

Certificate of Analytical Results 656941

LT Environmental, Inc., Arvada, CO

James Ranch Unit D1 H2

Sample Id:	**SS 01**	Matrix:	Soil	Date Received:	03.26.2020 08:20
Lab Sample Id:	656941-001	Date Collected:	03.25.2020 11:45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.26.2020 10:00	Basis:	Wet Weight
Seq Number:	3121125				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.26.2020 12:23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.26.2020 12:23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.26.2020 12:23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.26.2020 12:23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.26.2020 12:23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.26.2020 12:23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.26.2020 12:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	03.26.2020 12:23	
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.26.2020 12:23	

Certificate of Analytical Results 656941

LT Environmental, Inc., Arvada, CO

James Ranch Unit D1 H2

Sample Id:	**SS 02**	Matrix:	Soil	Date Received:	03.26.2020 08:20
Lab Sample Id:	656941-002	Date Collected:	03.25.2020 12:05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.26.2020 10:00	Basis:	Wet Weight
Seq Number:	3121135				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**667**	49.9	mg/kg	03.26.2020 12:51		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.26.2020 15:00	Basis:	Wet Weight
Seq Number:	3121134				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.27.2020 03:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**129**	50.1	mg/kg	03.27.2020 03:54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.27.2020 03:54	U	1
Total GRO-DRO	PHC628	**129**	50.1	mg/kg	03.27.2020 03:54		1
Total TPH	PHC635	**129**	50.1	mg/kg	03.27.2020 03:54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	03.27.2020 03:54	
o-Terphenyl	84-15-1	121	%	70-135	03.27.2020 03:54	

Certificate of Analytical Results 656941

LT Environmental, Inc., Arvada, CO

James Ranch Unit D1 H2

Sample Id:	**SS 02**	Matrix:	Soil	Date Received:	03.26.2020 08:20
Lab Sample Id:	656941-002	Date Collected:	03.25.2020 12:05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.26.2020 10:00	Basis:	Wet Weight
Seq Number:	3121125				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.26.2020 12:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.26.2020 12:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.26.2020 12:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.26.2020 12:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.26.2020 12:43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.26.2020 12:43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.26.2020 12:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	03.26.2020 12:43	
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.26.2020 12:43	

Certificate of Analytical Results 656941

LT Environmental, Inc., Arvada, CO

James Ranch Unit D1 H2

Sample Id:	**SS 03**	Matrix:	Soil	Date Received:	03.26.2020 08:20
Lab Sample Id:	656941-003	Date Collected:	03.25.2020 12:50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.26.2020 10:00	Basis:	Wet Weight
Seq Number:	3121135				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**752**	49.6	mg/kg	03.26.2020 12:57		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.26.2020 15:00	Basis:	Wet Weight
Seq Number:	3121134				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.27.2020 04:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.27.2020 04:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.27.2020 04:14	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	03.27.2020 04:14	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.27.2020 04:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	03.27.2020 04:14	
o-Terphenyl	84-15-1	113	%	70-135	03.27.2020 04:14	

Certificate of Analytical Results 656941

LT Environmental, Inc., Arvada, CO

James Ranch Unit D1 H2

Sample Id:	**SS 03**	Matrix:	Soil	Date Received:	03.26.2020 08:20
Lab Sample Id:	656941-003	Date Collected:	03.25.2020 12:50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.26.2020 10:00	Basis:	Wet Weight
Seq Number:	3121125				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.26.2020 13:04	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.26.2020 13:04	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.26.2020 13:04	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.26.2020 13:04	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.26.2020 13:04	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.26.2020 13:04	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.26.2020 13:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.26.2020 13:04	
1,4-Difluorobenzene	540-36-3	111	%	70-130	03.26.2020 13:04	

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 656941

LT Environmental, Inc.

James Ranch Unit D1 H2

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121135 — Matrix: Solid — Date Prep: 03.26.2020
MB Sample Id: 7699764-1-BLK — LCS Sample Id: 7699764-1-BKS — LCSD Sample Id: 7699764-1-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	255	102	256	102	90-110	0	20	mg/kg	03.26.2020 12:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121135 — Matrix: Soil — Date Prep: 03.26.2020
Parent Sample Id: 656884-025 — MS Sample Id: 656884-025 S — MSD Sample Id: 656884-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.9	200	241	104	243	105	90-110	1	20	mg/kg	03.26.2020 12:34	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3121135 — Matrix: Soil — Date Prep: 03.26.2020
Parent Sample Id: 656942-007 — MS Sample Id: 656942-007 S — MSD Sample Id: 656942-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	626	200	835	105	836	105	90-110	0	20	mg/kg	03.26.2020 13:57	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3121134 — Matrix: Solid — Date Prep: 03.26.2020
MB Sample Id: 7699837-1-BLK — LCS Sample Id: 7699837-1-BKS — LCSD Sample Id: 7699837-1-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	920	92	866	87	70-135	6	35	mg/kg	03.27.2020 00:51	
Diesel Range Organics (DRO)	<50.0	1000	1030	103	946	95	70-135	9	35	mg/kg	03.27.2020 00:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		135		123		70-135	%	03.27.2020 00:51
o-Terphenyl	110		118		106		70-135	%	03.27.2020 00:51

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3121134 — Matrix: Solid — Date Prep: 03.26.2020
MB Sample Id: 7699837-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.27.2020 00:31	

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 656941

LT Environmental, Inc.

James Ranch Unit D1 H2

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3121134 Matrix: Soil Date Prep: 03.26.2020
Parent Sample Id: 656884-022 MS Sample Id: 656884-022 S MSD Sample Id: 656884-022 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)	<50.3	1010	949	94	770	77	70-135	21	35	mg/kg	03.27.2020 01:52	
Diesel Range Organics (DRO)	<50.3	1010	1060	105	790	79	70-135	29	35	mg/kg	03.27.2020 01:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		106		70-135	%	03.27.2020 01:52
o-Terphenyl	116		85		70-135	%	03.27.2020 01:52

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3121125 Matrix: Solid Date Prep: 03.26.2020
MB Sample Id: 7699817-1-BLK LCS Sample Id: 7699817-1-BKS LCSD Sample Id: 7699817-1-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	0.114	114	0.109	109	70-130	4	35	mg/kg	03.26.2020 10:41	
Toluene	<0.00200	0.100	0.110	110	0.106	106	70-130	4	35	mg/kg	03.26.2020 10:41	
Ethylbenzene	<0.00200	0.100	0.104	104	0.100	100	71-129	4	35	mg/kg	03.26.2020 10:41	
m,p-Xylenes	<0.00400	0.200	0.216	108	0.208	104	70-135	4	35	mg/kg	03.26.2020 10:41	
o-Xylene	<0.00200	0.100	0.108	108	0.104	104	71-133	4	35	mg/kg	03.26.2020 10:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		109		108		70-130	%	03.26.2020 10:41
4-Bromofluorobenzene	96		92		95		70-130	%	03.26.2020 10:41

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3121125 Matrix: Soil Date Prep: 03.26.2020
Parent Sample Id: 656941-001 MS Sample Id: 656941-001 S MSD Sample Id: 656941-001 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	0.104	105	0.118	118	70-130	13	35	mg/kg	03.26.2020 15:47	
Toluene	<0.00198	0.0992	0.0998	101	0.109	109	70-130	9	35	mg/kg	03.26.2020 15:47	
Ethylbenzene	<0.00198	0.0992	0.0938	95	0.0929	93	71-129	1	35	mg/kg	03.26.2020 15:47	
m,p-Xylenes	<0.00397	0.198	0.193	97	0.184	92	70-135	5	35	mg/kg	03.26.2020 15:47	
o-Xylene	<0.00198	0.0992	0.0981	99	0.0905	91	71-133	8	35	mg/kg	03.26.2020 15:47	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		112		70-130	%	03.26.2020 15:47
4-Bromofluorobenzene	93		97		70-130	%	03.26.2020 15:47

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: 651641

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

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrel
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:	Carlsbad, NM
Phone:	432.704.5178	Email:	dmoir@ltenv.com cagbor@ltenv.com

Work Order Comments

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

Project Name:	JAMES RANCH UNIT DI #2	Turn Around	
Project Number:	012919065	Routine	☐
P.O. Number:		Rush:	24 HOURS
Sampler's Name:	Chris Agbor	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.5	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.7
Sample Custody Seals:	Yes (No) N/A	Total Containers:	3

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS 01	S	3/25/20	1145	0.5	1	X	X	X	COMPOSITE
SS 02	S	3/25/20	1205	0.5	1	X	X	X	COMPOSITE
SS 03	S	3/25/20	1250	0.5	1	X	X	X	COMPOSITE

ANALYSIS REQUEST

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		3/26/20 0830	2		
			4		
			6		

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.26.2020 08.20.00 AM

Work Order #: 656941

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)?	2.5
#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)?	**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: 03.26.2020

Checklist reviewed by: Jessica Kramer Date: 03.27.2020

Jessica Kramer

eurofins | Xenco

Certificate of Analysis Summary 666198

LT Environmental, Inc., Arvada, CO

Project Name: James Ranch Unit DI 2

Project Id: 012919065
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu 07.02.2020 09:03
Report Date: 07.09.2020 13:56
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	666198-001		666198-002		666198-003		666198-004		666198-005		666198-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	2- ft		4- ft		2- ft		4- ft		2- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	07.01.2020 12:00		07.01.2020 12:00		07.01.2020 12:15		07.01.2020 12:21		07.01.2020 12:30		07.01.2020 12:35	
BTEX by EPA 8021B	***Extracted:***	07.02.2020 13:09		07.02.2020 13:09		07.02.2020 13:09		07.02.2020 13:09		07.02.2020 13:09		07.02.2020 13:09	
	Analyzed:	07.02.2020 15:31		07.02.2020 16:35		07.02.2020 16:56		07.02.2020 17:18		07.02.2020 17:39		07.02.2020 18:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201
Toluene		<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201
m,p-Xylenes		<0.00402	0.00402	<0.00403	0.00403	<0.00403	0.00403	<0.00402	0.00402	<0.00396	0.00396	<0.00402	0.00402
o-Xylene		<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201
Total Xylenes		<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201
Total BTEX		<0.00201	0.00201	<0.00202	0.00202	<0.00202	0.00202	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	07.02.2020 14:00		07.02.2020 14:00		07.02.2020 14:00		07.02.2020 14:00		07.02.2020 14:00		07.02.2020 14:00	
	Analyzed:	07.02.2020 14:59		07.02.2020 15:29		07.02.2020 15:35		07.02.2020 15:41		07.02.2020 14:35		07.02.2020 14:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		174	10.0	85.2	9.98	184	10.0	134	10.0	171	10.1	226	10.1
TPH by SW8015 Mod	***Extracted:***	07.02.2020 15:00		07.02.2020 15:00		07.02.2020 15:00		07.02.2020 15:00		07.02.2020 15:00		07.02.2020 15:00	
	Analyzed:	07.02.2020 16:06		07.02.2020 16:26		07.02.2020 16:47		07.02.2020 17:07		07.02.2020 17:28		07.02.2020 17:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<49.8	49.8	<49.9	49.9	<50.3	50.3	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<50.1	50.1	<49.8	49.8	<49.9	49.9	<50.3	50.3	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<49.8	49.8	<49.9	49.9	<50.3	50.3	<50.0	50.0	<50.0	50.0
Total GRO-DRO		<50.1	50.1	<49.8	49.8	<49.9	49.9	<50.3	50.3	<50.0	50.0	<50.0	50.0
Total TPH		<50.1	50.1	<49.8	49.8	<49.9	49.9	<50.3	50.3	<50.0	50.0	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

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

eurofins | Xenco

Certificate of Analysis Summary 666198

LT Environmental, Inc., Arvada, CO

Project Name: James Ranch Unit DI 2

Project Id: 012919065
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu 07.02.2020 09:03
Report Date: 07.09.2020 13:56
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	666198-007					
	Field Id:	FS01					
	Depth:	1- ft					
	Matrix:	SOIL					
	Sampled:	07.01.2020 13:20					
BTEX by EPA 8021B	***Extracted:***	07.02.2020 13:09					
	Analyzed:	07.02.2020 18:22					
	Units/RL:	mg/kg	RL				
Benzene		<0.00980	0.00980				
Toluene		<0.00980	0.00980				
Ethylbenzene		<0.00980	0.00980				
m,p-Xylenes		<0.0196	0.0196				
o-Xylene		<0.00980	0.00980				
Total Xylenes		<0.00980	0.00980				
Total BTEX		<0.00980	0.00980				
Chloride by EPA 300	***Extracted:***	07.02.2020 14:00					
	Analyzed:	07.02.2020 14:47					
	Units/RL:	mg/kg	RL				
Chloride		182	10.1				
TPH by SW8015 Mod	***Extracted:***	07.02.2020 15:00					
	Analyzed:	07.02.2020 18:09					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0				
Diesel Range Organics (DRO)		73.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0				
Total GRO-DRO		73.0	50.0				
Total TPH		73.0	50.0				

BRL - Below Reporting Limit

Jessica Kramer

eurofins | Xenco

Analytical Report 666198

for

LT Environmental, Inc.

Project Manager: Dan Moir

James Ranch Unit DI 2

012919065

07.09.2020

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 | Xenco

07.09.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **666198**
James Ranch Unit DI 2
Project Address:

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) 666198. 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. 666198 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

Sample Cross Reference 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	07.01.2020 12:00	2 ft	666198-001
PH01A	S	07.01.2020 12:00	4 ft	666198-002
PH02	S	07.01.2020 12:15	2 ft	666198-003
PH02A	S	07.01.2020 12:21	4 ft	666198-004
PH03	S	07.01.2020 12:30	2 ft	666198-005
PH03A	S	07.01.2020 12:35	4 ft	666198-006
FS01	S	07.01.2020 13:20	1 ft	666198-007

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: James Ranch Unit DI 2

Project ID: *012919065*
Work Order Number(s): *666198*

Report Date: *07.09.2020*
Date Received: *07.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-001	Date Collected:	07.01.2020 12:00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 14:00	Basis:	Wet Weight
Seq Number:	3130685				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**174**	10.0	mg/kg	07.02.2020 14:59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	07.02.2020 15:00	Basis:	Wet Weight
Seq Number:	3130683				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	07.02.2020 16:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	07.02.2020 16:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	07.02.2020 16:06	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	07.02.2020 16:06	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	07.02.2020 16:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	07.02.2020 16:06	
o-Terphenyl	84-15-1	81	%	70-135	07.02.2020 16:06	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-001	Date Collected:	07.01.2020 12:00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 13:09	Basis:	Wet Weight
Seq Number:	3130687				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.02.2020 15:31	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.02.2020 15:31	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.02.2020 15:31	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.02.2020 15:31	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.02.2020 15:31	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.02.2020 15:31	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.02.2020 15:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.02.2020 15:31	
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.02.2020 15:31	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-002	Date Collected:	07.01.2020 12:00	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 14:00	Basis:	Wet Weight
Seq Number:	3130685				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**85.2**	9.98	mg/kg	07.02.2020 15:29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	07.02.2020 15:00	Basis:	Wet Weight
Seq Number:	3130683				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.02.2020 16:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.02.2020 16:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.02.2020 16:26	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	07.02.2020 16:26	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.02.2020 16:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	07.02.2020 16:26	
o-Terphenyl	84-15-1	80	%	70-135	07.02.2020 16:26	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-002	Date Collected:	07.01.2020 12:00	Sample Depth:	4 ft

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 13:09	Basis:	Wet Weight
Seq Number:	3130687				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.02.2020 16:35	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.02.2020 16:35	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.02.2020 16:35	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.02.2020 16:35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.02.2020 16:35	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.02.2020 16:35	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.02.2020 16:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.02.2020 16:35	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.02.2020 16:35	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-003	Date Collected:	07.01.2020 12:15	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 14:00	Basis:	Wet Weight
Seq Number:	3130685				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**184**	10.0	mg/kg	07.02.2020 15:35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	07.02.2020 15:00	Basis:	Wet Weight
Seq Number:	3130683				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.02.2020 16:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.02.2020 16:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.02.2020 16:47	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	07.02.2020 16:47	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.02.2020 16:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	07.02.2020 16:47	
o-Terphenyl	84-15-1	83	%	70-135	07.02.2020 16:47	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-003	Date Collected:	07.01.2020 12:15	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 13:09	Basis:	Wet Weight
Seq Number:	3130687				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.02.2020 16:56	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.02.2020 16:56	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.02.2020 16:56	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.02.2020 16:56	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.02.2020 16:56	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.02.2020 16:56	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.02.2020 16:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.02.2020 16:56	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.02.2020 16:56	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-004	Date Collected:	07.01.2020 12:21	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 14:00	Basis:	Wet Weight
Seq Number:	3130685				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**134**	10.0	mg/kg	07.02.2020 15:41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	07.02.2020 15:00	Basis:	Wet Weight
Seq Number:	3130683				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	07.02.2020 17:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	07.02.2020 17:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	07.02.2020 17:07	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	07.02.2020 17:07	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	07.02.2020 17:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	07.02.2020 17:07	
o-Terphenyl	84-15-1	76	%	70-135	07.02.2020 17:07	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-004	Date Collected:	07.01.2020 12:21	Sample Depth:	4 ft

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 13:09	Basis:	Wet Weight
Seq Number:	3130687				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.02.2020 17:18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.02.2020 17:18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.02.2020 17:18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.02.2020 17:18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.02.2020 17:18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.02.2020 17:18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.02.2020 17:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.02.2020 17:18	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.02.2020 17:18	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-005	Date Collected:	07.01.2020 12:30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 14:00	Basis:	Wet Weight
Seq Number:	3130685				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**171**	10.1	mg/kg	07.02.2020 14:35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	07.02.2020 15:00	Basis:	Wet Weight
Seq Number:	3130683				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.02.2020 17:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.02.2020 17:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.02.2020 17:28	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	07.02.2020 17:28	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.02.2020 17:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.02.2020 17:28	
o-Terphenyl	84-15-1	85	%	70-135	07.02.2020 17:28	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-005	Date Collected:	07.01.2020 12:30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 13:09	Basis:	Wet Weight
Seq Number:	3130687				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.02.2020 17:39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.02.2020 17:39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.02.2020 17:39	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.02.2020 17:39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.02.2020 17:39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.02.2020 17:39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.02.2020 17:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.02.2020 17:39	
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.02.2020 17:39	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-006	Date Collected:	07.01.2020 12:35	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 14:00	Basis:	Wet Weight
Seq Number:	3130685				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**226**	10.1	mg/kg	07.02.2020 14:41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	07.02.2020 15:00	Basis:	Wet Weight
Seq Number:	3130683				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.02.2020 17:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.02.2020 17:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.02.2020 17:48	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	07.02.2020 17:48	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.02.2020 17:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	07.02.2020 17:48	
o-Terphenyl	84-15-1	83	%	70-135	07.02.2020 17:48	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-006	Date Collected:	07.01.2020 12:35	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 13:09	Basis:	Wet Weight
Seq Number:	3130687				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.02.2020 18:01	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.02.2020 18:01	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.02.2020 18:01	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.02.2020 18:01	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.02.2020 18:01	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.02.2020 18:01	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.02.2020 18:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.02.2020 18:01	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.02.2020 18:01	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-007	Date Collected:	07.01.2020 13:20	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 14:00	Basis:	Wet Weight
Seq Number:	3130685				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**182**	10.1	mg/kg	07.02.2020 14:47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	07.02.2020 15:00	Basis:	Wet Weight
Seq Number:	3130683				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.02.2020 18:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**73.0**	50.0	mg/kg	07.02.2020 18:09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.02.2020 18:09	U	1
Total GRO-DRO	PHC628	**73.0**	50.0	mg/kg	07.02.2020 18:09		1
Total TPH	PHC635	**73.0**	50.0	mg/kg	07.02.2020 18:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.02.2020 18:09	
o-Terphenyl	84-15-1	82	%	70-135	07.02.2020 18:09	

eurofins | Xenco

Certificate of Analytical Results 666198

LT Environmental, Inc., Arvada, CO

James Ranch Unit DI 2

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	07.02.2020 09:03
Lab Sample Id:	666198-007	Date Collected:	07.01.2020 13:20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	07.02.2020 13:09	Basis:	Wet Weight
Seq Number:	3130687				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00980	0.00980	mg/kg	07.02.2020 18:22	U	1
Toluene	108-88-3	<0.00980	0.00980	mg/kg	07.02.2020 18:22	U	1
Ethylbenzene	100-41-4	<0.00980	0.00980	mg/kg	07.02.2020 18:22	U	1
m,p-Xylenes	179601-23-1	<0.0196	0.0196	mg/kg	07.02.2020 18:22	U	1
o-Xylene	95-47-6	<0.00980	0.00980	mg/kg	07.02.2020 18:22	U	1
Total Xylenes	1330-20-7	<0.00980	0.00980	mg/kg	07.02.2020 18:22	U	1
Total BTEX		<0.00980	0.00980	mg/kg	07.02.2020 18:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.02.2020 18:22	
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.02.2020 18:22	

eurofins | 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 | Xenco

QC Summary 666198

LT Environmental, Inc.

James Ranch Unit DI 2

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3130685 Matrix: Solid Date Prep: 07.02.2020
MB Sample Id: 7706678-1-BLK LCS Sample Id: 7706678-1-BKS LCSD Sample Id: 7706678-1-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	258	103	266	106	90-110	3	20	mg/kg	07.02.2020 14:11	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3130685 Matrix: Soil Date Prep: 07.02.2020
Parent Sample Id: 666198-001 MS Sample Id: 666198-001 S MSD Sample Id: 666198-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	174	201	360	93	360	93	90-110	0	20	mg/kg	07.02.2020 15:17	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3130683 Matrix: Solid Date Prep: 07.02.2020
MB Sample Id: 7706690-1-BLK LCS Sample Id: 7706690-1-BKS LCSD Sample Id: 7706690-1-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	978	98	999	100	70-135	2	35	mg/kg	07.02.2020 13:27	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1070	107	70-135	1	35	mg/kg	07.02.2020 13:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	81		116		116		70-135	%	07.02.2020 13:27
o-Terphenyl	77		103		103		70-135	%	07.02.2020 13:27

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3130683 Matrix: Solid Date Prep: 07.02.2020
MB Sample Id: 7706690-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	07.02.2020 13:06	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3130683 Matrix: Soil Date Prep: 07.02.2020
Parent Sample Id: 666235-001 MS Sample Id: 666235-001 S MSD Sample Id: 666235-001 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)	<50.3	1010	969	96	992	99	70-135	2	35	mg/kg	07.02.2020 15:04	
Diesel Range Organics (DRO)	<50.3	1010	1060	105	1100	110	70-135	4	35	mg/kg	07.02.2020 15:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		94		70-135	%	07.02.2020 15:04
o-Terphenyl	79		84		70-135	%	07.02.2020 15:04

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 | Xenco

QC Summary 666198

LT Environmental, Inc.

James Ranch Unit DI 2

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3130687 Matrix: Solid Date Prep: 07.02.2020
MB Sample Id: 7706683-1-BLK LCS Sample Id: 7706683-1-BKS LCSD Sample Id: 7706683-1-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	0.108	108	0.105	105	70-130	3	35	mg/kg	07.02.2020 13:32	
Toluene	<0.00200	0.100	0.104	104	0.104	104	70-130	0	35	mg/kg	07.02.2020 13:32	
Ethylbenzene	<0.00200	0.100	0.0990	99	0.101	101	71-129	2	35	mg/kg	07.02.2020 13:32	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.206	103	70-135	3	35	mg/kg	07.02.2020 13:32	
o-Xylene	<0.00200	0.100	0.0992	99	0.102	102	71-133	3	35	mg/kg	07.02.2020 13:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		98		70-130	%	07.02.2020 13:32
4-Bromofluorobenzene	95		101		106		70-130	%	07.02.2020 13:32

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3130687 Matrix: Soil Date Prep: 07.02.2020
Parent Sample Id: 666198-001 MS Sample Id: 666198-001 S MSD Sample Id: 666198-001 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	0.0998	0.112	112	0.0984	97	70-130	13	35	mg/kg	07.02.2020 14:15	
Toluene	<0.00200	0.0998	0.109	109	0.0962	95	70-130	12	35	mg/kg	07.02.2020 14:15	
Ethylbenzene	<0.00200	0.0998	0.105	105	0.0919	91	71-129	13	35	mg/kg	07.02.2020 14:15	
m,p-Xylenes	<0.00399	0.200	0.213	107	0.187	93	70-135	13	35	mg/kg	07.02.2020 14:15	
o-Xylene	<0.00200	0.0998	0.104	104	0.0915	91	71-133	13	35	mg/kg	07.02.2020 14:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		70-130	%	07.02.2020 14:15
4-Bromofluorobenzene	103		104		70-130	%	07.02.2020 14:15

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: 6126198

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

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:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	emoreno@ltenv.com

Work Order Comments

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

Project Name:	James Ranch Unit DI 2	Turn Around	
Project Number:	012919065	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Ezequiel Moreno	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	3.8 / 3.6	Thermometer ID	TNM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	7

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	7/1/20	1200	2'	1	X	X	X
PH01A			1205	4'				
PH02			1215	2'				
PH02A			1221	4'				
PH03			1230	2'				
PH03A			1235	4'				
FS01	↓	↓	1320	1'	↓	↓	↓	↓

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7/2/20 09:03	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07.02.2020 09.03.00 AM

Work Order #: 666198

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)?	3.6	
#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**	Samples received in bulk containers.
#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: 07.02.2020

Checklist reviewed by: Jessica Kramer Date: 07.09.2020

Jessica Kramer