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	NCS2002354093
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.150740 Longitude -103.971040

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Corral Canyon 10 East Battery	Site Type Battery
Date Release Discovered 12/22/2019	API# *(if applicable)* 30-015-45432 (Corral Canyon 3 34 Fed 907H)

Unit Letter	Section	Township	Range	County
B	10	25S	29E	EDDY

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

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) 5.3	Volume Recovered (bbls) 3.0
☐ Produced Water	Volume Released (bbls) 0.0	Volume Recovered (bbls) 0.0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Release was caused by a damaged gasket on a 6" Vic clamp on the oil mainline to the battery. Total crude oil released was approximately 5.3 bbls, a vacuum truck recovered approximately 3.0 bbls. Additional third party resources have been retained to assist in the remediation.

State of New Mexico
Oil Conservation Division

Incident ID	NCS2002354093
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? 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 Supervisor

Signature: Date: 1-3-20

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

OCD Only

Received by: Date:

Location:	Corral Canyon 10 East Battery	
Spill Date:	12/22/2019	

Approximate Area =	430.71	sq. ft.
Average Saturation (or depth) of spill =	4.00	inches

Approximate oil % =	100.00	
Average Porosity Factor =	0.03	

TOTAL VOLUME OF LEAK		
Total Crude Oil =	5.30	bbls

VOLUME RECOVERED		
Total Crude Oil =	3.00	bbls

State of New Mexico
Oil Conservation Division

Incident ID	NCS2002354093
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	50-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NCS2002354093
District RP	
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 7/08/2020

email: Kyle_Littrell@xtoenergy.com Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NCS2002354093
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☒ Extents of contamination must be fully delineated.

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

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

Printed Nam Kyle Littrell Title: SH&E Supervisor

Signature: Date: 7/8/2020

email: Kyle_Littrell@xtoenergy.com Telephone:

OCD Only

Received by: Date:

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

Signature: Date:

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

July 8, 2020

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

RE: Deferral Request
Corral Canyon 10 East Battery
Incident Number NCS2002354093
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing site assessment, soil sampling, and excavation activities at the Corral Canyon 10 East Battery (Site) in Unit B, Section 10, Township 25 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil resulting from a release of crude oil at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities, XTO is submitting this Deferral Request, describing remediation that has occurred and requesting deferral of final remediation for this release event.

RELEASE BACKGROUND

On December 22, 2019, a gasket on a 6-inch Victaulic clamp on the oil mainline to the battery was damaged, resulting in the release of 5.3 barrels (bbls) of crude oil onto the surface of the well pad within the process equipment area. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids, approximately 3 bbls of crude oil were recovered. XTO reported the release the New Mexico Oil Conservation Division (NMOCD) on January 3, 2020 on a Release Notification and Corrective Action Form C-141 (Form C-141) and was assigned Incident Number NCS2002354093.

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 between 50 and 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 320956103574301, located approximately 1.1 miles northeast of the Site. The groundwater well

has a reported depth to groundwater of 98 feet bgs and a total depth of 140 feet bgs. Additional groundwater wells within a 2.5-mile radius of the Site indicate water wells with depth to water recorded between 50 and 100 feet bgs are present to the north, west, and south and regional depth to groundwater is greater than 50 feet bgs. The referenced well records are included in Attachment 1. The closest continuously flowing water or significant watercourse to the Site is an intermittent streambed, located approximately 995 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a medium potential karst 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: 10,000 mg/kg

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On January 20, 2020, LTE personnel inspected the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. The release occurred on the well pad around and beneath separators, pipelines, and risers. Surficial staining was observed in the release area. LTE personnel collected three preliminary soil samples (SS01 through SS03) from within the accessible areas of the release extent from a depth of 0.5 feet bgs to assess the lateral extent of impacted soil. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach®chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log showing the release extent and surrounding equipment is provided in Attachment 2.

The 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 for preliminary soil samples SS01 through SS03 indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were reported at concentrations exceeding the Closure Criteria. Based on visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples, delineation and excavation activities were warranted.

EXCAVATION AND DELINEATION SOIL SAMPLING ACTIVITIES

Between March 10 and June 8, 2020, LTE returned to the Site to oversee excavation activities as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples. Excavation activities were performed using a hydro-vacuum in the areas around preliminary soil samples SS01 through SS03 located north of the separators and between the risers and pipelines. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips. The excavations were completed to depths of approximately 2 feet to 2.5 feet bgs. Following removal of impacted soil to the extent possible, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floors of the excavations. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW04 were collected from the sidewalls of the excavations from depths ranging from the ground surface to 2.5 feet bgs. Composite soil samples FS01 through FS03 were collected from the floors of the excavations from a depth of 2 feet or 2.5 feet bgs. The excavation soil samples were collected, handled and analyzed as described above, and submitted to Xenco in Carlsbad, New Mexico.

The excavation extents totaled approximately 623 square feet. A total of approximately 50 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico. The final excavation extents and excavation soil sample locations are presented on Figure 3.

Between April 7 and June 8, 2020, LTE personnel were at the Site to complete site assessment activities to delineate the lateral and vertical extent of impacted soil. Boreholes were advanced via hand auger at eleven locations within and around the release extent. Boreholes BH01 through BH04 were advanced to a depth of two feet bgs and boreholes BH05 through BH11 were advanced to a depth of 4 feet bgs. Delineation soil samples were collected from the boreholes from depths ranging from 1 foot to 4 feet bgs. Soil from the boreholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips. Field screening results and observations for each borehole were logged on lithologic/soil

sampling logs, which are included in Attachment 3. The boreholes and delineation soil sample locations are depicted on Figure 4. The delineation soil samples were collected, handled and analyzed as described above and submitted to Xenco in Carlsbad, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations exceeded the Closure Criteria in preliminary soil samples SS01 through SS03. Based on the laboratory analytical results and visual observations, impacted soil was excavated to the extent possible.

Laboratory analytical results indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in final excavation soil samples FS01A, FS02A, FS03, SW03, and SW04. Laboratory analytical results indicated that TPH and/or GRO/DRO concentrations exceeded the Closure Criteria in final excavation sidewall samples SW01A and SW02A. Further excavation of impacted soil beyond excavation sidewall samples SW01A and SW02A was limited by the presence of active separators, pipelines, and risers. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site production equipment and pipelines. This XTO safety policy is established to protect workers and reduce the likelihood of compromising the foundation of the production equipment or pipelines. This policy was enforced where impacted soil was identified within 2 feet of active production equipment or pipelines.

Boreholes BH01 through BH11 were advanced within and around the release extent to delineate the lateral and vertical extent of impacted soil left in place. Laboratory analytical results for the delineation soil samples collected from boreholes BH01 through BH04, BH10, and BH11 indicated that benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for the delineation soil samples collected at 1 foot bgs within the release extent from boreholes BH05 through BH09 indicated that GRO/DRO, TPH, or chloride concentrations exceeded the Closure Criteria; subsequent delineation samples collected at 2 feet and 4 feet bgs were compliant. Based on the laboratory analytical results for the delineation soil samples, the release extent was successfully defined, and impacted soil did not extend deeper than 2 feet bgs. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

DEFERRAL REQUEST

A total of approximately 50 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines and the inability to access the impacted soil due to overhanging infrastructure. Impacted soil between the risers, pipelines, and separators could not be accessed due to the space limitations and safety considerations.

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Impacted soil was excavated to the extent possible, including hand shoveling and hydro-excavation in accessible areas. Laboratory analytical results for excavation sidewall samples SW01A and SW02A indicated that soil with TPH and/or GRO/DRO concentrations exceeding the Closure Criteria was left in place within 2 feet of active production equipment and pipelines. Additional impacted soil was visibly identified beneath and around active production equipment and could not be excavated without major facility deconstruction. The impacted soil remaining in place is delineated laterally and vertically by excavation soil samples FS01A, FS02A, FS03, SW03, and SW04 and delineation soil samples collected at depths ranging from 2 feet to 4 feet bgs from boreholes BH01 through BH11.

An estimated 100 cubic yards of impacted soil remains in place around or beneath the separators, risers, and pipelines assuming a maximum 2-foot depth based on the excavation and delineation soil samples listed above that were compliant with the Closure Criteria. The requested deferral area is depicted on Figure 4.

XTO requests to backfill the excavations and complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The impacted soil remaining in place is limited to the area immediately around and beneath active production equipment. XTO requests deferral of final remediation for Incident Number NCS2002354093.

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

Sincerely,

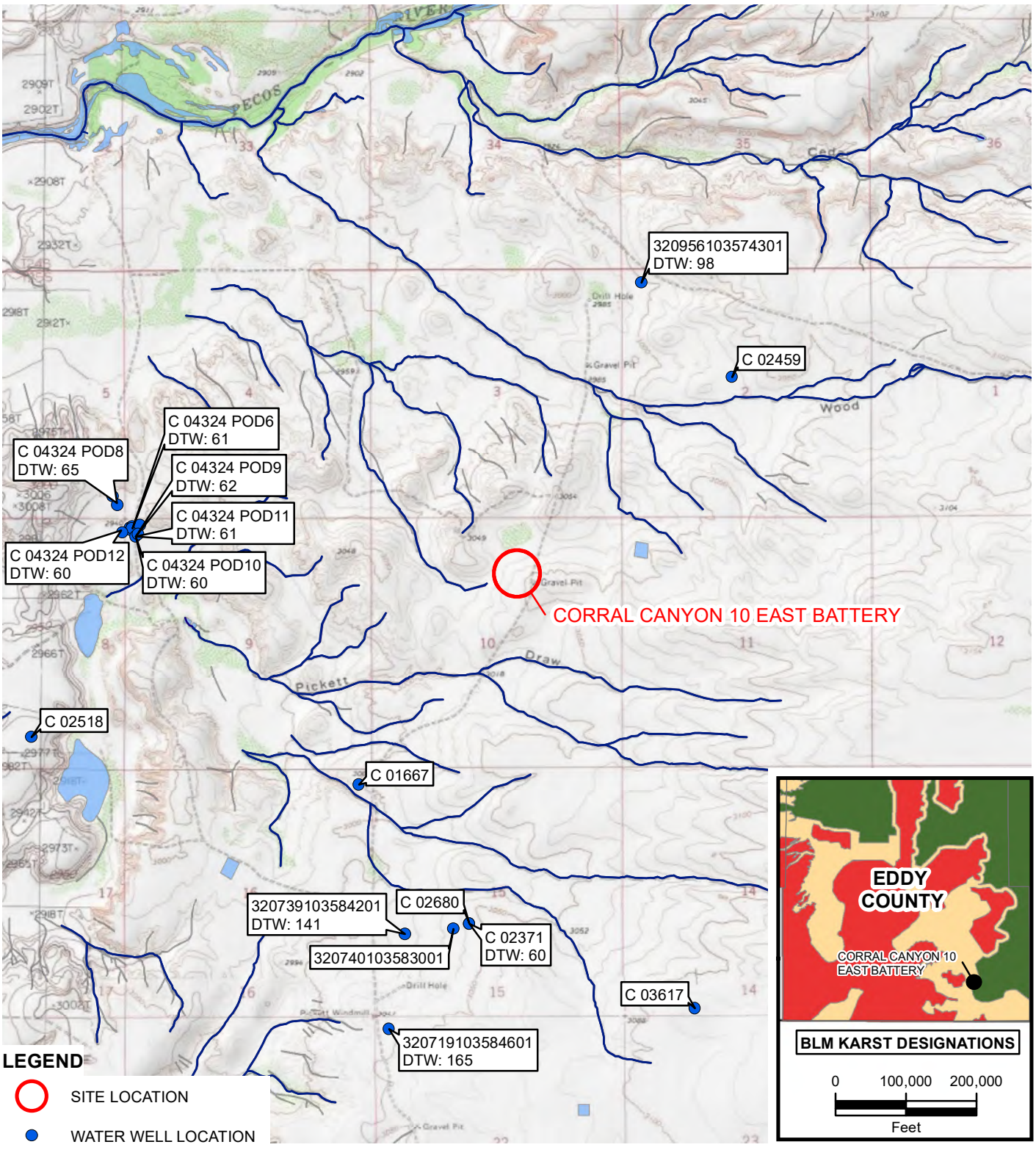
LT ENVIRONMENTAL, INC.

Fatima Smith
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Jim Amos, Bureau of Land Management
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

FIGURES



LEGEND

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

DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
CORRAL CANYON 10 EAST BATTERY
UNIT B SEC 10 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920010_CORRAL CANYON 10E BATTERY\012920010_FIG01_SL_2020.mxd

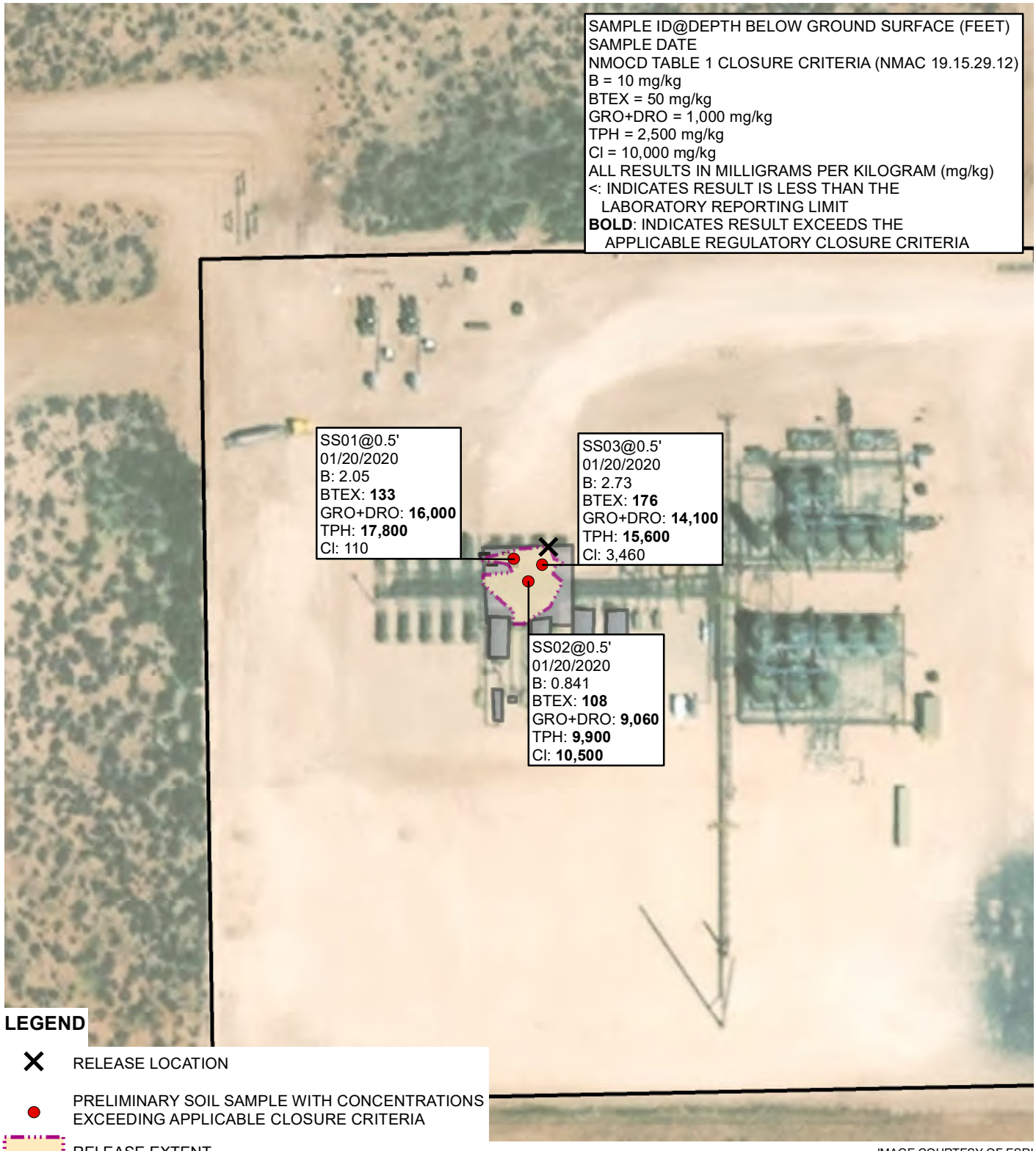
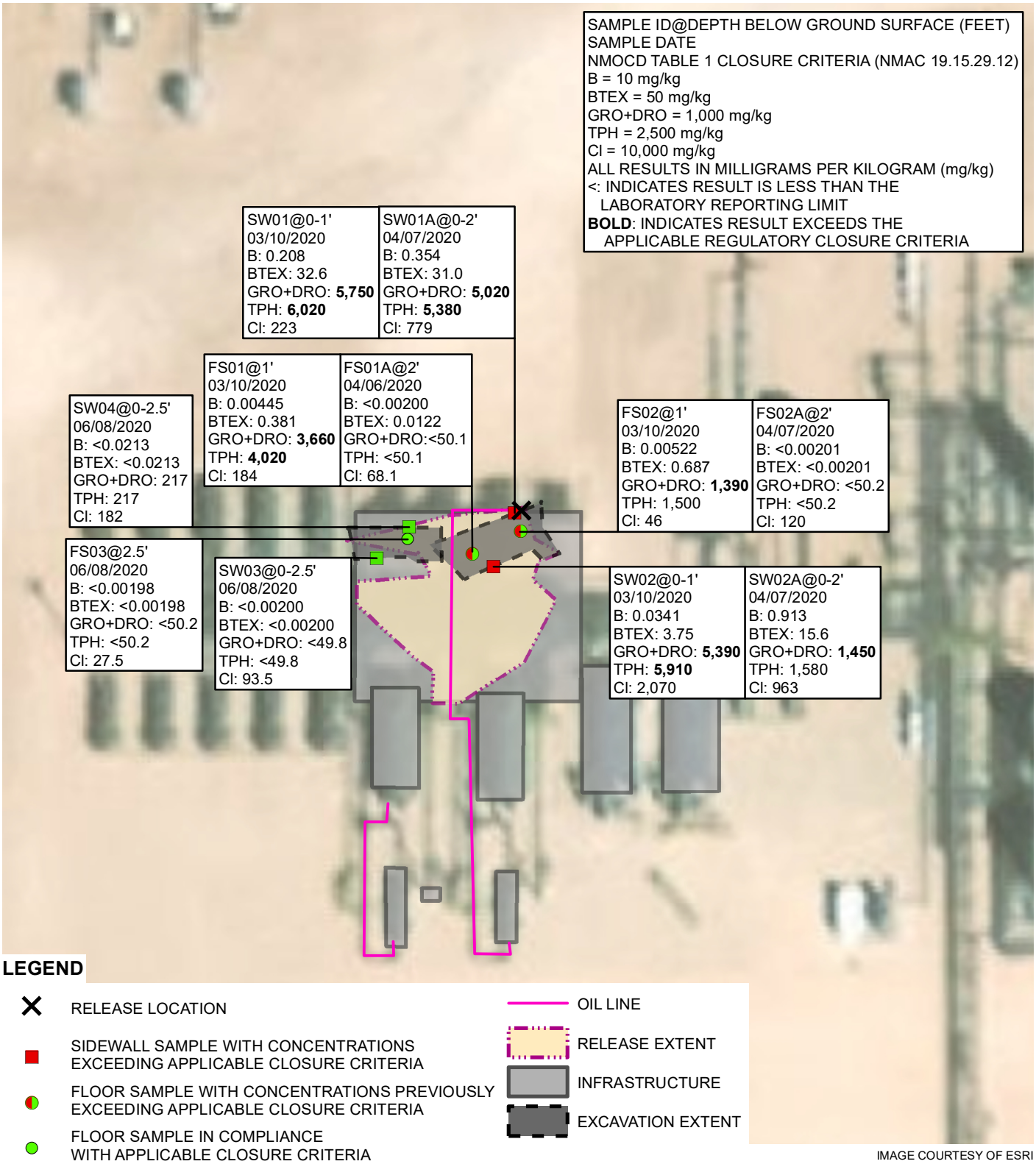


FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
CORRAL CANYON 10 EAST BATTERY
UNIT B SEC 10 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

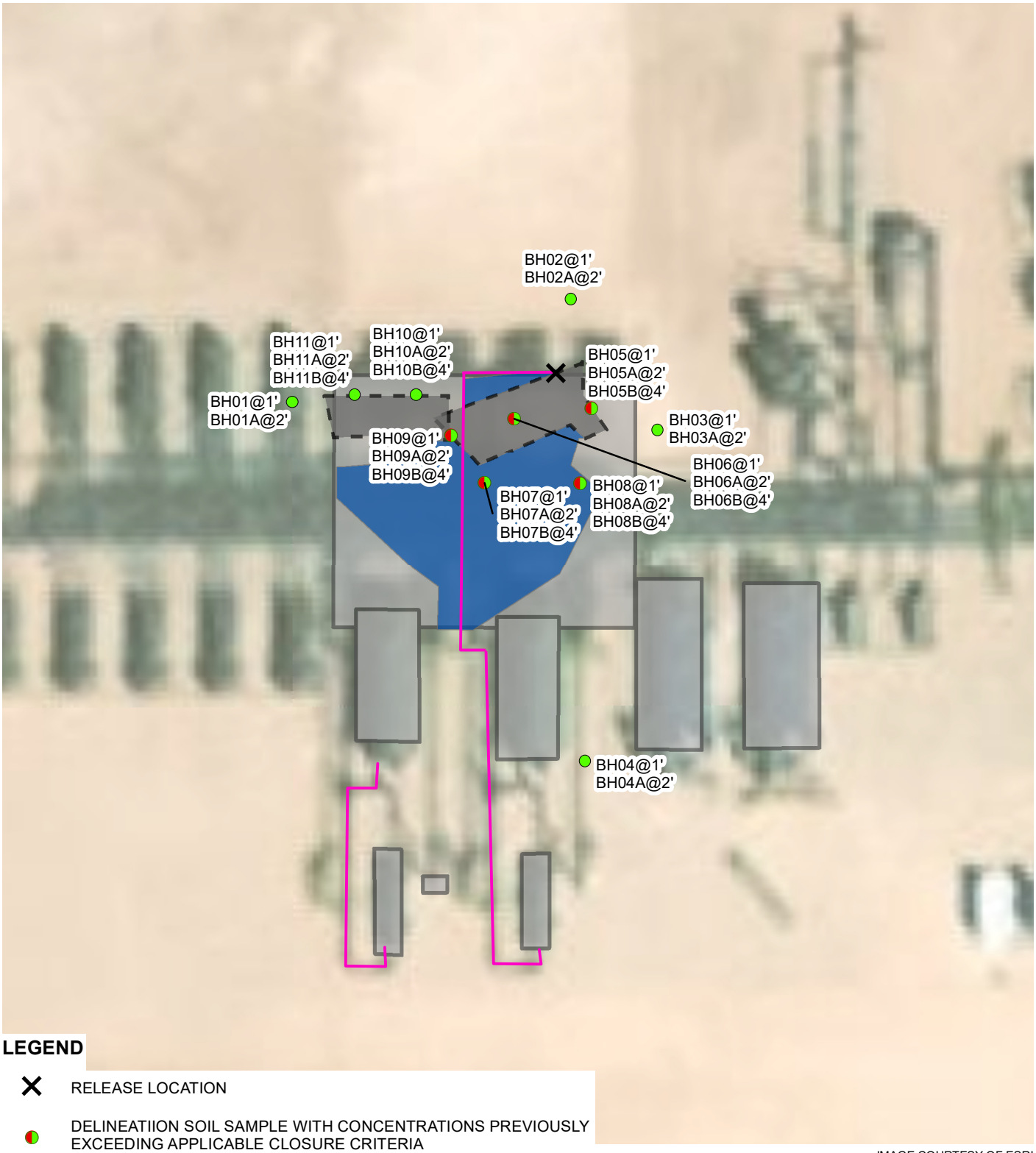
P:\XTO Energy\GIS\MXD\012920010_CORRAL CANYON 10E BATTERY\012920010_FIG02_PRELIMINARY_2020.mxd



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: INCIDENT NUMBER NCS2002354093

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
CORRAL CANYON 10 EAST BATTERY
UNIT B SEC 10 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920010_CORRAL CANYON 10E BATTERY\012920010_FIG03_EXCAVATION_2020.mxd



LEGEND

- RELEASE LOCATION
- DELINEATIION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- OIL LINE
- DEFERRAL AREA
- EXCAVATION EXTENT
- INFRASTRUCTURE

NOTE: INCIDENT NUMBER NCS2002354093
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

0 30 60
Feet

N

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
CORRAL CANYON 10 EAST BATTERY
UNIT B SEC 10 T25S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920010_CORRAL CANYON 10E BATTERY\012920010_FIG04_DELINEATION_2020.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

CORRAL CANYON 10 EAST BATTERY
INCIDENT NUMBER NCS2002354093
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**	**10,000**
SS01	0.5	01/20/20	2.05	34.8	11.8	84.5	**133**	3,680	12,300	1,790	**16,000**	**17,800**	110
SS02	0.5	01/20/20	0.841	25	8.5	74.1	**108**	2,080	6,980	840	**9,060**	**9,900**	**10,500**
SS03	0.5	01/20/20	2.73	65.7	13.4	94.1	**176**	3,710	10,400	1,510	**14,100**	**15,600**	3,460
BH01	1	04/07/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	400
BH01A	2	04/07/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	29.7
BH02	1	04/07/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	157
BH02A	2	04/07/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	109
BH03	1	04/07/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	658
BH03A	2	04/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	95.2
BH04	1	04/07/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	118
BH04A	2	04/07/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.3	<50.3	<50.3	<50.3	<50.3	34.5
BH05	1	05/28/2020	<0.00202	0.0945	0.0585	0.240	0.393	391	13,100	1,150	**13,500**	**14,600**	2,570
BH05A	2	05/28/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	37.8
BH05B	4	05/28/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	77.3
BH06	1	05/28/2020	<0.0196	0.968	0.670	3.45	5.09	371	14,200	2,040	**14,600**	**16,600**	3,370
BH06A	2	05/28/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	367
BH06B	4	05/28/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	50.7
BH07	1	05/28/2020	<0.0192	<0.0192	<0.0192	0.289	0.289	<50.0	1,310	164	**1,310**	1,470	**48,500**
BH07A	2	05/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	253
BH07B	4	05/28/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	38.5
BH08	1	05/28/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	**28,500**
BH08A	2	05/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	5,850
BH08B	4	05/28/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	21.3

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TABLE 1
SOIL ANALYTICAL RESULTS

CORRAL CANYON 10 EAST BATTERY
INCIDENT NUMBER NCS2002354093
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**	**10,000**
BH09	1	06/08/2020	<0.0204	0.206	0.351	1.22	1.78	275	3420	236	**3,700**	**3,930**	6,320
BH09A	2	06/08/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	62.7
BH09B	4	06/08/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	61.0
BH10	1	06/08/2020	<0.00200	<0.00200	<0.00200	0.0130	0.0130	<50.1	70.8	<50.1	70.8	70.8	155
BH10A	2	06/08/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	72.0
BH10B	4	06/08/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	18.6
BH11	1	06/08/2020	<0.00202	<0.00202	0.0162	0.106	0.123	<50.2	827	73.2	827	900	217
BH11A	2	06/08/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	19.0
BH11B	4	06/08/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	10.7
FS01	1	03/10/20	0.00445	0.0434	0.0387	0.294	0.381	94	3,570	355	**3,660**	**4,020**	184
FS01A	2	04/06/2020	<0.00200	<0.00200	<0.00200	0.0122	0.0122	<50.1	<50.1	<50.1	<50.1	<50.1	68.1
FS02	1	03/10/20	0.00522	0.149	0.0664	0.466	0.687	76	1,310	119	**1,390**	1,500	46
FS02A	2	04/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	120
FS03	2.5	06/08/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	27.5
SW01	0 - 1	03/10/20	0.208	5.48	3.19	23.7	32.6	600	4,970	448	**5,570**	**6,020**	223
SW01A	0 - 2	04/07/2020	0.354	5.39	2.97	22.3	31.0	493	4,530	355	**5,020**	**5,380**	779
SW02	0 - 1	03/10/20	0.0341	0.647	0.564	2.51	3.75	464	4,930	514	**5,390**	**5,910**	2,070
SW02A	0 - 2	04/07/2020	0.913	4.68	1.07	8.94	15.6	163	1,290	129	**1,450**	1,580	963
SW03	0 - 2.5	06/08/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	93.5
SW04	0 - 2.5	06/08/2020	<0.0213	<0.0213	<0.0213	<0.0213	<0.0213	<50.1	217	<50.1	217	217	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

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ATTACHMENT 1: REFERENCED WELL RECORDS

National Water Information System: Web Interface

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- Full News

USGS 320956103574301 25S.29E.02.11111

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°09'56", Longitude 103°57'43" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 140 feet
Land surface altitude: 3,000 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-10-23	1958-10-23	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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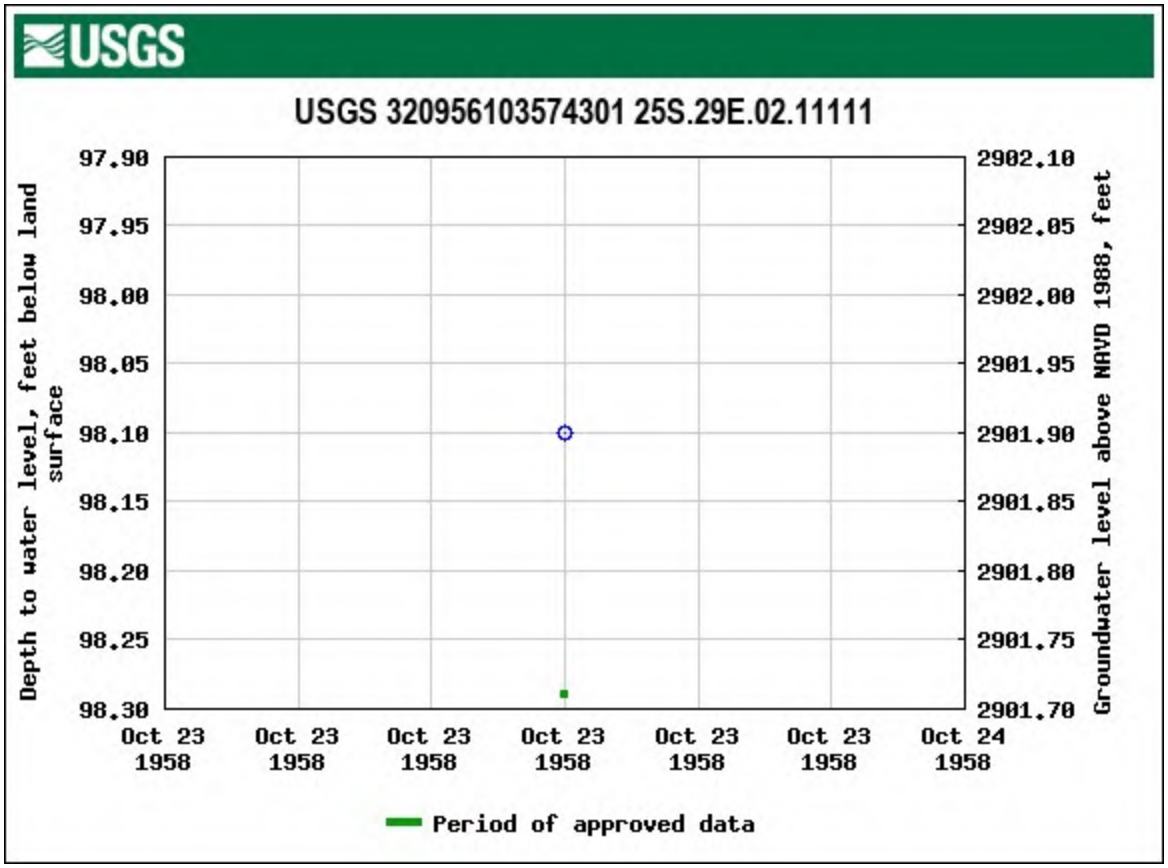
USGS
USGS 320956103574301 25S.29E.02.11111
Depth to water level, feet below land surface
97.90
97.95
98.00
98.05
98.10
98.15
98.20
98.25
98.30
Groundwater level above NAVD 1988, feet
2902.10
2902.05
2902.00
2901.95
2901.90
2901.85
2901.80
2901.75
2901.70
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 24 1958
Period of approved data

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 04324 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Agent: LT ENVIRONMENTAL INC

Contact: DUSTIN HELD

Owner: XTO ENERGY INC

Contact: KYLE LITTRELL

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	654446	EXPL	2019-07-12	PMT	LOG	C 04324 POD6-12	T	0	0	
get images	648753	EXPL	2019-05-07	PMT	APR	C 04324 POD1-5	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 04324 POD1	NA		1	1	1	09	25S	29E	594539	3557658	BH01
C 04324 POD10	NA	Shallow	1	1	1	09	25S	29E	594563	3557603	BH05(D)
C 04324 POD11	NA	Shallow	1	1	1	09	25S	29E	594576	3557619	BH05(E)
C 04324 POD12	NA	Shallow	2	2	2	08	25S	29E	594476	3557627	BH06(F)
C 04324 POD2	NA		1	1	1	09	25S	29E	594524	3557660	BH02
C 04324 POD3	NA		1	1	1	09	25S	29E	594548	3557656	BH03
C 04324 POD4	NA		1	1	1	09	25S	29E	594540	3557668	BH04
C 04324 POD5	NA		1	1	1	09	25S	29E	594532	3557644	BH05
C 04324 POD6	NA	Shallow	1	1	1	09	25S	29E	594538	3557657	BH01(A)
C 04324 POD7	NA		4	4	4	05	25S	29E	594410	3557863	BH02(B)
C 04324 POD8	NA	Shallow	4	4	4	05	25S	29E	594442	3557807	BH02(B)'
C 04324 POD9	NA	Shallow	1	1	1	09	25S	29E	594590	3557676	BH04(C)

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	Tws	Rng	(NAD83 UTM in meters) X	Y
NA	C 04324 POD10	1	1	1	09	25S	29E	594563	3557603

Driller License: 1664 **Driller Company:** CASCADE DRILLING, LP

Driller Name: CAIN, SHAWN N.NJR.L.NER

Drill Start Date:	07/20/2019	**Drill Finish Date:**	07/21/2019	**Plug Date:**	
Log File Date:	08/28/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.06	**Depth Well:**	65 feet	**Depth Water:**	60 feet

Water Bearing Stratifications:	Top	Bottom	Description
	60	65	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	45	65

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	Tws	Rng	(NAD83 UTM in meters) X	Y
NA	C 04324 POD11	1	1	1	09	25S	29E	594576	3557619

Driller License: 1664 **Driller Company:** CASCADE DRILLING, LP

Driller Name: CAIN, SHAWN N.NJR.L.NER

Drill Start Date:	07/20/2019	**Drill Finish Date:**	07/20/2019	**Plug Date:**	
Log File Date:	08/28/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.06	**Depth Well:**	61 feet	**Depth Water:**	61 feet

Water Bearing Stratifications:	Top	Bottom	Description
	46	61	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	41	61

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	Tws	Rng	(NAD83 UTM in meters) X	Y
NA	C 04324 POD12	2	2	2	08	25S	29E	594476	3557627

Driller License:	1664	**Driller Company:**	CASCADE DRILLING, LP		
Driller Name:	CAIN, SHAWN N.NJR.L.NER				
Drill Start Date:	07/19/2019	**Drill Finish Date:**	07/20/2019	**Plug Date:**	
Log File Date:	08/28/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.06	**Depth Well:**	65 feet	**Depth Water:**	60 feet

Water Bearing Stratifications:	Top	Bottom	Description
	60	65	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	45	65

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	Tws	Rng	(NAD83 UTM in meters) X	Y
NA	C 04324 POD6	1	1	1	09	25S	29E	594538	3557657

Driller License: 1664 **Driller Company:** CASCADE DRILLING, LP

Driller Name: CAIN, SHAWN N.NJR.L.NER

Drill Start Date:	07/18/2019	**Drill Finish Date:**	07/18/2019	**Plug Date:**	
Log File Date:	08/28/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.67	**Depth Well:**	62 feet	**Depth Water:**	61 feet

Water Bearing Stratifications:	Top	Bottom	Description
	48	62	Limestone/Dolomite/Chalk

Casing Perforations:	Top	Bottom
	47	62

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	Tws	Rng	(NAD83 UTM in meters) X	Y
NA	C 04324 POD8	4	4	4	05	25S	29E	594442	3557807

Driller License: 1664 **Driller Company:** CASCADE DRILLING, LP

Driller Name: CAIN, SHAWN N.NJR.L.NER

Drill Start Date:	07/21/2019	**Drill Finish Date:**	07/21/2019	**Plug Date:**	
Log File Date:	08/28/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.06	**Depth Well:**	69 feet	**Depth Water:**	65 feet

Water Bearing Stratifications:	Top	Bottom	Description
	60	69	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	49	69

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	Tws	Rng	(NAD83 UTM in meters) X	Y
NA	C 04324 POD9	1	1	1	09	25S	29E	594590	3557676

Driller License: 1664 **Driller Company:** CASCADE DRILLING, LP

Driller Name: CAIN, SHAWN N.NJR.L.NER

Drill Start Date:	07/21/2019	**Drill Finish Date:**	07/21/2019	**Plug Date:**	
Log File Date:	08/28/2019	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	2.06	**Depth Well:**	72 feet	**Depth Water:**	62 feet

Water Bearing Stratifications:	Top	Bottom	Description
	45	72	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	57	72

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02371 **Subbasin:** C **Cross Reference:** -

Primary Purpose: STK 72-12-1 LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: TRAN KING & WESTERN COMM. BANK

Contact: LYNN TROUBLEFIELD, VP

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	465300	COWNF	2000-04-05	CHG	PRC	C 02371	T		0	
get images	465299	72121	1994-11-30	PMT	LOG	C 02371	T		3	
get images	465296	72121	1993-10-22	EXP	EXP	C 02371	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02371		Shallow	2	3		15	25S	29E	596741	3555106*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

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	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 02371	2	3		15	25S	29E	596741	3555106*

Driller License:	1259	**Driller Company:**	CAMPBELL DRILLING		
Driller Name:	CAMPBELL, MICHAEL R.				
Drill Start Date:	01/12/1995	**Drill Finish Date:**	01/24/1995	**Plug Date:**	
Log File Date:	02/01/1995	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	20 GPM
Casing Size:	7.00	**Depth Well:**	200 feet	**Depth Water:**	60 feet

Water Bearing Stratifications:	Top	Bottom	Description
	162	200	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	140	200

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

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USGS 320956103574301 25S.29E.02.11111

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°09'56", Longitude 103°57'43" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 140 feet
Land surface altitude: 3,000 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-10-23	1958-10-23	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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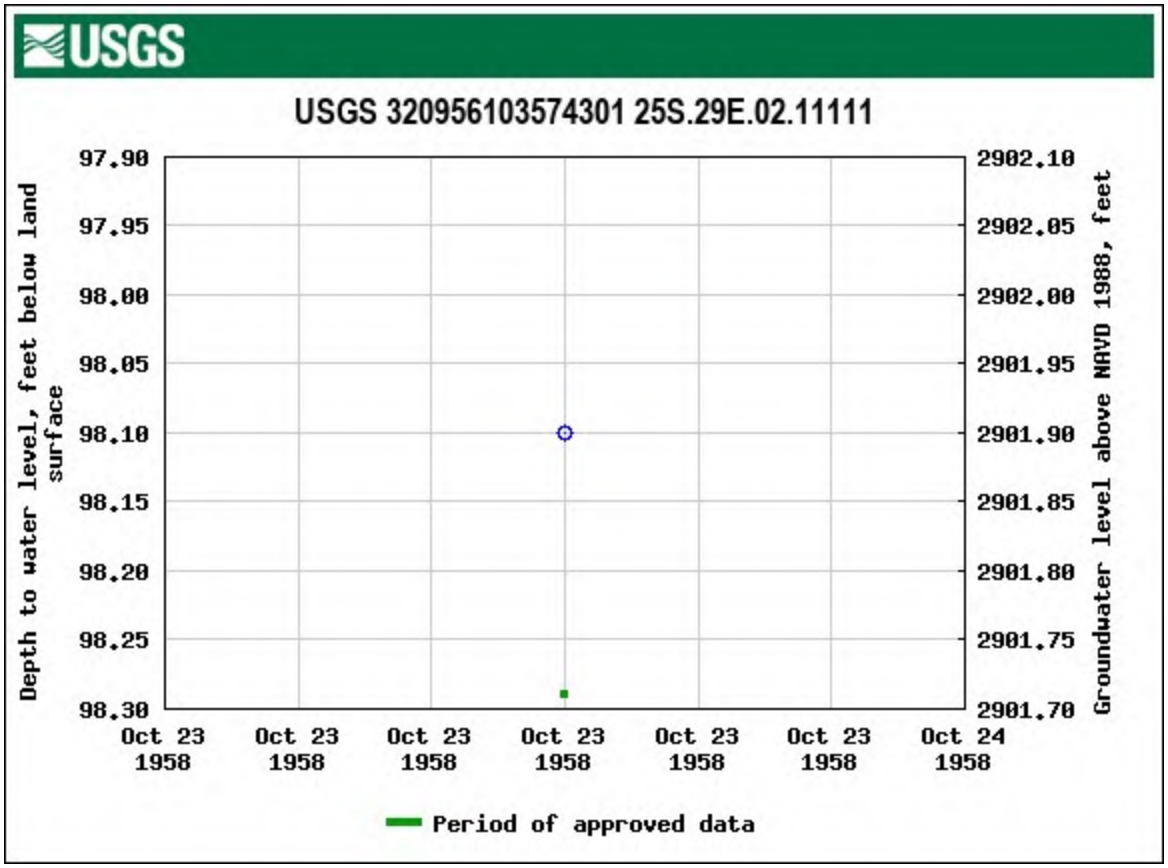
USGS
USGS 320956103574301 25S.29E.02.11111
Depth to water level, feet below land surface
97.90
97.95
98.00
98.05
98.10
98.15
98.20
98.25
98.30
Groundwater level above NAVD 1988, feet
2902.10
2902.05
2902.00
2901.95
2901.90
2901.85
2901.80
2901.75
2901.70
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 23 1958
Oct 24 1958
Period of approved data

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USGS 320739103584201 25S.29E.15.31134

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°07'39", Longitude 103°58'42" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 192 feet
Land surface altitude: 3,017 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1983-02-01	1998-01-29	4
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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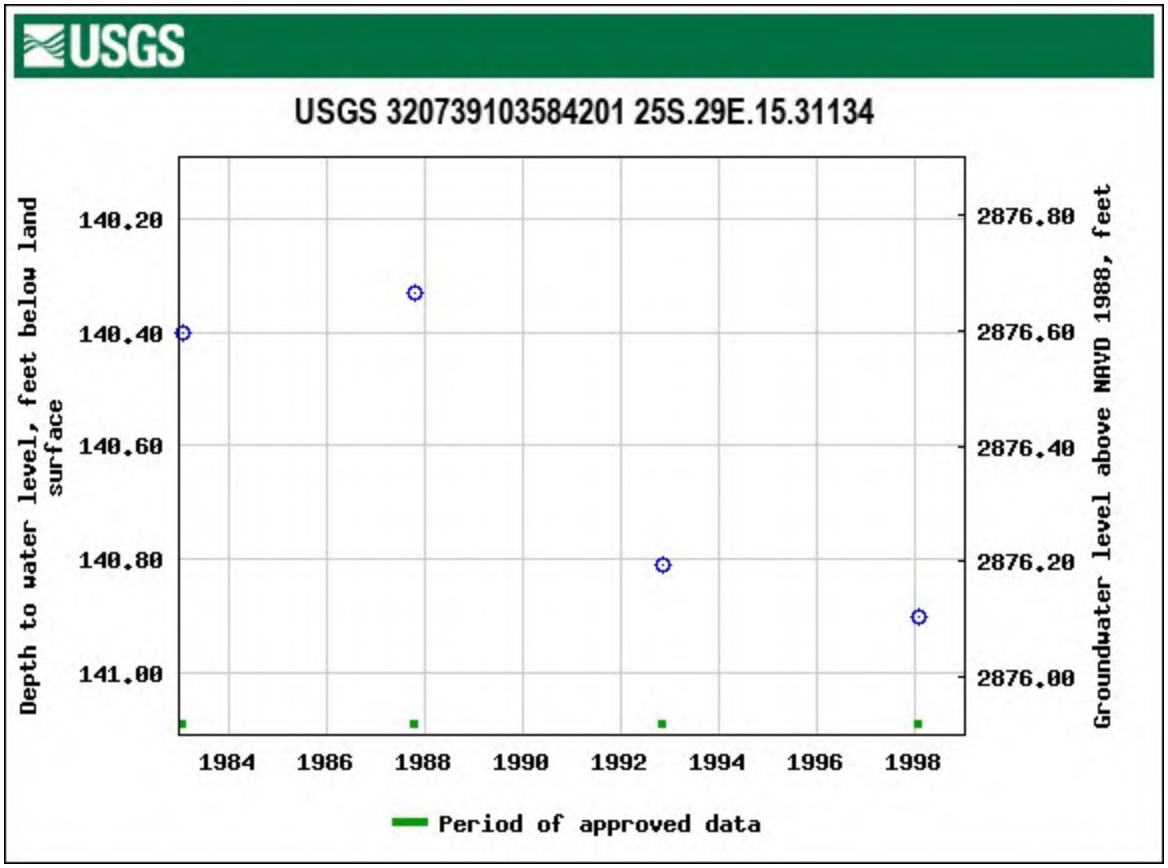
USGS
USGS 320739103584201 25S.29E.15.31134
Depth to water level, feet below land surface
140.20
140.40
140.60
140.80
141.00
Groundwater level above NAVD 1988, feet
2876.80
2876.60
2876.40
2876.20
2876.00
1984
1986
1988
1990
1992
1994
1996
1998
Period of approved data

National Water Information System: Web Interface

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USGS 320719103584601 25S.29E.16.44444

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°07'19", Longitude 103°58'46" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 200 feet
Land surface altitude: 3,042 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-08-19	1977-01-14	5
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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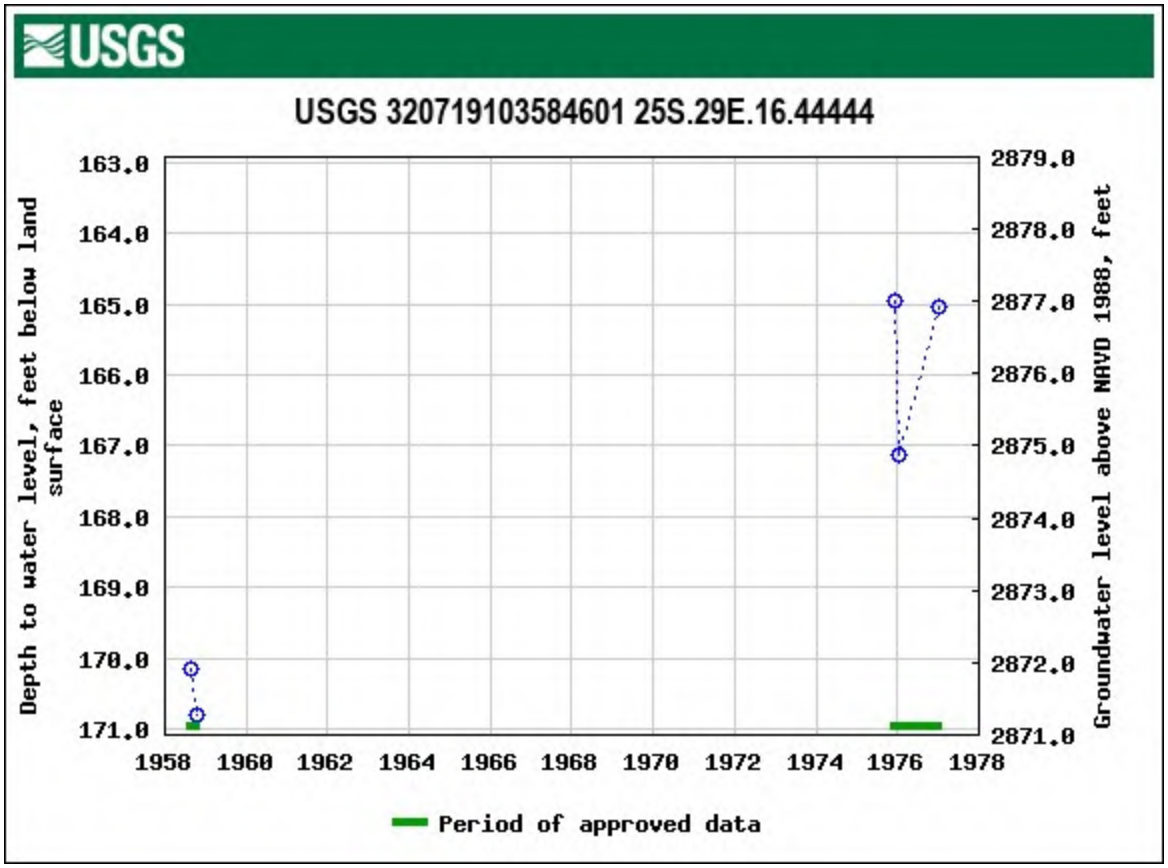
USGS
USGS 320719103584601 25S.29E.16.44444
Depth to water level, feet below land surface
163.0
164.0
165.0
166.0
167.0
168.0
169.0
170.0
171.0
Groundwater level above NAVD 1988, feet
2879.0
2878.0
2877.0
2876.0
2875.0
2874.0
2873.0
2872.0
2871.0
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
Period of approved data

ATTACHMENT 2: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Photograph 1: View west of impacted soil.

Photograph 2: View of inaccessible impacted soil.

PHOTOGRAPHIC LOG

Photograph 3: View west of hydro vacuum excavation, red line in forefront is reflective tape.

Photograph 4: View east of hydro vacuum excavation

ATTACHMENT 3: LITHOLOGIC / SOIL SAMPLING LOG

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
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BH or PH Name: BH01	Date: 4/7/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS, EM	Method: Hydrovac		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 2'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	487	0.3	N	BH01	1'	1		
D	<173	0.2	N	BH01A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
								Total depth 2 feet bgs

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BH or PH Name: BH02	Date: 4/7/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS, EM	Method: Hydrovac		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 2'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	SP	SAND, dry, tan-light brown, poorly graded, fine-very fine, no stain, no
D	235	0.2	N	BH02	1'	1		
D	173	0.0	N	BH02A	2'	2	SP	Total depth 2 feet bgs

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BH or PH Name: BH03	Date: 4/7/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS, EM	Method: Hydrovac		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 2'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	SP	SAND, dry, tan-light brown, poorly graded, fine-very fine, no stain , no odor
D	593	0.1	N	BH03	1'	1		
D	<173	0.0	N	BH03A	2'	2		Total depth 2 feet bgs

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BH or PH Name: BH04	Date: 4/7/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS, EM	Method: Hydrovac		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 2'

Comments: All chloride screenings include 10% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	173	0.0	N	BH04	1'	1		
D	173	0.0	N	BH04A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
								Total depth 2 feet bgs

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BH or PH Name: BH05	Date: 5/28/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS	Method: Hand auger		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 4'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	2,368	391.2	N	BH05	1'	1		
D	257	2.1	N	BH05A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
D	257	1.7	N	BH05B	4'	4	SM	SILTY clay, dry, dark brown, non cohesive, no plasticity, no stain, no
								Total depth 4 feet bgs

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BH or PH Name: BH06	Date: 5/28/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS	Method: Hand auger		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 4'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	>3645	453.8	N	BH06	1'	1		
D	560	35.6	N	BH06A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
D	257	8.5	N	BH06B	4'	4	SM	SILTY clay, dry, dark brown, non cohesive, no plasticity, no stain, no
								Total depth 4 feet bgs

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BH or PH Name: BH07	Date: 5/28/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS	Method: Hand auger		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 4'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	>3645	391.4	N	BH07	1'	1		
D	448	21.6	N	BH07A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
D	257	5.8	N	BH07B	4'	4	SM	SILTY clay, dry, dark brown, non cohesive, no plasticity, no stain, no
								Total depth 4 feet bgs

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BH or PH Name: BH08	Date: 5/28/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS	Method: Hand auger		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 4'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	28,541	1.8	N	BH08	1'	1		
D	6,468	1.3	N	BH08A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
D	257	1.4	N	BH08B	4'	4	SM	SILTY clay, dry, dark brown, non cohesive, no plasticity, no stain, no
								Total depth 4 feet bgs

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BH or PH Name: BH09	Date: 6/8/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS	Method: Hand auger		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 4'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	>3505	487.4	N	BH09	1'	1		
D	593	38.9	N	BH09A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
D	392	26.5	N	BH09B	4'	4	SM	SILTY clay, dry, dark brown, non cohesive, no plasticity, no stain, no
								Total depth 4 feet bgs

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BH or PH Name: BH10	Date: 6/8/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS	Method: Hand auger		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 4'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	324	168.3	N	BH10	1'	1		
D	274	44.9	N	BH10A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
D	174	30.2	N	BH10B	4'	4	SM	SILTY clay, dry, dark brown, non cohesive, no plasticity, no stain, no
								Total depth 4 feet bgs

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BH or PH Name: BH11	Date: 6/8/2020
Site Name: Corral Canyon 10E	
RP or Incident Number:	
LTE Job Number: 012920010	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: FS	Method: Hand auger		
Lat/Long: 32.15074, -103.97104	Field Screening: Hatch chloride strips, PID	Hole Diameter: 8"	Total Depth: 4'

Comments: All chloride screenings include a 40% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	CALICHE, dry, tan- off white, poorly consolidated, no stain, no odor
D	492	287.5	N	BH11	1'	1		
D	190	36.0	N	BH11A	2'	2	SP	SAND, dry, dark brown, poorly graded, fine-very fine, no stain, no odor
D	190	43.1	N	BH11B	4'	4	SM	SILTY clay, dry, dark brown, non cohesive, no plasticity, no stain, no
								Total depth 4 feet bgs

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS

Analytical Report 649713

for

LT Environmental, Inc.

Project Manager: Dan Moir

Corral Canyon 10 East Battery

n/a

30-JAN-20

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)

30-JAN-20

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

Reference: XENCO Report No(s): **649713**
Corral Canyon 10 East Battery
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 649713. 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. 649713 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 649713

LT Environmental, Inc., Arvada, CO

Corral Canyon 10 East Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	01-20-20 14:05	0.5 ft	649713-001
SS02	S	01-20-20 14:10	0.5 ft	649713-002
SS03	S	01-20-20 14:15	0.5 ft	649713-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Corral Canyon 10 East Battery

Project ID: *n/a*
Work Order Number(s): *649713*

Report Date: *30-JAN-20*
Date Received: *01/21/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3114941 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 649713-001,649713-003,649713-002.

Certificate of Analysis Summary 649713

LT Environmental, Inc., Arvada, CO

Project Name: Corral Canyon 10 East Battery

Project Id: n/a
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jan-21-20 08:30 am
Report Date: 30-JAN-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	649713-001		649713-002		649713-003			
	Field Id:	SS01		SS02		SS03			
	Depth:	0.5- ft		0.5- ft		0.5- ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Jan-20-20 14:05		Jan-20-20 14:10		Jan-20-20 14:15			
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Jan-28-20 09:30		Jan-28-20 09:30		Jan-28-20 09:30			
	Analyzed:	Jan-30-20 00:10		Jan-30-20 00:30		Jan-30-20 00:50			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		2.05	0.199	0.841	0.0998	2.73	0.202		
Toluene		34.8	0.199	25.0 D	0.200	65.7 D	0.404		
Ethylbenzene		11.8	0.199	8.50	0.0998	13.4	0.202		
m,p-Xylenes		63.3	0.398	59.1 D	0.399	71.7	0.404		
o-Xylene		21.2	0.199	15.0	0.0998	22.4	0.202		
Total Xylenes		84.5	0.199	74.1	0.0998	94.1	0.202		
Total BTEX		133	0.199	108	0.0998	176	0.202		
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Jan-22-20 14:20		Jan-22-20 14:20		Jan-22-20 14:20			
	Analyzed:	Jan-23-20 12:56		Jan-23-20 13:02		Jan-23-20 13:09			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		110	5.00	10500	49.7	3460	25.0		
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Jan-23-20 10:00		Jan-23-20 10:00		Jan-23-20 10:00			
	Analyzed:	Jan-24-20 07:45		Jan-23-20 19:06		Jan-24-20 08:03			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		3680	249	2080	50.0	3710	250		
Diesel Range Organics (DRO)		12300	249	6980	50.0	10400	250		
Motor Oil Range Hydrocarbons (MRO)		1790	249	840	50.0	1510	250		
Total GRO-DRO		16000	249	9060	50.0	14100	250		
Total TPH		17800	249	9900	50.0	15600	250		

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 649713

LT Environmental, Inc., Arvada, CO

Corral Canyon 10 East Battery

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.21.20 08.30
Lab Sample Id:	649713-001	Date Collected:	01.20.20 14.05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.20	Basis:	Wet Weight
Seq Number:	3114286			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**110**	5.00	mg/kg	01.23.20 12.56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.23.20 10.00	Basis:	Wet Weight
Seq Number:	3114321			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**3680**	249	mg/kg	01.24.20 07.45		5
Diesel Range Organics (DRO)	C10C28DRO	**12300**	249	mg/kg	01.24.20 07.45		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1790**	249	mg/kg	01.24.20 07.45		5
Total GRO-DRO	PHC628	**16000**	249	mg/kg	01.24.20 07.45		5
Total TPH	PHC635	**17800**	249	mg/kg	01.24.20 07.45		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	01.24.20 07.45	
o-Terphenyl	84-15-1	111	%	70-135	01.24.20 07.45	

Certificate of Analytical Results 649713

LT Environmental, Inc., Arvada, CO

Corral Canyon 10 East Battery

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	01.21.20 08.30
Lab Sample Id:	649713-001	Date Collected:	01.20.20 14.05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	01.28.20 09.30	Basis:	Wet Weight
Seq Number:	3114941			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**2.05**	0.199	mg/kg	01.30.20 00.10		100
Toluene	108-88-3	**34.8**	0.199	mg/kg	01.30.20 00.10		100
Ethylbenzene	100-41-4	**11.8**	0.199	mg/kg	01.30.20 00.10		100
m,p-Xylenes	179601-23-1	**63.3**	0.398	mg/kg	01.30.20 00.10		100
o-Xylene	95-47-6	**21.2**	0.199	mg/kg	01.30.20 00.10		100
Total Xylenes	1330-20-7	**84.5**	0.199	mg/kg	01.30.20 00.10		100
Total BTEX		**133**	0.199	mg/kg	01.30.20 00.10		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.30.20 00.10	
4-Bromofluorobenzene	460-00-4	251	%	70-130	01.30.20 00.10	**

Certificate of Analytical Results 649713

LT Environmental, Inc., Arvada, CO

Corral Canyon 10 East Battery

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.21.20 08.30
Lab Sample Id:	649713-002	Date Collected:	01.20.20 14.10	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.20	Basis:	Wet Weight
Seq Number:	3114286			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10500**	49.7	mg/kg	01.23.20 13.02		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.23.20 10.00	Basis:	Wet Weight
Seq Number:	3114321			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2080**	50.0	mg/kg	01.23.20 19.06		1
Diesel Range Organics (DRO)	C10C28DRO	**6980**	50.0	mg/kg	01.23.20 19.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**840**	50.0	mg/kg	01.23.20 19.06		1
Total GRO-DRO	PHC628	**9060**	50.0	mg/kg	01.23.20 19.06		1
Total TPH	PHC635	**9900**	50.0	mg/kg	01.23.20 19.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	01.23.20 19.06	
o-Terphenyl	84-15-1	112	%	70-135	01.23.20 19.06	

Certificate of Analytical Results 649713

LT Environmental, Inc., Arvada, CO

Corral Canyon 10 East Battery

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	01.21.20 08.30
Lab Sample Id:	649713-002	Date Collected:	01.20.20 14.10	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	01.28.20 09.30	Basis:	Wet Weight
Seq Number:	3114941			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.841**	0.0998	mg/kg	01.30.20 00.30		50
Toluene	108-88-3	**25.0**	0.200	mg/kg	01.30.20 15.12	D	100
Ethylbenzene	100-41-4	**8.50**	0.0998	mg/kg	01.30.20 00.30		50
m,p-Xylenes	179601-23-1	**59.1**	0.399	mg/kg	01.30.20 15.12	D	100
o-Xylene	95-47-6	**15.0**	0.0998	mg/kg	01.30.20 00.30		50
Total Xylenes	1330-20-7	**74.1**	0.0998	mg/kg	01.30.20 15.12		100
Total BTEX		**108**	0.0998	mg/kg	01.30.20 15.12		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.30.20 00.30	
4-Bromofluorobenzene	460-00-4	249	%	70-130	01.30.20 00.30	**

Certificate of Analytical Results 649713

LT Environmental, Inc., Arvada, CO

Corral Canyon 10 East Battery

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.21.20 08.30
Lab Sample Id:	649713-003	Date Collected:	01.20.20 14.15	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	01.22.20 14.20	Basis:	Wet Weight
Seq Number:	3114286			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3460**	25.0	mg/kg	01.23.20 13.09		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	01.23.20 10.00	Basis:	Wet Weight
Seq Number:	3114321			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**3710**	250	mg/kg	01.24.20 08.03		5
Diesel Range Organics (DRO)	C10C28DRO	**10400**	250	mg/kg	01.24.20 08.03		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1510**	250	mg/kg	01.24.20 08.03		5
Total GRO-DRO	PHC628	**14100**	250	mg/kg	01.24.20 08.03		5
Total TPH	PHC635	**15600**	250	mg/kg	01.24.20 08.03		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	01.24.20 08.03	
o-Terphenyl	84-15-1	96	%	70-135	01.24.20 08.03	

Certificate of Analytical Results 649713

LT Environmental, Inc., Arvada, CO

Corral Canyon 10 East Battery

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	01.21.20 08.30
Lab Sample Id:	649713-003	Date Collected:	01.20.20 14.15	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	01.28.20 09.30	Basis:	Wet Weight
Seq Number:	3114941			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**2.73**	0.202	mg/kg	01.30.20 00.50		100
Toluene	108-88-3	**65.7**	0.404	mg/kg	01.30.20 15.32	D	200
Ethylbenzene	100-41-4	**13.4**	0.202	mg/kg	01.30.20 00.50		100
m,p-Xylenes	179601-23-1	**71.7**	0.404	mg/kg	01.30.20 00.50		100
o-Xylene	95-47-6	**22.4**	0.202	mg/kg	01.30.20 00.50		100
Total Xylenes	1330-20-7	**94.1**	0.202	mg/kg	01.30.20 00.50		100
Total BTEX		**176**	0.202	mg/kg	01.30.20 15.32		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.30.20 00.50	
4-Bromofluorobenzene	460-00-4	216	%	70-130	01.30.20 00.50	**

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 649713

LT Environmental, Inc.

Corral Canyon 10 East Battery

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114286 — Matrix: Solid — Date Prep: 01.22.20
MB Sample Id: 7694959-1-BLK — LCS Sample Id: 7694959-1-BKS — LCSD Sample Id: 7694959-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	256	102	254	102	90-110	1	20	mg/kg	01.23.20 09:12	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114286 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649801-009 — MS Sample Id: 649801-009 S — MSD Sample Id: 649801-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	182	249	444	105	446	106	90-110	0	20	mg/kg	01.23.20 11:57	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3114286 — Matrix: Soil — Date Prep: 01.22.20
Parent Sample Id: 649801-010 — MS Sample Id: 649801-010 S — MSD Sample Id: 649801-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	41.3	252	309	106	306	105	90-110	1	20	mg/kg	01.23.20 13:22	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114321 — Matrix: Solid — Date Prep: 01.23.20
MB Sample Id: 7695046-1-BLK — LCS Sample Id: 7695046-1-BKS — LCSD Sample Id: 7695046-1-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)	<15.0	1000	838	84	865	87	70-135	3	20	mg/kg	01.23.20 12:54	
Diesel Range Organics (DRO)	<15.0	1000	876	88	916	92	70-135	4	20	mg/kg	01.23.20 12:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	79		100		101		70-135	%	01.23.20 12:54
o-Terphenyl	82		88		85		70-135	%	01.23.20 12:54

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3114321 — Matrix: Solid — Date Prep: 01.23.20
MB Sample Id: 7695046-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.23.20 12:36	

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 649713

LT Environmental, Inc.

Corral Canyon 10 East Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3114321 | Matrix: Soil | Date Prep: 01.23.20
Parent Sample Id: 649595-001 | MS Sample Id: 649595-001 S | MSD Sample Id: 649595-001 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)	<15.0	998	883	88	844	84	70-135	5	20	mg/kg	01.23.20 13:50	
Diesel Range Organics (DRO)	19.0	998	847	83	828	81	70-135	2	20	mg/kg	01.23.20 13:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		102		70-135	%	01.23.20 13:50
o-Terphenyl	88		87		70-135	%	01.23.20 13:50

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3114941 | Matrix: Solid | Date Prep: 01.28.20
MB Sample Id: 7695316-1-BLK | LCS Sample Id: 7695316-1-BKS | LCSD Sample Id: 7695316-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.100	100	0.105	105	70-130	5	35	mg/kg	01.29.20 14:53	
Toluene	<0.000456	0.100	0.105	105	0.102	102	70-130	3	35	mg/kg	01.29.20 14:53	
Ethylbenzene	<0.000565	0.100	0.102	102	0.0977	98	70-130	4	35	mg/kg	01.29.20 14:53	
m,p-Xylenes	<0.00101	0.200	0.206	103	0.193	97	70-130	7	35	mg/kg	01.29.20 14:53	
o-Xylene	<0.000344	0.100	0.104	104	0.0969	97	70-130	7	35	mg/kg	01.29.20 14:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		110		111		70-130	%	01.29.20 14:53
4-Bromofluorobenzene	72		93		92		70-130	%	01.29.20 14:53

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3114941 | Matrix: Soil | Date Prep: 01.28.20
Parent Sample Id: 649839-029 | MS Sample Id: 649839-029 S | MSD Sample Id: 649839-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.105	105	0.103	104	70-130	2	35	mg/kg	01.29.20 15:50	
Toluene	0.000853	0.0996	0.110	110	0.104	104	70-130	6	35	mg/kg	01.29.20 15:50	
Ethylbenzene	<0.000563	0.0996	0.107	107	0.100	101	70-130	7	35	mg/kg	01.29.20 15:50	
m,p-Xylenes	<0.00101	0.199	0.215	108	0.199	100	70-130	8	35	mg/kg	01.29.20 15:50	
o-Xylene	0.000407	0.0996	0.106	106	0.0975	98	70-130	8	35	mg/kg	01.29.20 15:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		112		70-130	%	01.29.20 15:50
4-Bromofluorobenzene	100		95		70-130	%	01.29.20 15:50

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: 649713

XENCO LABORATORIES

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

www.xenco.com Page 1 of 1

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

Work Order Comments

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

Project Name:	Corral Canyon 10 East Batt	Turn Around	
Project Number:	n/a	Routine	X
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	4.2	Thermometer ID	
Received Intact:	Yes No	T-NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	3

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	1/20/20	1405	0.5'	1	X	X	X
SS02	↓	↓	1410	↓	↓	↓	↓	↓
SS03	↓	↓	1415	↓	↓	↓	↓	↓

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

discrete
↓

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Elizabeth Naka		8:18 1/21/20	2			1/21/20 830
3				4			
5				6			

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **56474**

Date/Time: 01/21/20 11:14
Lab# From: **Carlsbad**
Lab# To: **Midland**

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

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
649713-001	S	SS01	01/20/20 14:05	SW8021B	BTEX by EPA 8021B	01/27/20	02/03/20	JKR	BZ BZME EBZ XYLENES	
649713-001	S	SS01	01/20/20 14:05	SW8015MOD_NM	TPH by SW8015 Mod	01/27/20	02/03/20	JKR	GRO-DRO PHCC10C28 PI	
649713-001	S	SS01	01/20/20 14:05	E300_CL	Chloride by EPA 300	01/27/20	02/17/20	JKR	CL	
649713-002	S	SS02	01/20/20 14:10	SW8015MOD_NM	TPH by SW8015 Mod	01/27/20	02/03/20	JKR	GRO-DRO PHCC10C28 PI	
649713-002	S	SS02	01/20/20 14:10	SW8021B	BTEX by EPA 8021B	01/27/20	02/03/20	JKR	BZ BZME EBZ XYLENES	
649713-002	S	SS02	01/20/20 14:10	E300_CL	Chloride by EPA 300	01/27/20	02/17/20	JKR	CL	
649713-003	S	SS03	01/20/20 14:15	SW8015MOD_NM	TPH by SW8015 Mod	01/27/20	02/03/20	JKR	GRO-DRO PHCC10C28 PI	
649713-003	S	SS03	01/20/20 14:15	SW8021B	BTEX by EPA 8021B	01/27/20	02/03/20	JKR	BZ BZME EBZ XYLENES	
649713-003	S	SS03	01/20/20 14:15	E300_CL	Chloride by EPA 300	01/27/20	02/17/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 01/21/2020

Received By: Brianna Teel

Date Received: 01/22/2020 11:14

Cooler Temperature: 0.5

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 56474

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 01/21/2020 11:14 AM

Received By: Brianna Teel **Date Received:** 01/22/2020 11:14 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

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

Checklist reviewed by: Brianna Teel Date: 01/22/2020

Brianna Teel