

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	NRM2026957367
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 32.24011 Longitude -103.86148
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Los dos Medanos	Site Type Tank Battery
Date Release Discovered 9/15/2020	API# (if applicable)

Unit Letter	Section	Township	Range	County
P	3	24S	30E	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)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 5.88	Volume Recovered (bbls) 0
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release Operations was performing a line exposure on the 6" lateral oil line that had been identified as having an anomaly on the internal wall of the line. It was determined there was a small pin hole in the pipe. A third party contractor will be retained for all remediation activities.

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Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:

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

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

Printed Name: Kyle Littrell

Title: SH&E Supervisor

Signature:

Date: 9-23-20

email: Kyle.Littrell@xtoenergy.com

Telephone: 432-221-7331

OCD Only

Received by: Ramona Marcus

Date: 9/25/2020

NRM2026957367

Location:	Los Dos Medanos	
Spill Date:	9/15/2020	
Area 1		
Approximate Area =	220.00	sq. ft.
Average Saturation (or depth) of spill =	12.00	inches
Average Porosity Factor =	0.15	
VOLUME OF LEAK		
Total Crude Oil =	5.88	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	5.88	bbls

Incident ID	NRM2026957367
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Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 _____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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


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

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Oil Conservation Division

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Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature:  Date: 12/01/2020
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

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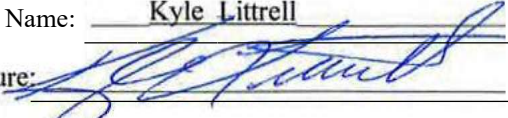
Closure

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

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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: _____

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Title: SH&E Supervisor

Signature:

Date:

email: Kyle.Littrell@xtoenergy.com

Telephone: 432-221-7331

OCD Only

Received by: Ramona Marcus

Date: 9/25/2020

NRM2026957367

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

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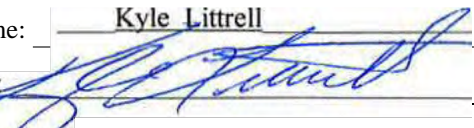
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods,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

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Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature:  Date: 12/01/2020
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

Incident ID	NRM2026957367
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Facility ID	
Application ID	

Closure

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

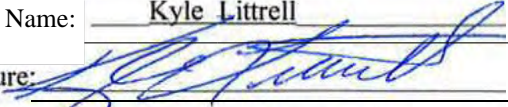
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- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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Printed Name: Kyle Littrell

Title: SH&E Supervisor

Signature: 

Date: 12/01/2020

email: Kyle_Littrell@xtoenergy.com

Telephone: 432-221-7331

OCD Only

Received by: Chad Hensley

Date: 03/02/2021

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: 03/2/2021

Printed Name: Chad Hensley

Title: Environmental Specialist Advanced



WSP USA

3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

December 4, 2020

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

**RE: Closure Request
Los Dos Medanos
Incident Number NRM2026957367
Eddy County, New Mexico**

To Whom It May Concern:

WSP USA Inc. (WSP) (formerly LT Environmental, Inc.), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the Los Dos Medanos (Site) in Unit P, Section 3, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of crude oil at the Site. Based on excavation activities and soil sample laboratory analytical results, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number NRM2026957367.

RELEASE BACKGROUND

On September 15, 2020, during a line exposure, operations noticed a small pinhole on a 6-inch oil pipeline lateral resulting in the release of approximately 5.88 barrels of crude oil into the surrounding soil. No fluids were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on September 23, 2020 and was assigned Incident Number NRM2026957367.

SITE CHARACTERIZATION

WSP 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 Geologic Survey (USGS) well 321526103520101, located approximately 1.2 miles northwest of the Site. The groundwater well has a reported depth to groundwater of 441 feet bgs and a total depth of 567 feet bgs. There are eight additional groundwater wells within a 2-mile radius of the Site that indicate regional depth to groundwater is greater than 100 feet bgs. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated referenced well records are included



in Attachment 1. The Site is located on the western flank of Centinela Mound and is approximately 400 feet higher in elevation than the nearest potential shallow groundwater in Dog Town Draw. The significant number of data points all indicative of groundwater greater than 100 feet in depth and the lack of any features indicative of shallow groundwater strongly support the depth to water determination.

The closest continuously flowing water or significant watercourse to the Site is an intermittent stream, located approximately 0.95 miles southeast 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 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

Additionally, the reclamation standard of 600 mg/kg chloride and 100 mg/kg TPH was applied to the undeveloped pasture that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top four feet for areas to be reclaimed following remediation.

SITE ASSESSMENT AND EXCAVATION ACTIVITIES

On September 24, 2020, once the 6-inch steel oil line was exposed, WSP personnel visited the Site to evaluate the release extent. Approximately 200 cubic yards of impacted soil was removed by XTO operations prior to WSP personnel visiting the Site. The excavation extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Photographic documentation was conducted and is included in Attachment 2. WSP personnel collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. 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. A total of four



confirmation floor samples (FS01 through FS04) and four confirmation sidewall samples (SW01 through SW04) were collected from the excavation.

The confirmation floor samples were collected at depths ranging from approximately 6 feet to 8 feet bgs. The confirmation sidewall samples were collected at depths ranging from ground surface to a maximum depth of 8 feet bgs. Soil from the confirmation samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The confirmation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2.

All confirmation 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 confirmation floor sample FS04 indicated that TPH-GRO, TPH-DRO, and TPH concentrations exceeded the Closure Criteria. Laboratory analytical results for confirmation floor samples FS01 through FS03 and confirmation sidewall samples SW01 through SW04 were compliant with Closure Criteria for the Site.

On October 8, 2020, WSP personnel returned to the Site to oversee excavation activities as indicated by laboratory analytical results. Based on elevated TPH concentrations in FS04, the excavation was extended in the area around FS02 through FS04. Following the additional excavation, confirmation floor samples FS02A through FS04A were collected at depths from 9 feet bgs, near FS02A, to 10.5 feet bgs, near FS03A and FS04A. The excavation soil samples were collected, handled, and analyzed as described above. The locations of final excavation confirmation sample are presented on Figure 2.

The excavation extent totaled approximately 725 square feet. An additional 55 cubic yards of impacted soil was removed by WSP during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility located in Hobbs, New Mexico. The excavated area will be backfilled with material purchased locally and recontour the Site to match pre-existing site conditions.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for confirmation floor sample FS04 indicated that TPH-GRO, TPH-DRO, and TPH concentrations exceeded the Closure Criteria. Based on elevated TPH concentrations in FS04, the excavation was extended to 10.5 feet bgs in that area and resampled as FS04A.

District II
Page 4

Laboratory analytical results for composite sidewall samples SW01 through SW04 and composite floor samples FS01 through FS03, and FS02A through FS04A indicated benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. All final confirmation samples meet the reclamation standard applied to the top 4 feet of areas to be reclaimed, ensuring no waste-containing soil has been left in place above 4 feet bgs. The laboratory analytical results are summarized in Table 1 and the laboratory data reports are provided in Attachment 3.

CLOSURE REQUEST

Response efforts as a result of the September 15, 2020 crude oil release included removal of impacted soil and collection of confirmation soil samples. Impacted soil was removed to depths ranging from 6 feet bgs to 10.5 feet bgs. Laboratory analytical results for excavation confirmation soil samples, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and the reclamation standard and no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions.

Based on the excavation confirmation soil sample analytical results indicating benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the strictest Closure Criteria, XTO requests no further action for Incident Number NRM2026957367.

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

Sincerely,

WSP USA Inc.

A handwritten signature in black ink that reads 'Elizabeth Naka'.

Elizabeth Naka
Assistant Consultant, Environmental Scientist

A handwritten signature in black ink that reads 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Managing Director, Geologist

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

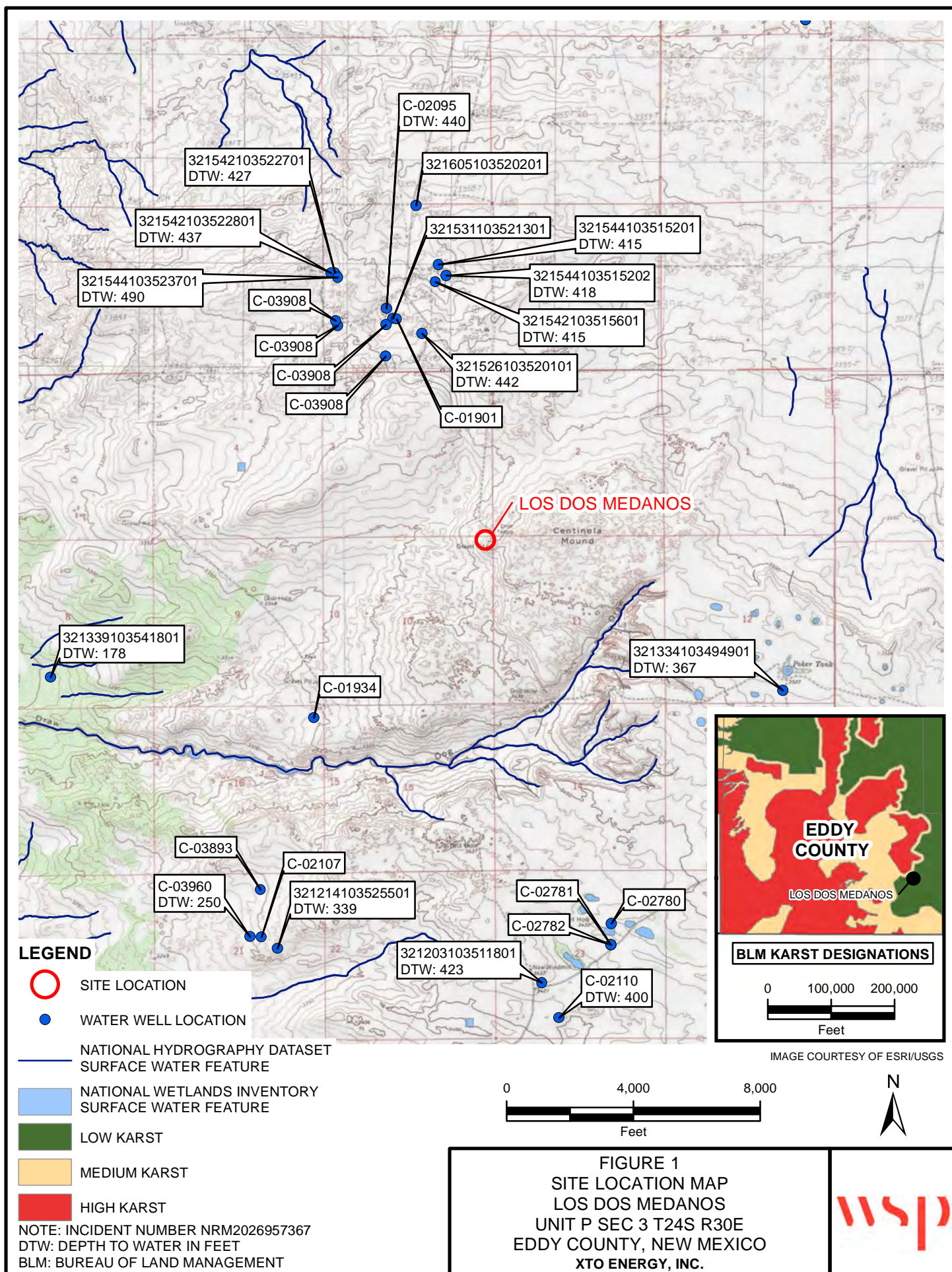


District II
Page 5

Attachments:

Figure 1 Site Location Map
Figure 2 Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Referenced Well Records
Attachment 2 Photographic Log
Attachment 3 Laboratory Analytical Reports

FIGURES





LEGEND

- RELEASE LOCATION
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- GAS LINE
- EXCAVATION EXTENT

NOTE: INCIDENT NUMBER NRM2026957367

IMAGE COURTESY OF ESRI

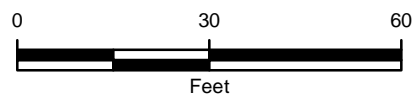


FIGURE 2
SOIL SAMPLE LOCATIONS
LOS DOS MEDANOS
UNIT P SEC 3 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



TABLES

Table 1

Soil Analytical Results
Los Dos Medanos
Incident Number NRM2026957367
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Excavation Floor Samples										
FS01	09/24/2020	6	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	10.4
FS02	09/24/2020	6	<0.00199	0.0559	711	<50.1	71.2	711	782	<9.92
FS02A	10/08/2020	9	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	<9.94
FS03	09/24/2020	8	<0.00201	0.0418	245	<50.1	<50.1	245	245	<9.96
FS03A	10/08/2020	10.5	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	<9.94
FS04	09/24/2020	8	<0.00200	<0.00200	2,350	65.6	202	2,420	2,620	<9.98
FS04A	10/08/2020	10.5	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	<9.98
Excavation Sidewall Samples										
SW01	09/24/2020	0 - 6	<0.00199	0.131	<50.2	<50.2	<50.2	<50.2	<50.2	<9.96
SW02	09/24/2020	0 - 8	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
SW03	09/24/2020	0 - 6	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	<9.96
SW04	09/24/2020	0 - 8	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - motor oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

< - indicates result is less than the stated laboratory method practical quantitation limit

NE - Not Established

BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard

Greyed data represents samples that were excavated

ATTACHMENT 1: REFERENCED WELL RECORD



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)	
		(quarters are smallest to largest)				X	Y
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng
C	02095	2	3	34	23S	30E	606337 3569759*
Driller License:		Driller Company:					
Driller Name:		DEPT. OF ENGERY					
Drill Start Date:		Drill Finish Date:		08/31/1960		Plug Date:	
Log File Date:		PCW Rcv Date:				Source:	
Pump Type:		Pipe Discharge Size:				Estimated Yield: 100 GPM	
Casing Size: 12.75		Depth Well:		554 feet		Depth Water: 440 feet	

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/13/20 9:54 AM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C	02110	4	3	23	24S	30E	608036	3562950*	

Driller License:

Driller Company:

Driller Name: UNKNOWN

Drill Start Date:

Drill Finish Date: 12/31/1967

Plug Date:

Log File Date:

PCW Rcv Date:

Source:

Pump Type:

Pipe Discharge Size:

Estimated Yield: 15 GPM

Casing Size: 7.00

Depth Well: 600 feet

Depth Water: 400 feet

*UTM location was derived from PLSS - see Help

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POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
C	03960 POD1	1	3	2	21	24S	30E	605062	3563712 
Driller License:		1753		Driller Company:		VANGUARD WATER WELLS			
Driller Name:		JACOBO FRIESSEN							
Drill Start Date:		11/12/2016		Drill Finish Date:		11/12/2016		Plug Date:	
Log File Date:		11/17/2016		PCW Rcv Date:				Source: Shallow	
Pump Type:				Pipe Discharge Size:				Estimated Yield:	
Casing Size:		6.00		Depth Well:		475 feet		Depth Water: 250 feet	
Water Bearing Stratifications:				Top	Bottom	Description			
					182	250	Sandstone/Gravel/Conglomerate		
					402	460	Sandstone/Gravel/Conglomerate		
Casing Perforations:				Top	Bottom				
					250	290			
					395	435			

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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°15'45.42", Longitude 103°52'36.09" NAD83

Land-surface elevation 3,413 feet above NAVD88

The depth of the well is 518 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

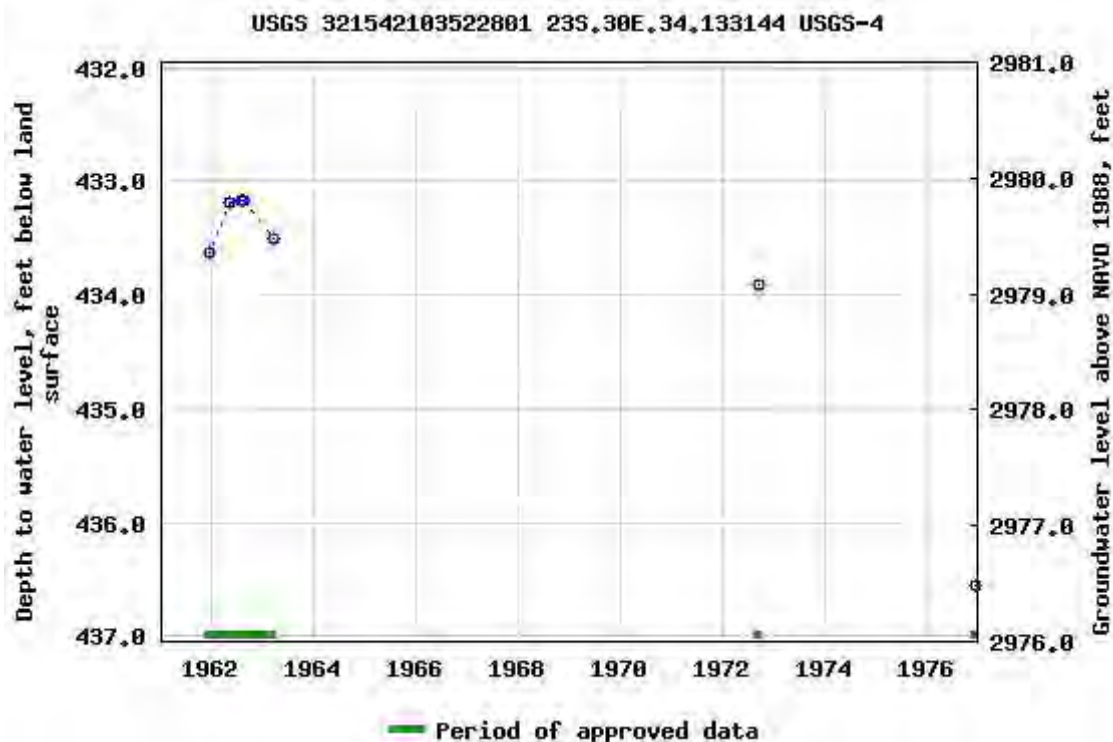
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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°15'47.9", Longitude 103°51'56.6" NAD83

Land-surface elevation 3,400.50 feet above NGVD29

The depth of the well is 567 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

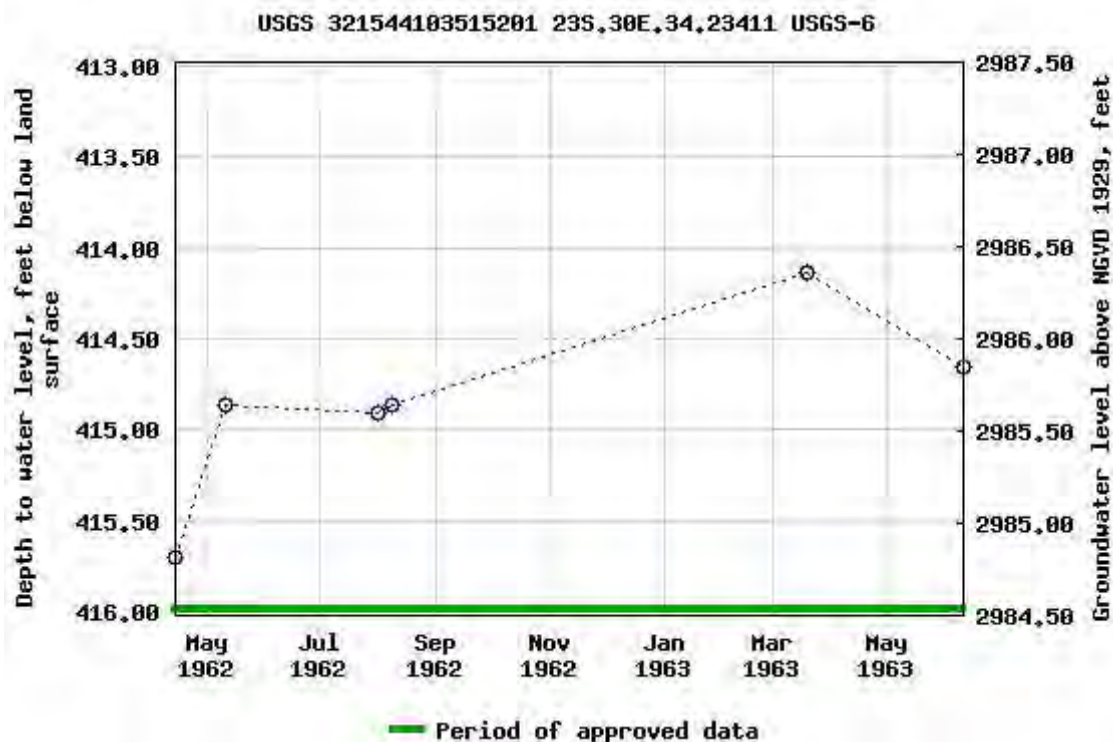
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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°15'44", Longitude 103°51'52" NAD27

Land-surface elevation 3,404 feet above NAVD88

The depth of the well is 563 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

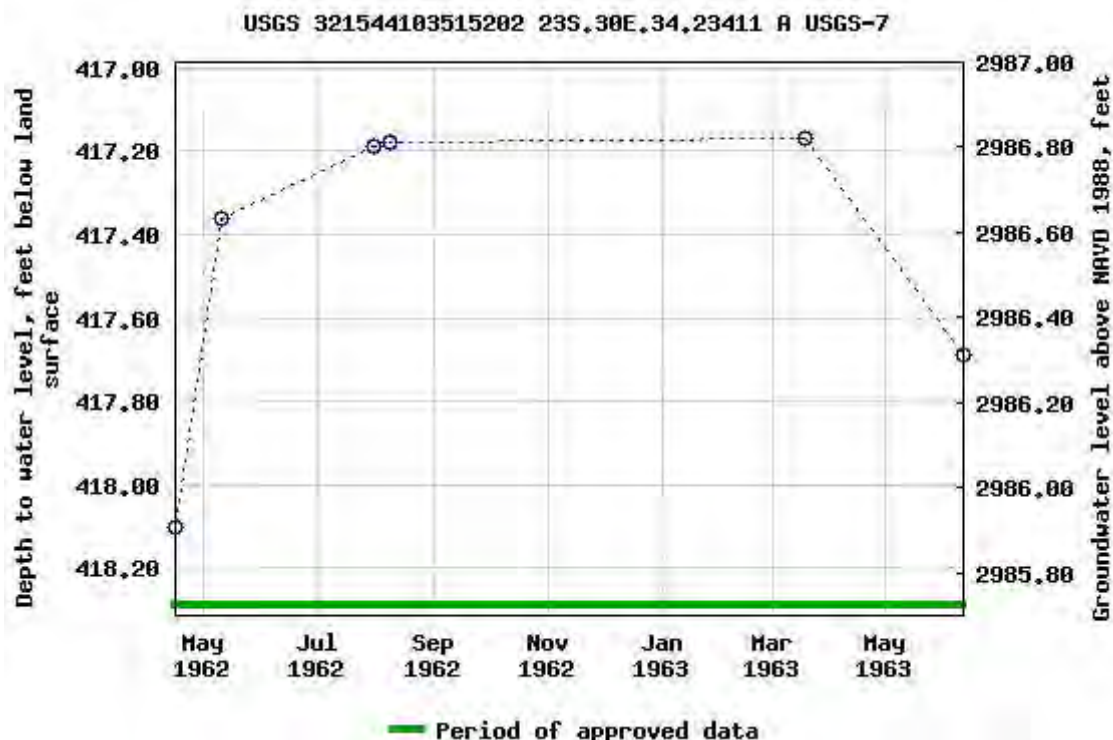
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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°15'44.1", Longitude 103°52'33.5" NAD83

Land-surface elevation 3,438.37 feet above NGVD29

The depth of the well is 696 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

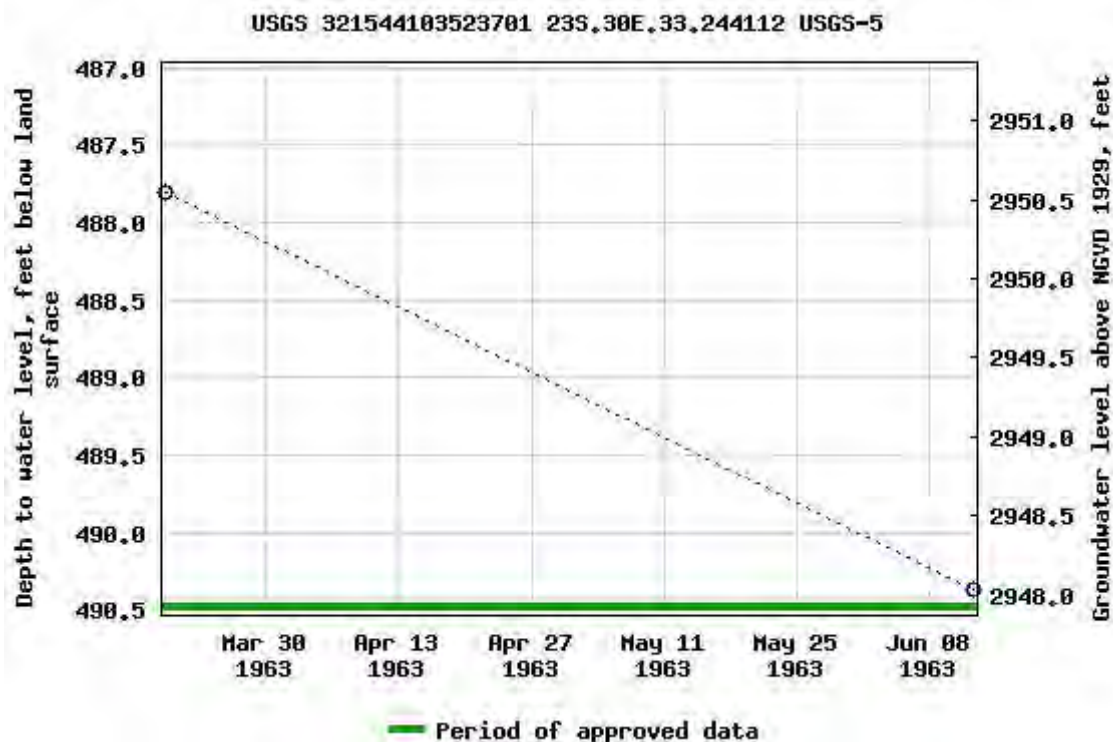
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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°13'39", Longitude 103°54'18" NAD27

Land-surface elevation 3,207 feet above NAVD88

The depth of the well is 192 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

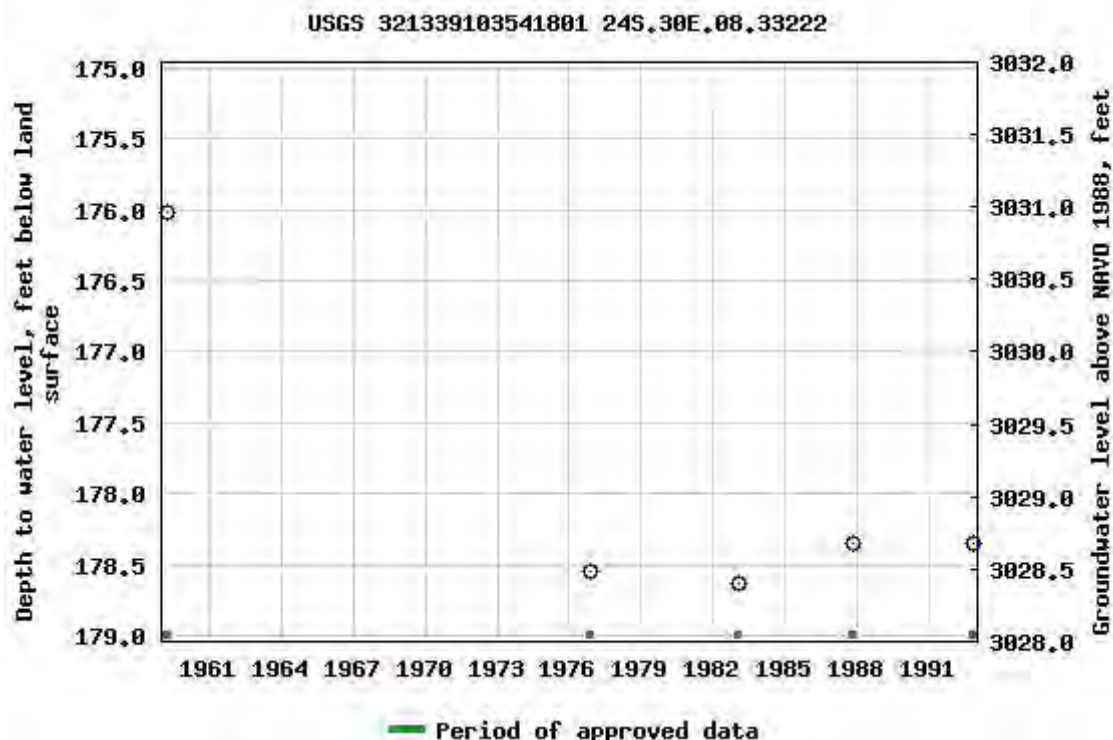
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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°15'26", Longitude 103°52'01" NAD27

Land-surface elevation 3,446 feet above NAVD88

The depth of the well is 567 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

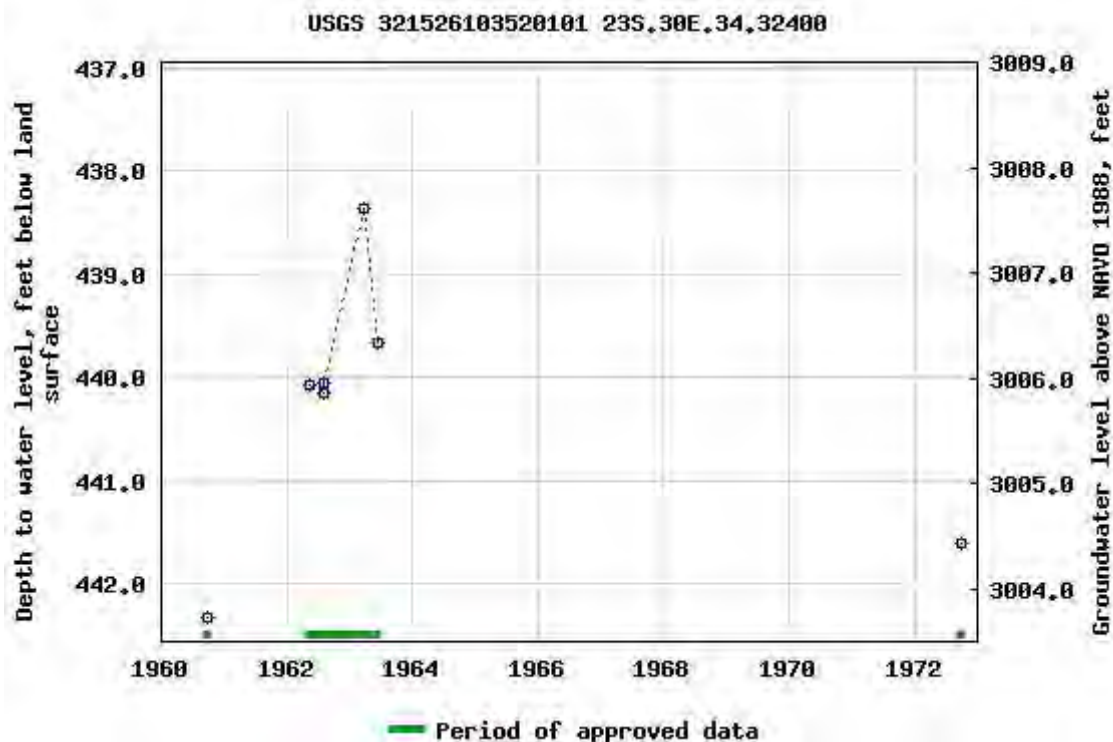
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Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°15'42", Longitude 103°51'56" NAD27

Land-surface elevation 3,401 feet above NAVD88

This well is completed in the Rustler Formation (312RSLR) local aquifer.

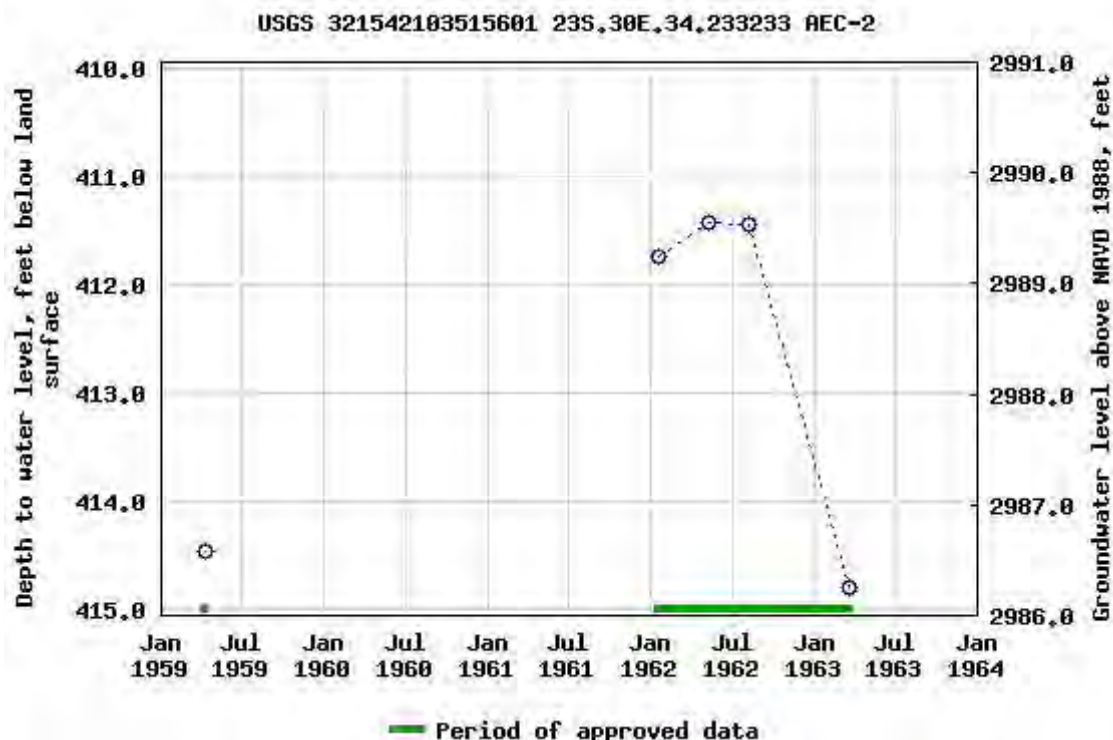
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Minimum number of levels = 1

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USGS 321542103522701 23S.30E.34.13323 USGS-8

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°15'45.4", Longitude 103°52'34.64" NAD83

Land-surface elevation 3,411 feet above NAVD88

This well is completed in the Rustler Formation (312RSLR) local aquifer.

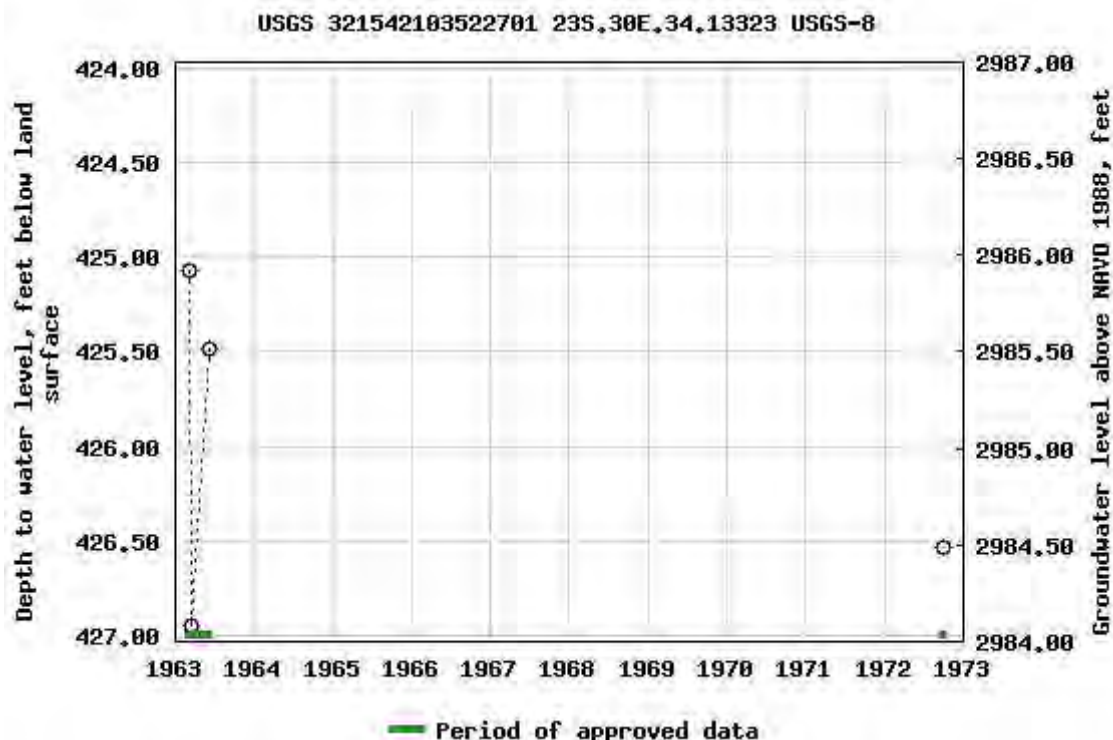
Output formats

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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: 2020-10-13 11:56:41 EDT

0.55 0.49 nadww01



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National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

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Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 321203103511801

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 321203103511801 24S.30E.23.3124143

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°12'03", Longitude 103°51'18" NAD27

Land-surface elevation 3,423 feet above NAVD88

The depth of the well is 474 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

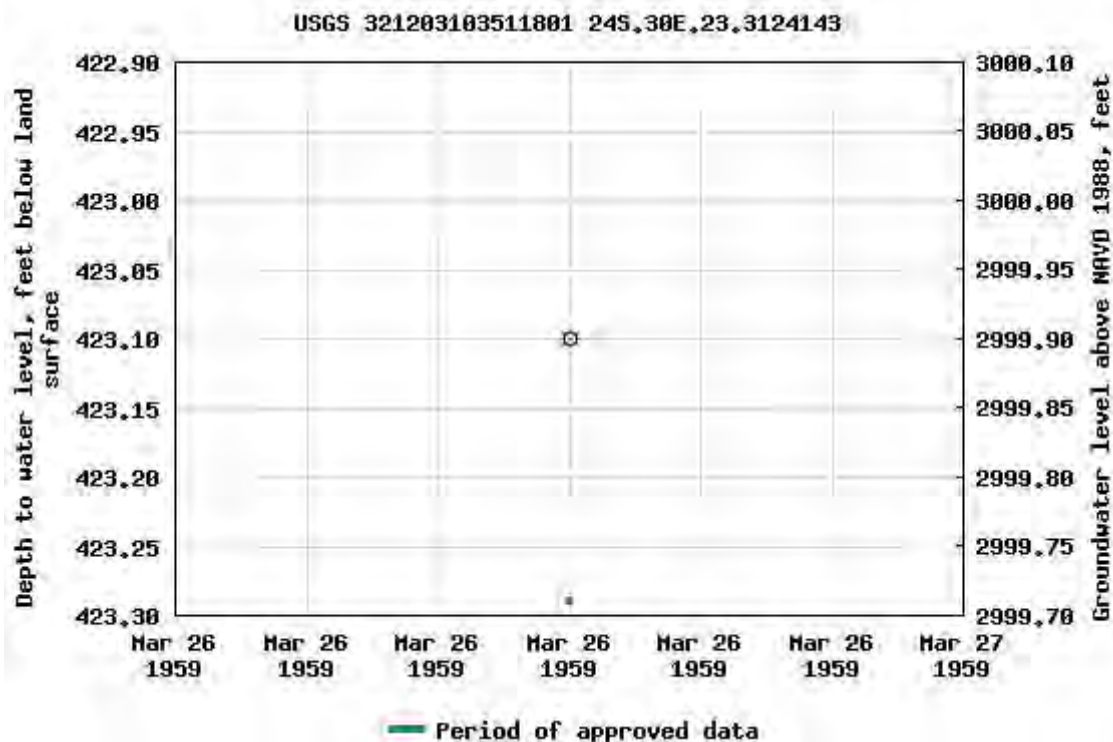
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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



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0.59 0.54 nadww01



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National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

GO

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Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 321214103525501

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 321214103525501 24S.30E.21.23144

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°12'14", Longitude 103°52'55" NAD27

Land-surface elevation 3,371 feet above NAVD88

This well is completed in the Rustler Formation (312RSLR) local aquifer.

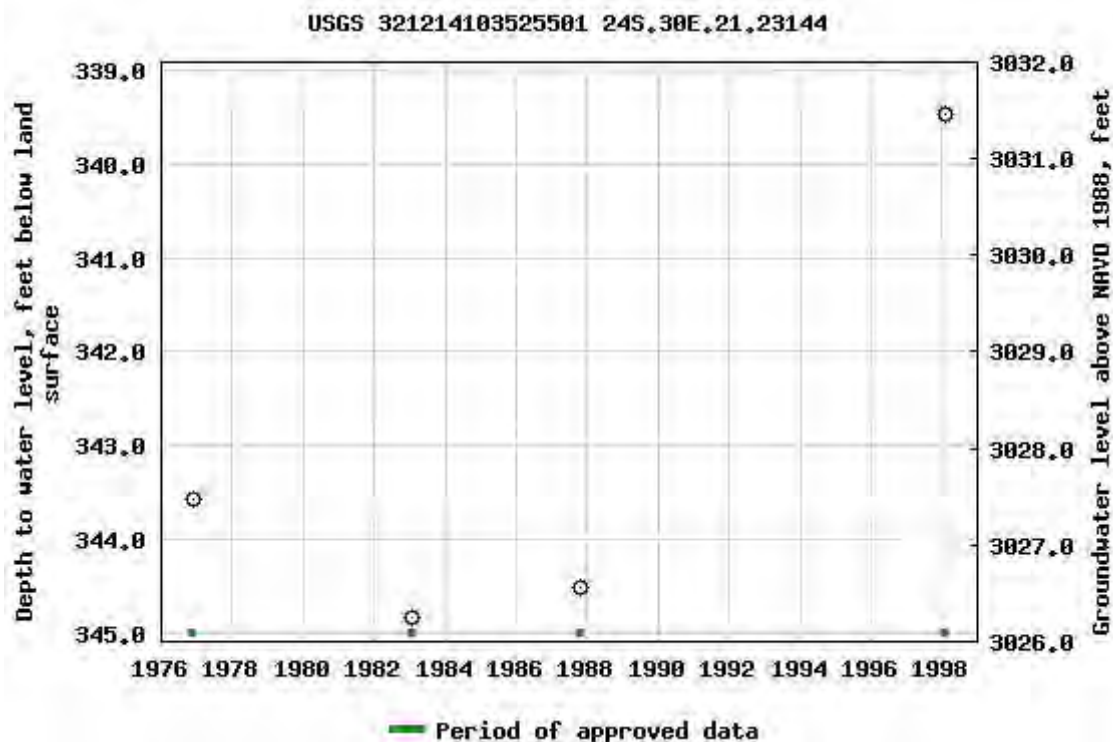
Output formats

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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

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0.68 0.53 nadww01





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National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

GO

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Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

- 321334103494901

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 321334103494901 24S.30E.12.432344

Available data for this site

Groundwater: Field measurements



GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°13'34", Longitude 103°49'49" NAD27

Land-surface elevation 3,522 feet above NAVD88

The depth of the well is 500 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

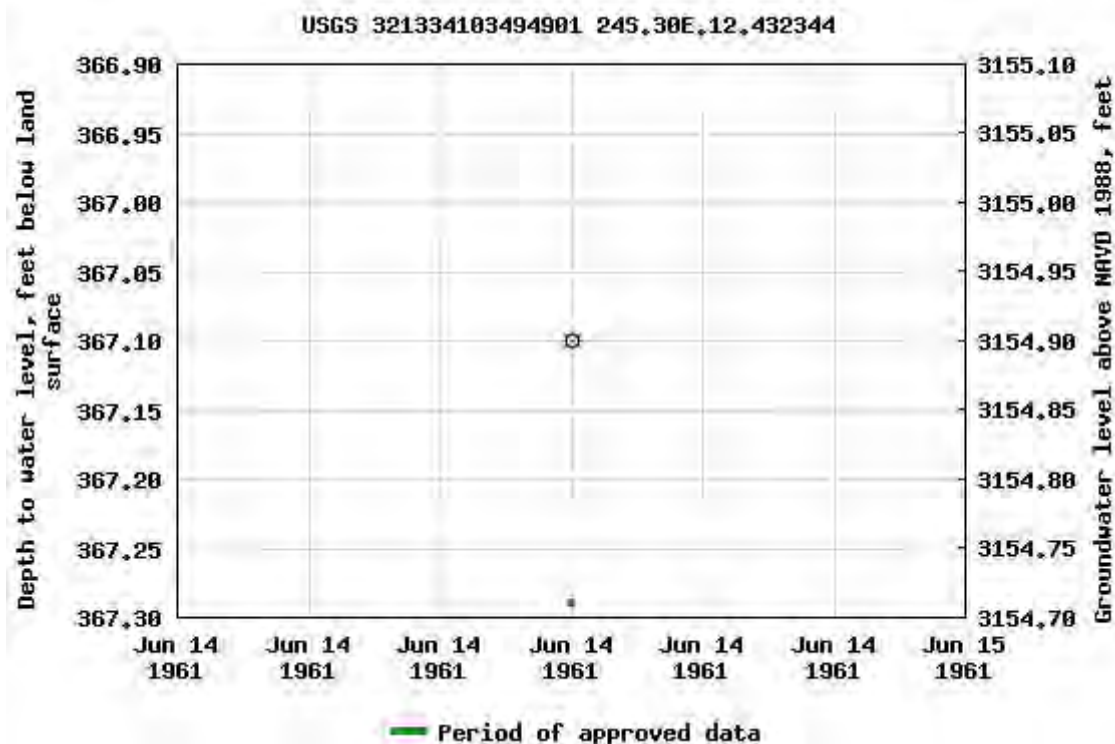
Output formats

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Breaks in the plot represent a gap of at least one year between field measurements.

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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: 2020-10-21 10:59:32 EDT

0.64 0.55 nadww01


ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG

XTO Energy, Inc.	Los Dos Medanos Eddy County, NM	012920135
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Photo No.	Date	
1	September 24, 2020	
View of line responsible for release after being fully exposed		

Photo No.	Date	
2	October 8, 2020	
View of excavation south of the point of release		



PHOTOGRAPHIC LOG

XTO Energy, Inc.	Los Dos Medanos Eddy County, NM	012920135
-------------------------	--	------------------



Photo No.	Date	
3	October 8, 2020	
View of excavation extent during remediation activities.		

Photo No.	Date	
4	October 8, 2020	
View of full excavation after contaminated soil was fully removed.		

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS



Certificate of Analysis Summary 673636

LT Environmental, Inc., Arvada, CO

Project Name: Los Dos Medanos

Project Id: 012920135

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Fri 09.25.2020 14:20

Report Date: 09.29.2020 10:42

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	673636-001	673636-002	673636-003	673636-004	673636-005	673636-006
	<i>Field Id:</i>	FS01	FS02	FS03	FS04	SW01	SW02
	<i>Depth:</i>	6- ft	6- ft	8- ft	8- ft	0-6 ft	0-8 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	09.24.2020 14:15	09.24.2020 14:16	09.24.2020 14:21	09.24.2020 14:24	09.24.2020 14:40	09.24.2020 14:42
BTEX by EPA 8021B	<i>Extracted:</i>	09.28.2020 10:07	09.28.2020 10:07	09.28.2020 10:07	09.28.2020 10:07	09.28.2020 10:07	09.28.2020 10:07
	<i>Analyzed:</i>	09.28.2020 11:59	09.28.2020 15:04	09.28.2020 15:27	09.28.2020 15:49	09.28.2020 16:12	09.28.2020 17:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	0.00625 0.00199	<0.00201 0.00201	<0.00200 0.00200	0.00995 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	0.0317 0.00398	<0.00402 0.00402	<0.00400 0.00400	0.0723 0.00398	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	0.0179 0.00199	0.0418 0.00201	<0.00200 0.00200	0.0486 0.00199	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	0.0496 0.00199	0.0418 0.00201	<0.00200 0.00200	0.121 0.00199	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	0.0559 0.00199	0.0418 0.00201	<0.00200 0.00200	0.131 0.00199	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	09.25.2020 15:09	09.25.2020 15:09	09.25.2020 15:09	09.25.2020 15:09	09.25.2020 15:09	09.25.2020 15:09
	<i>Analyzed:</i>	09.25.2020 16:41	09.25.2020 16:47	09.25.2020 17:03	09.25.2020 17:08	09.25.2020 17:25	09.25.2020 17:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		10.4 10.0	<9.92 9.92	<9.96 9.96	<9.98 9.98	<9.96 9.96	<9.98 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	09.25.2020 16:00	09.25.2020 16:00	09.25.2020 16:00	09.25.2020 16:00	09.25.2020 16:00	09.25.2020 16:00
	<i>Analyzed:</i>	09.25.2020 21:06	09.25.2020 22:07	09.25.2020 22:27	09.25.2020 22:47	09.28.2020 12:17	09.25.2020 23:27
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.1 50.1	<50.1 50.1	65.6 49.9	<50.2 50.2	<50.0 50.0
Diesel Range Organics (DRO)		<49.9 49.9	711 50.1	245 50.1	2350 49.9	<50.2 50.2	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	71.2 50.1	<50.1 50.1	202 49.9	<50.2 50.2	<50.0 50.0
Total GRO-DRO		<49.9 49.9	711 50.1	245 50.1	2420 49.9	<50.2 50.2	<50.0 50.0
Total TPH		<49.9 49.9	782 50.1	245 50.1	2620 49.9	<50.2 50.2	<50.0 50.0

BRL - Below Reporting Limit

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

Jessica Kramer

Certificate of Analysis Summary 673636

LT Environmental, Inc., Arvada, CO

Project Name: Los Dos Medanos

Project Id: 012920135

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Fri 09.25.2020 14:20

Report Date: 09.29.2020 10:42

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	673636-007	673636-008				
	Field Id:	SW03	SW04				
	Depth:	0-6 ft	0-8 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	09.24.2020 14:43	09.24.2020 14:45				
BTEX by EPA 8021B	Extracted:	09.28.2020 10:07	09.28.2020 10:07				
	Analyzed:	09.28.2020 17:54	09.28.2020 18:17				
	Units/RL:	mg/kg RL	mg/kg RL				
		<0.00201 0.00201	<0.00201 0.00201				
Benzene		<0.00201 0.00201	<0.00201 0.00201				
Toluene		<0.00201 0.00201	<0.00201 0.00201				
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201				
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402				
o-Xylene		<0.00201 0.00201	<0.00201 0.00201				
Total Xylenes		<0.00201 0.00201	<0.00201 0.00201				
Total BTEX		<0.00201 0.00201	<0.00201 0.00201				
Chloride by EPA 300	Extracted:	09.25.2020 15:09	09.25.2020 15:09				
	Analyzed:	09.25.2020 17:36	09.25.2020 17:41				
	Units/RL:	mg/kg RL	mg/kg RL				
		<9.96 9.96	<9.98 9.98				
Chloride		<9.96 9.96	<9.98 9.98				
TPH by SW8015 Mod	Extracted:	09.25.2020 16:00	09.25.2020 16:00				
	Analyzed:	09.25.2020 23:47	09.26.2020 00:08				
	Units/RL:	mg/kg RL	mg/kg RL				
		<50.0 50.0	<50.0 50.0				
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.0 50.0				
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0				
Total GRO-DRO		<50.0 50.0	<50.0 50.0				
Total TPH		<50.0 50.0	<50.0 50.0				

BRL - Below Reporting Limit

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





Analytical Report 673636

for

LT Environmental, Inc.

Project Manager: Dan Moir

Los Dos Medanos

012920135

09.29.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



09.29.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **673636**

Los Dos Medanos

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 Eurofins Xenco, LLC Report Number(s) 673636. 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. 673636 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

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 673636****LT Environmental, Inc., Arvada, CO**

Los Dos Medanos

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	09.24.2020 14:15	6 ft	673636-001
FS02	S	09.24.2020 14:16	6 ft	673636-002
FS03	S	09.24.2020 14:21	8 ft	673636-003
FS04	S	09.24.2020 14:24	8 ft	673636-004
SW01	S	09.24.2020 14:40	0 - 6 ft	673636-005
SW02	S	09.24.2020 14:42	0 - 8 ft	673636-006
SW03	S	09.24.2020 14:43	0 - 6 ft	673636-007
SW04	S	09.24.2020 14:45	0 - 8 ft	673636-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Los Dos Medanos

Project ID: 012920135
Work Order Number(s): 673636

Report Date: 09.29.2020
Date Received: 09.25.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS01** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-001 Date Collected: 09.24.2020 14:15 Sample Depth: 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.4	10.0	mg/kg	09.25.2020 16:41		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	09.25.2020 21:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	09.25.2020 21:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	09.25.2020 21:06	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	09.25.2020 21:06	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	09.25.2020 21:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.25.2020 21:06	
o-Terphenyl	84-15-1	85	%	70-135	09.25.2020 21:06	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS01**
Lab Sample Id: 673636-001

Matrix: Soil
Date Collected: 09.24.2020 14:15

Date Received: 09.25.2020 14:20
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 09.28.2020 10:07

Basis: Wet Weight

Seq Number: 3138297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.28.2020 11:59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.28.2020 11:59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.28.2020 11:59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.28.2020 11:59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.28.2020 11:59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.28.2020 11:59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.28.2020 11:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	09.28.2020 11:59	
4-Bromofluorobenzene	460-00-4	112	%	70-130	09.28.2020 11:59	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS02** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-002 Date Collected: 09.24.2020 14:16 Sample Depth: 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	09.25.2020 16:47	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	09.25.2020 22:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	711	50.1	mg/kg	09.25.2020 22:07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	71.2	50.1	mg/kg	09.25.2020 22:07		1
Total GRO-DRO	PHC628	711	50.1	mg/kg	09.25.2020 22:07		1
Total TPH	PHC635	782	50.1	mg/kg	09.25.2020 22:07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	09.25.2020 22:07	
o-Terphenyl	84-15-1	96	%	70-135	09.25.2020 22:07	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS02**
Lab Sample Id: 673636-002

Matrix: Soil
Date Collected: 09.24.2020 14:16

Date Received: 09.25.2020 14:20
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 09.28.2020 10:07

Basis: Wet Weight

Seq Number: 3138297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.28.2020 15:04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.28.2020 15:04	U	1
Ethylbenzene	100-41-4	0.00625	0.00199	mg/kg	09.28.2020 15:04		1
m,p-Xylenes	179601-23-1	0.0317	0.00398	mg/kg	09.28.2020 15:04		1
o-Xylene	95-47-6	0.0179	0.00199	mg/kg	09.28.2020 15:04		1
Total Xylenes	1330-20-7	0.0496	0.00199	mg/kg	09.28.2020 15:04		1
Total BTEX		0.0559	0.00199	mg/kg	09.28.2020 15:04		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	09.28.2020 15:04		
1,4-Difluorobenzene	540-36-3	96	%	70-130	09.28.2020 15:04		



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS03** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-003 Date Collected: 09.24.2020 14:21 Sample Depth: 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	09.25.2020 17:03	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	09.25.2020 22:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	245	50.1	mg/kg	09.25.2020 22:27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	09.25.2020 22:27	U	1
Total GRO-DRO	PHC628	245	50.1	mg/kg	09.25.2020 22:27		1
Total TPH	PHC635	245	50.1	mg/kg	09.25.2020 22:27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	09.25.2020 22:27	
o-Terphenyl	84-15-1	90	%	70-135	09.25.2020 22:27	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS03**
Lab Sample Id: 673636-003

Matrix: Soil
Date Collected: 09.24.2020 14:21

Date Received: 09.25.2020 14:20
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3138297

Date Prep: 09.28.2020 10:07

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.28.2020 15:27	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.28.2020 15:27	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.28.2020 15:27	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.28.2020 15:27	U	1
o-Xylene	95-47-6	0.0418	0.00201	mg/kg	09.28.2020 15:27		1
Total Xylenes	1330-20-7	0.0418	0.00201	mg/kg	09.28.2020 15:27		1
Total BTEX		0.0418	0.00201	mg/kg	09.28.2020 15:27		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	09.28.2020 15:27		
1,4-Difluorobenzene	540-36-3	99	%	70-130	09.28.2020 15:27		



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS04** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-004 Date Collected: 09.24.2020 14:24 Sample Depth: 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	09.25.2020 17:08	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	65.6	49.9	mg/kg	09.25.2020 22:47		1
Diesel Range Organics (DRO)	C10C28DRO	2350	49.9	mg/kg	09.25.2020 22:47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	202	49.9	mg/kg	09.25.2020 22:47		1
Total GRO-DRO	PHC628	2420	49.9	mg/kg	09.25.2020 22:47		1
Total TPH	PHC635	2620	49.9	mg/kg	09.25.2020 22:47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.25.2020 22:47	
o-Terphenyl	84-15-1	101	%	70-135	09.25.2020 22:47	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS04**
Lab Sample Id: 673636-004

Matrix: Soil
Date Collected: 09.24.2020 14:24

Date Received: 09.25.2020 14:20
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 09.28.2020 10:07

Basis: Wet Weight

Seq Number: 3138297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.28.2020 15:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.28.2020 15:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.28.2020 15:49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	09.28.2020 15:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.28.2020 15:49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.28.2020 15:49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.28.2020 15:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	09.28.2020 15:49		
1,4-Difluorobenzene	540-36-3	104	%	70-130	09.28.2020 15:49		



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW01** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-005 Date Collected: 09.24.2020 14:40 Sample Depth: 0 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	09.25.2020 17:25	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	09.28.2020 12:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	09.28.2020 12:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	09.28.2020 12:17	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	09.28.2020 12:17	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	09.28.2020 12:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	09.28.2020 12:17	
o-Terphenyl	84-15-1	119	%	70-135	09.28.2020 12:17	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW01**
Lab Sample Id: 673636-005

Matrix: Soil
Date Collected: 09.24.2020 14:40

Date Received: 09.25.2020 14:20
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3138297

Prep Method: SW5035A

% Moisture:

Date Prep: 09.28.2020 10:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.28.2020 16:12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.28.2020 16:12	U	1
Ethylbenzene	100-41-4	0.00995	0.00199	mg/kg	09.28.2020 16:12		1
m,p-Xylenes	179601-23-1	0.0723	0.00398	mg/kg	09.28.2020 16:12		1
o-Xylene	95-47-6	0.0486	0.00199	mg/kg	09.28.2020 16:12		1
Total Xylenes	1330-20-7	0.121	0.00199	mg/kg	09.28.2020 16:12		1
Total BTEX		0.131	0.00199	mg/kg	09.28.2020 16:12		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	09.28.2020 16:12		
4-Bromofluorobenzene	460-00-4	124	%	70-130	09.28.2020 16:12		



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW02** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-006 Date Collected: 09.24.2020 14:42 Sample Depth: 0 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	09.25.2020 17:30	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.25.2020 23:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.25.2020 23:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.25.2020 23:27	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.25.2020 23:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.25.2020 23:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	09.25.2020 23:27	
o-Terphenyl	84-15-1	90	%	70-135	09.25.2020 23:27	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW02**
Lab Sample Id: 673636-006

Matrix: Soil
Date Collected: 09.24.2020 14:42

Date Received: 09.25.2020 14:20
Sample Depth: 0 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 09.28.2020 10:07

Basis: Wet Weight

Seq Number: 3138297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.28.2020 17:25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.28.2020 17:25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.28.2020 17:25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.28.2020 17:25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.28.2020 17:25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.28.2020 17:25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.28.2020 17:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	09.28.2020 17:25	
1,4-Difluorobenzene	540-36-3	94	%	70-130	09.28.2020 17:25	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW03** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-007 Date Collected: 09.24.2020 14:43 Sample Depth: 0 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	09.25.2020 17:36	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.25.2020 23:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.25.2020 23:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.25.2020 23:47	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.25.2020 23:47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.25.2020 23:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	09.25.2020 23:47	
o-Terphenyl	84-15-1	90	%	70-135	09.25.2020 23:47	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW03**
Lab Sample Id: 673636-007

Matrix: Soil
Date Collected: 09.24.2020 14:43

Date Received: 09.25.2020 14:20
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3138297

Date Prep: 09.28.2020 10:07

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.28.2020 17:54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.28.2020 17:54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.28.2020 17:54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.28.2020 17:54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.28.2020 17:54	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.28.2020 17:54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.28.2020 17:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	09.28.2020 17:54		
1,4-Difluorobenzene	540-36-3	96	%	70-130	09.28.2020 17:54		



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW04** Matrix: Soil Date Received: 09.25.2020 14:20
 Lab Sample Id: 673636-008 Date Collected: 09.24.2020 14:45 Sample Depth: 0 - 8 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 09.25.2020 15:09 Basis: Wet Weight
 Seq Number: 3138248

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	09.25.2020 17:41	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 09.25.2020 16:00 Basis: Wet Weight
 Seq Number: 3138232

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	09.26.2020 00:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	09.26.2020 00:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	09.26.2020 00:08	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	09.26.2020 00:08	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	09.26.2020 00:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	09.26.2020 00:08	
o-Terphenyl	84-15-1	91	%	70-135	09.26.2020 00:08	



Certificate of Analytical Results 673636

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **SW04**
Lab Sample Id: 673636-008

Matrix: Soil
Date Collected: 09.24.2020 14:45

Date Received: 09.25.2020 14:20
Sample Depth: 0 - 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 09.28.2020 10:07

Basis: Wet Weight

Seq Number: 3138297

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.28.2020 18:17	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.28.2020 18:17	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.28.2020 18:17	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.28.2020 18:17	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.28.2020 18:17	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.28.2020 18:17	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.28.2020 18:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	09.28.2020 18:17	
4-Bromofluorobenzene	460-00-4	110	%	70-130	09.28.2020 18:17	



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



LT Environmental, Inc.
Los Dos Medanos

Analytical Method: Chloride by EPA 300

Seq Number: 3138248

MB Sample Id: 7712181-1-BLK

Matrix: Solid

LCS Sample Id: 7712181-1-BKS

Prep Method: E300P

Date Prep: 09.25.2020

LCSD Sample Id: 7712181-1-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	254	102	90-110	0	20	mg/kg	09.25.2020 15:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3138248

Parent Sample Id: 673572-001

Matrix: Soil

MS Sample Id: 673572-001 S

Prep Method: E300P

Date Prep: 09.25.2020

MSD Sample Id: 673572-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	182	201	393	105	393	105	90-110	0	20	mg/kg	09.25.2020 15:24	

Analytical Method: Chloride by EPA 300

Seq Number: 3138248

Parent Sample Id: 673636-002

Matrix: Soil

MS Sample Id: 673636-002 S

Prep Method: E300P

Date Prep: 09.25.2020

MSD Sample Id: 673636-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	207	104	208	104	90-110	0	20	mg/kg	09.25.2020 16:52	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3138232

MB Sample Id: 7712116-1-BLK

Matrix: Solid

LCS Sample Id: 7712116-1-BKS

Prep Method: SW8015P

Date Prep: 09.25.2020

LCSD Sample Id: 7712116-1-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	896	90	890	89	70-135	1	35	mg/kg	09.25.2020 20:26	
Diesel Range Organics (DRO)	<50.0	1000	780	78	769	77	70-135	1	35	mg/kg	09.25.2020 20:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		129		130		70-135	%	09.25.2020 20:26
o-Terphenyl	84		120		121		70-135	%	09.25.2020 20:26

Analytical Method: TPH by SW8015 Mod

Seq Number: 3138232

Matrix: Solid

MB Sample Id: 7712116-1-BLK

Prep Method: SW8015P

Date Prep: 09.25.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	09.25.2020 20:06	

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

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

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

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



LT Environmental, Inc.
Los Dos Medanos

Analytical Method: TPH by SW8015 Mod

Seq Number: 3138232

Parent Sample Id: 673636-001

Matrix: Soil

MS Sample Id: 673636-001 S

Prep Method: SW8015P

Date Prep: 09.25.2020

MSD Sample Id: 673636-001 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)	<50.0	1000	1040	104	1040	104	70-135	0	35	mg/kg	09.25.2020 21:27	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1080	108	70-135	0	35	mg/kg	09.25.2020 21:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		121		70-135	%	09.25.2020 21:27
o-Terphenyl	97		98		70-135	%	09.25.2020 21:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3138297

MB Sample Id: 7712178-1-BLK

Matrix: Solid

LCS Sample Id: 7712178-1-BKS

Prep Method: SW5035A

Date Prep: 09.28.2020

LCSD Sample Id: 7712178-1-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	0.0905	91	0.0972	97	70-130	7	35	mg/kg	09.28.2020 10:23	
Toluene	<0.00200	0.100	0.0854	85	0.0900	90	70-130	5	35	mg/kg	09.28.2020 10:23	
Ethylbenzene	<0.00200	0.100	0.0860	86	0.0920	92	71-129	7	35	mg/kg	09.28.2020 10:23	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.185	93	70-135	6	35	mg/kg	09.28.2020 10:23	
o-Xylene	<0.00200	0.100	0.0883	88	0.0959	96	71-133	8	35	mg/kg	09.28.2020 10:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		98		102		70-130	%	09.28.2020 10:23
4-Bromofluorobenzene	115		106		112		70-130	%	09.28.2020 10:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3138297

Parent Sample Id: 673636-001

Matrix: Soil

MS Sample Id: 673636-001 S

Prep Method: SW5035A

Date Prep: 09.28.2020

MSD Sample Id: 673636-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0965	97	0.0930	93	70-130	4	35	mg/kg	09.28.2020 12:27	
Toluene	<0.00200	0.100	0.0912	91	0.0900	90	70-130	1	35	mg/kg	09.28.2020 12:27	
Ethylbenzene	<0.00200	0.100	0.0987	99	0.0950	95	71-129	4	35	mg/kg	09.28.2020 12:27	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.192	96	70-135	5	35	mg/kg	09.28.2020 12:27	
o-Xylene	<0.00200	0.100	0.0985	99	0.0960	96	71-133	3	35	mg/kg	09.28.2020 12:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		98		70-130	%	09.28.2020 12:27
4-Bromofluorobenzene	113		106		70-130	%	09.28.2020 12:27

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

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

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

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



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

Chain of Custody

Work Order No: 1673636

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

Project Name:	Los Dos Medanos	Turn Around	
Project Number:	012920135	Routine	<input checked="" type="checkbox"/>
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Growfields	<input type="checkbox"/> RC	<input type="checkbox"/> \$perfund
State of Project:				
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> PST/UST	<input type="checkbox"/> RP	<input type="checkbox"/> Level IV
Deliverables: EDD	<input type="checkbox"/> ADAPT			Other:

Project Name:	Los Dos Medanos	Turn Around	
Project Number:	012920135	Routine	<input checked="" type="checkbox"/>
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

Temp Blank:	Yes	No	Wet Ice:	Yes	No
Received Intact:	Yes	No	Thermometer ID	TMM007	
Cooler Custody Seals:	Yes	No	Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No	Total Containers:	8	

Sample Identification					Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA)	BTEX (EPA)	Chloride	Sample Comments														
FS01					S	9/24/2020	14:15	6'	1	X	X	X	Composite														
FS02					S	9/24/2020	14:16	6'	1	X	X	X	Composite														
FS03					S	9/24/2020	14:21	8'	1	X	X	X	Composite														
FS04					S	9/24/2020	14:24	8'	1	X	X	X	Composite														
SW01					S	9/24/2020	14:40	0-6'	1	X	X	X	Composite														
SW02					S	9/24/2020	14:42	0-8'	1	X	X	X	Composite														
SW03					S	9/24/2020	14:43	0-6'	1	X	X	X	Composite														
SW04					S	9/24/2020	14:45	0-8'	1	X	X	X	Composite														

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 Ti 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 Ti U	1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature) _____ Received by: (Signature) _____ Date/Time 9/25/20 14:30

Relinquished by: (Signature) _____ Received by: (Signature) _____ Date/Time 9/25/20 14:30

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 09.25.2020 02.20.00 PM

Work Order #: 673636

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)?	4.6
#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
#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

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 09.25.2020

Checklist reviewed by:



Jessica Kramer

Date: 09.28.2020

Certificate of Analysis Summary 674774

LT Environmental, Inc., Arvada, CO

Project Name: Los Dos Medanos

Project Id: 12920135
 Contact: Dan Moir
 Project Location: Eddy County

Date Received in Lab: Fri 10.09.2020 10:36
 Report Date: 10.12.2020 16:35
 Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	674774-001	674774-002	674774-003			
	Field Id:	FS02A	FS03A	FS04A			
	Depth:	9- ft	10.5- ft	10.5- ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	10.08.2020 10:55	10.08.2020 14:45	10.08.2020 14:50			
BTEX by EPA 8021B	Extracted:	10.09.2020 11:03	10.09.2020 11:03	10.09.2020 11:03			
	Analyzed:	10.09.2020 16:03	10.09.2020 16:26	10.09.2020 16:48			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
m,p-Xylenes		<0.00401 0.00401	<0.00401 0.00401	<0.00396 0.00396			
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Chloride by EPA 300	Extracted:	10.09.2020 11:37	10.09.2020 11:37	10.09.2020 11:37			
	Analyzed:	10.09.2020 13:15	10.09.2020 13:31	10.09.2020 13:37			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<9.94 9.94	<9.94 9.94	<9.98 9.98			
TPH by SW8015 Mod	Extracted:	10.09.2020 15:00	10.09.2020 15:00	10.09.2020 15:00			
	Analyzed:	10.09.2020 16:39	10.09.2020 16:59	10.09.2020 17:38			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.3 50.3	<50.1 50.1			
Diesel Range Organics (DRO)		<49.9 49.9	<50.3 50.3	<50.1 50.1			
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.3 50.3	<50.1 50.1			
Total GRO-DRO		<49.9 49.9	<50.3 50.3	<50.1 50.1			
Total TPH		<49.9 49.9	<50.3 50.3	<50.1 50.1			

BRL - Below Reporting Limit

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





Analytical Report 674774

for

LT Environmental, Inc.

Project Manager: Dan Moir

Los Dos Medanos

12920135

10.12.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.12.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **674774**

Los Dos Medanos

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 Eurofins Xenco, LLC Report Number(s) 674774. 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. 674774 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,

A handwritten signature in black ink that reads "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 674774

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02A	S	10.08.2020 10:55	9 ft	674774-001
FS03A	S	10.08.2020 14:45	10.5 ft	674774-002
FS04A	S	10.08.2020 14:50	10.5 ft	674774-003



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *Los Dos Medanos*

Project ID: 12920135
Work Order Number(s): 674774

Report Date: 10.12.2020
Date Received: 10.09.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3139327 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 674774-003.



Certificate of Analytical Results 674774

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS02A**
Lab Sample Id: 674774-001

Matrix: Soil
Date Collected: 10.08.2020 10:55

Date Received: 10.09.2020 10:36
Sample Depth: 9 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.09.2020 11:37

% Moisture:
Basis: Wet Weight

Seq Number: 3139292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	10.09.2020 13:15	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.09.2020 15:00

% Moisture:
Basis: Wet Weight

Seq Number: 3139327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.09.2020 16:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.09.2020 16:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.09.2020 16:39	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.09.2020 16:39	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.09.2020 16:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	10.09.2020 16:39	
o-Terphenyl	84-15-1	129	%	70-135	10.09.2020 16:39	



Certificate of Analytical Results 674774

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS02A**
Lab Sample Id: 674774-001

Matrix: Soil
Date Collected: 10.08.2020 10:55

Date Received: 10.09.2020 10:36
Sample Depth: 9 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.09.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3139330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.09.2020 16:03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.09.2020 16:03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.09.2020 16:03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.09.2020 16:03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.09.2020 16:03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.09.2020 16:03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.09.2020 16:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.09.2020 16:03	
4-Bromofluorobenzene	460-00-4	122	%	70-130	10.09.2020 16:03	



Certificate of Analytical Results 674774

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS03A** Matrix: Soil Date Received: 10.09.2020 10:36
 Lab Sample Id: 674774-002 Date Collected: 10.08.2020 14:45 Sample Depth: 10.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.09.2020 11:37 % Moisture:
 Seq Number: 3139292 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	10.09.2020 13:31	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.09.2020 15:00 % Moisture:
 Seq Number: 3139327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.09.2020 16:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.09.2020 16:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.09.2020 16:59	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	10.09.2020 16:59	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.09.2020 16:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	10.09.2020 16:59	
o-Terphenyl	84-15-1	130	%	70-135	10.09.2020 16:59	



Certificate of Analytical Results 674774

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS03A**
Lab Sample Id: 674774-002

Matrix: Soil
Date Collected: 10.08.2020 14:45

Date Received: 10.09.2020 10:36
Sample Depth: 10.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.09.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3139330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.09.2020 16:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.09.2020 16:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.09.2020 16:26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.09.2020 16:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.09.2020 16:26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.09.2020 16:26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.09.2020 16:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	10.09.2020 16:26		
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.09.2020 16:26		



Certificate of Analytical Results 674774

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS04A** Matrix: Soil Date Received: 10.09.2020 10:36
 Lab Sample Id: 674774-003 Date Collected: 10.08.2020 14:50 Sample Depth: 10.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.09.2020 11:37 % Moisture:
 Seq Number: 3139292 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	10.09.2020 13:37	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.09.2020 15:00 % Moisture:
 Seq Number: 3139327 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	10.09.2020 17:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	10.09.2020 17:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	10.09.2020 17:38	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	10.09.2020 17:38	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	10.09.2020 17:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	133	%	70-135	10.09.2020 17:38	
o-Terphenyl	84-15-1	136	%	70-135	10.09.2020 17:38	**



Certificate of Analytical Results 674774

LT Environmental, Inc., Arvada, CO

Los Dos Medanos

Sample Id: **FS04A**
Lab Sample Id: 674774-003

Matrix: Soil
Date Collected: 10.08.2020 14:50

Date Received: 10.09.2020 10:36
Sample Depth: 10.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.09.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3139330

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.09.2020 16:48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.09.2020 16:48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.09.2020 16:48	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	10.09.2020 16:48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.09.2020 16:48	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.09.2020 16:48	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.09.2020 16:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	10.09.2020 16:48	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.09.2020 16:48	

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



LT Environmental, Inc.
Los Dos Medanos

Analytical Method: Chloride by EPA 300

Seq Number: 3139292

MB Sample Id: 7712956-1-BLK

Matrix: Solid

LCS Sample Id: 7712956-1-BKS

Prep Method: E300P

Date Prep: 10.09.2020

LCSD Sample Id: 7712956-1-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	262	105	263	105	90-110	0	20	mg/kg	10.09.2020 10:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3139292

Parent Sample Id: 674743-001

Matrix: Soil

MS Sample Id: 674743-001 S

Prep Method: E300P

Date Prep: 10.09.2020

MSD Sample Id: 674743-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	131	201	337	102	340	104	90-110	1	20	mg/kg	10.09.2020 12:04	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3139327

MB Sample Id: 7712986-1-BLK

Matrix: Solid

LCS Sample Id: 7712986-1-BKS

Prep Method: SW8015P

Date Prep: 10.09.2020

LCSD Sample Id: 7712986-1-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	879	88	863	86	70-135	2	35	mg/kg	10.09.2020 10:43	
Diesel Range Organics (DRO)	<50.0	1000	929	93	911	91	70-135	2	35	mg/kg	10.09.2020 10:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		111		119		70-135	%	10.09.2020 10:43
o-Terphenyl	90		94		93		70-135	%	10.09.2020 10:43

Analytical Method: TPH by SW8015 Mod

Seq Number: 3139327

Matrix: Solid

MB Sample Id: 7712986-1-BLK

Prep Method: SW8015P

Date Prep: 10.09.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.09.2020 11:23	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3139327

Matrix: Soil

Parent Sample Id: 674634-068

MS Sample Id: 674634-068 S

Prep Method: SW8015P

Date Prep: 10.09.2020

MSD Sample Id: 674634-068 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	959	96	905	90	70-135	6	35	mg/kg	10.09.2020 12:03	
Diesel Range Organics (DRO)	<50.0	1000	996	100	949	94	70-135	5	35	mg/kg	10.09.2020 12:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		132		70-135	%	10.09.2020 12:03
o-Terphenyl	109		104		70-135	%	10.09.2020 12:03

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

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

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

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



LT Environmental, Inc.
Los Dos Medanos

Analytical Method: BTEX by EPA 8021B

Seq Number: 3139330

Matrix: Solid

Prep Method: SW5035A

Date Prep: 10.09.2020

MB Sample Id: 7712983-1-BLK

LCS Sample Id: 7712983-1-BKS

LCSD Sample Id: 7712983-1-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	0.0932	93	0.0951	95	70-130	2	35	mg/kg	10.09.2020 11:27	
Toluene	<0.00200	0.100	0.0884	88	0.0913	91	70-130	3	35	mg/kg	10.09.2020 11:27	
Ethylbenzene	<0.00200	0.100	0.0907	91	0.0940	94	71-129	4	35	mg/kg	10.09.2020 11:27	
m,p-Xylenes	<0.00400	0.200	0.188	94	0.188	94	70-135	0	35	mg/kg	10.09.2020 11:27	
o-Xylene	<0.00200	0.100	0.0945	95	0.0934	93	71-133	1	35	mg/kg	10.09.2020 11:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		100		102		70-130	%	10.09.2020 11:27
4-Bromofluorobenzene	111		109		111		70-130	%	10.09.2020 11:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3139330

Matrix: Soil

Prep Method: SW5035A

Date Prep: 10.09.2020

Parent Sample Id: 674743-001

MS Sample Id: 674743-001 S

MSD Sample Id: 674743-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.121	121	0.124	124	70-130	2	35	mg/kg	10.09.2020 12:12	
Toluene	<0.00199	0.0996	0.114	114	0.118	118	70-130	3	35	mg/kg	10.09.2020 12:12	
Ethylbenzene	<0.00199	0.0996	0.118	118	0.122	122	71-129	3	35	mg/kg	10.09.2020 12:12	
m,p-Xylenes	<0.00398	0.199	0.239	120	0.248	125	70-135	4	35	mg/kg	10.09.2020 12:12	
o-Xylene	<0.00199	0.0996	0.119	119	0.122	122	71-133	2	35	mg/kg	10.09.2020 12:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		103		70-130	%	10.09.2020 12:12
4-Bromofluorobenzene	110		111		70-130	%	10.09.2020 12:12

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

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

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

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



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

Chain of Custody
Work Order No: 16343334

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 West Mermond
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Project Name:	Los Dos Medanos	Turn Around	
Project Number:	12920135	Routine	<input checked="" type="checkbox"/>
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT	Temp Blank:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	Temperature (°C):	1.0/0.8	Thermometer ID			
	Received Intact:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Correction Factor:		
	Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Total Containers:			
	Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	3			

Sample Identification					Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)													Sample Comments
FS02A					S	10/08/20	1055	9'	1	X	X	X													Composite
FS03A					S	10/08/20	1445	10.5'	1	X	X	X													Composite
FS04A					S	10/08/20	1450	10.5'	1	X	X	X													Composite

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 Ti 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 Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	10-9-20 1034			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10.09.2020 10.36.00 AM

Work Order #: 674774

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist**Comments**

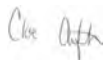
#1 *Temperature of cooler(s)?	.8	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 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:



Cloe Clifton

Date: 10.09.2020

Checklist reviewed by:



Jessica Kramer

Date: 10.12.2020

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

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

CONDITIONS

Action 12040

CONDITIONS OF APPROVAL

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707		OGRID: 5380	Action Number: 12040	Action Type: C-141
OCD Reviewer chensley	Condition Closure report has been approved and closed.			