

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	NAB1907955404
District RP	2 2RP-5309
Facility ID	
Application ID	pAB1907954910

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) NAB1907955404
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.277406° Longitude -103.945129°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda 25 Observation Well #001	Site Type Observation Well
Date Release Discovered 2/28/2019	API# (if applicable) 30-015-45751

Unit Letter	Section	Township	Range	County
E	25	23S	29E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: New Mexico)

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) 915	Volume Recovered (bbls) 199
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 2746	Volume Recovered (bbls) 596
	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 During drilling of the well, onsite personnel encountered a pressure kick. An accumulation of water, gas, and oil was encountered at a depth of 317'. Personnel secured the rig, switched off engines and ignition points, and safely mustered to the designated area. No injury occurred. The well flowed for approximately three hours before depleting the pressured zone. Additional third party resources have been retained to assist with remediation.

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice provided by Amy Ruth to Mike Bratcher, Rob Hamlet, and Jim Griswold (NMOCD), Ryan Mann (SLO), and Jim Amos (BLM) on 3/1/2019 by email	

Initial Response

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

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

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

N/A

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

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

Printed Name: Kyle Littrell

Title: SH&E Supervisor


Signature: 

Date: 3-13-19

email: Kyle.Littrell@xtoenergy.com

Telephone: 432-221-7331

OCD Only

Received by: 

Date: 3/20/2019

Incident ID	NAB1907955404
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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?	<u>51-100</u> (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 checked="" type="checkbox"/> Yes <input 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.

<p>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"><input type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.<input type="checkbox"/> Field data<input type="checkbox"/> Data table of soil contaminant concentration data<input type="checkbox"/> Depth to water determination<input type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release<input type="checkbox"/> Boring or excavation logs<input type="checkbox"/> Photographs including date and GIS information<input type="checkbox"/> Topographic/Aerial maps<input type="checkbox"/> Laboratory data including chain of custody
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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 Coordinator _____

Signature: _____ Date: _____

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

OCD Only

Received by: _____ Date: _____

August 1, 2019
Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

**RE: Sampling Variance Request
Remuda 25 Observation Well #1
XTO Energy, Inc.
Remediation Permit Number 2RP-5309
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Sampling Variance Request to document initial response activities and propose alternative closure sampling to confirm the remediation of impacted soil at the Remuda 25 Observation Well #1 (Site) in Unit Letter E, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The sampling described is designed to evaluate remediation progress and propose a variance to the New Mexico Oil Conservation Division (NMOCD) confirmation sampling requirements in 19.15.29.12.D(3) of the New Mexico Administrative Code (NMAC).

BACKGROUND

Impacts to soil at the Remuda 25 Observation Well #1 were caused by a crude oil and produced water release discovered on February 28, 2019. NMOCD was notified via email and subsequently issued Remediation Permit number 2RP-2309 for the release. Approximately 915 barrels of crude oil and 2,746 barrels of produced water were released due to a pressure kick while drilling at the Remuda 25 Observation Well #1. An accumulation of water, gas, and oil was encountered at a depth of 317 feet. The well flowed for approximately three hours before the pressure zone was depleted. XTO recovered 199 barrels of crude oil and 596 barrels of produced water. Approximately 74,350 square feet of the pad, lease road and surrounding pasture were impacted. In addition, 77,460 square feet of pasture was impacted by overspray.

SITE CHARACTERIZATION

Depth to groundwater at the Site is estimated to be between 50 feet and 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well, USGS 321717103561001, is 0.8 miles from the site. Depth to groundwater in the well is 52 feet bgs and was completed in the Rustler Formation. The Site is located greater



than 300 feet from any continuously flowing watercourse, 200 feet from any lakebed, sinkhole, or playa lake, and greater than 300 feet from a permanent residence, school, hospital, institution, church, or wetland. The Site is greater than 500 feet from a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes and greater than 1,000 feet from a freshwater well or spring. The Site is in a medium potential karst area and not within the 100-year floodplain or overlying a subsurface mine. Based on characterization of the site, the following NMOCD Table 1 Criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 1,000 mg/kg gasoline range organics (GRO) and diesel range organics (DRO); 2,500 mg/kg total petroleum hydrocarbons (TPH); and 10,000 mg/kg chloride.

INITIAL RESPONSE

On March 1, 2019, LTE personnel inspected the Site to evaluate the release extent. The release extent was mapped using a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. LTE personnel collected three preliminary soil samples (SS01 through SS03) within the release area from depths ranging from 0.5 feet to 4 feet bgs to begin assessment of the vertical and lateral extent of soil impacts. The soil samples were screened for volatile aromatic hydrocarbons and chloride using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of benzene, toluene, ethyl-benzene, and total xylenes (BTEX) using United States Environmental Protection Agency (USEPA) Method 8021; total petroleum hydrocarbons (TPH) – gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO) by USEPA Method 8015; and chloride by USEPA Method 300.0.

Initial assessment and analytical results of surface samples indicate that soil was impacted by both hydrocarbons and chlorides at depths ranging from 0.5 feet up to 3 feet bgs. Based on the analytical results depicted in Figure 2 as well as the mapped release extent, LTE estimates approximately 4,275 cubic yards of soil will need to be excavated from the site to meet NMOCD Table 1 Closure Criteria.

PROPOSED SAMPLING

Additional assessment, delineation, and excavation is necessary at the Site. XTO is requesting a variance to the 200-square foot confirmation sampling requirement for the area to be excavated, which would require an estimated 375 floor samples within the release extent and an additional estimated 390 floor samples in the overspray area. These numbers do not include sidewalls. Due to the large size the affected area, LTE proposes increasing the confirmation sampling size to a 2,500-square foot area and collecting a 5-point composite sample to represent each 2,500-square foot area. An estimated 65 samples will be collected from the





excavation floor to address the release extent and an additional estimated 45 samples will be collected to address the overspray area. The attached Figure 3 illustrates the proposed sampling grids overlaying the release footprint and overspray area. Each square in the grid represents a 2,500 square foot composite sample area. Figure 3 does not illustrate sidewall sample locations, which will also be collected to represent 2,500 square feet sampling areas.

The soil samples will be placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, method of analysis, and immediately placed on ice. The soil samples will be shipped at 4 °C under strict chain-of-custody procedures to Xenco in Midland, Texas, for analysis of BTEX using USEPA Method 8021; TPH –GRO, DRO, and ORO by USEPA Method 8015; and chloride by USEPA Method 300.0.

SCOPE OF WORK

XTO received a right of entry permit (ROE) from the New Mexico State Land Office (SLO) on July 18, 2019. LTE has begun further site assessment through delineation of the release extent. LTE will use field screening results as well as laboratory analysis to direct excavation progress and supervise excavation activities.

The current deadline for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC is September 29, 2019. LTE will provide a report by that deadline. The report will include a site map illustrating the location of the excavations, soil sample locations, and sample analytical results.

LTE appreciates the opportunity to provide this sampling plan to the NMOCD. We look forward to approval of the variance request. If you have any questions or comments, please do not hesitate to contact Ashley L. Ager at (970) 946-1093 or aager@ltenv.com.

Sincerely,

Tacoma Morrissey
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

Attachments:

Figure 1 – Site Location Map

Figure 2 – Soil Sample Locations

Figure 3 – Proposed Grid Sampling

Table 1 – Analytical Results



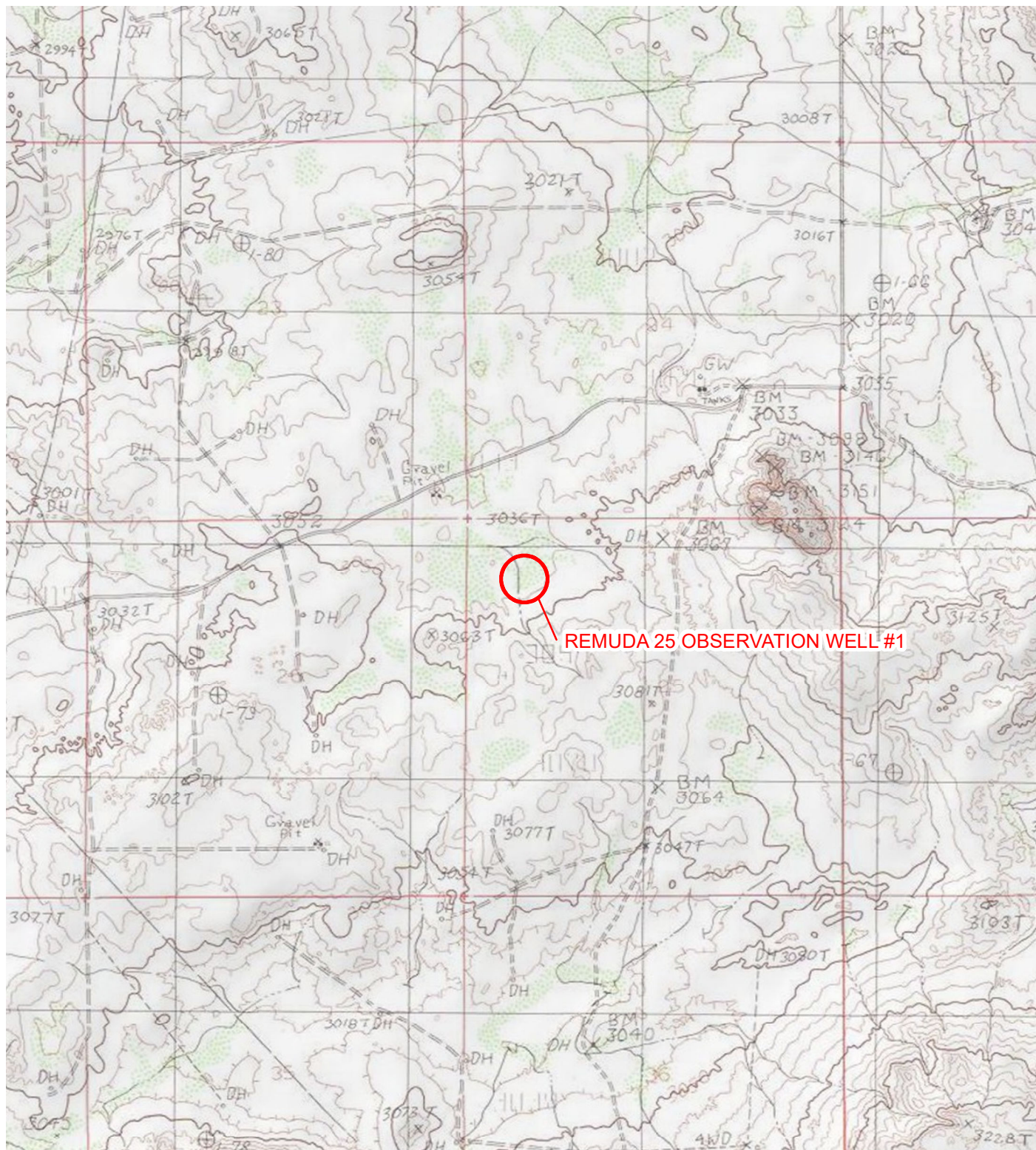
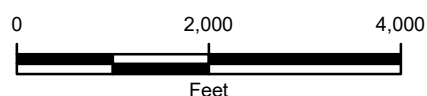


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION



NOTE: REMEDIATION PERMIT
NUMBER 2RP-5309

FIGURE 1
SITE LOCATION MAP
REMUDA 25 OBSERVATION WELL #1
UNIT D SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
 B = 10 mg/kg
 BTEX = 50 mg/kg
 GRO+DRO = 1,000 mg/kg
 TPH = 2,500 mg/kg
 Cl = 10,000 mg/kg
 NMOCD RECLAMATION CLOSURE CRITERIA FOR TOP FOUR
 FEET OF AREAS TO BE RECLAIMED (NMAC 19.15.29.13.D (1))
 Cl = 600 mg/kg
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE STANDARD

SS03@0.5' 03/01/2019 B: <0.00200 BTEX: 0.0834 TPH: 204 Cl: 49.0	SS03A@2' 03/01/2019 B: <0.00199 BTEX: 0.00911 TPH: 42.6 Cl: 25.8
	SS03B@4' 03/01/2019 B: <0.00200 BTEX: 0.0121 TPH: 78.9 Cl: 8.68

SS02@2' 03/01/2019 B: <0.00200 BTEX: <0.00200 TPH: <15.0 Cl: <5.00
SS02A@4' 03/01/2019 B: <0.00201 BTEX: <0.00201 TPH: <15.0 Cl: 55.4

SS01@0.5' 03/01/2019 B: 2.24 BTEX: 80.3 TPH: 18,400 Cl: 16,000	SS01A@1.5' 03/01/2019 B: <0.00200 BTEX: 0.156 TPH: 758 Cl: 652
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LEGEND

- ✕ RELEASE LOCATION
- PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE STANDARDS
- PRELIMINARY SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS

- RELEASE EXTENT
- OVERSPRAY EXTENT

B: BENZENE
 BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE,
 AND TOTAL XYLENES
 TPH – TOTAL PETROLEUM HYDROCARBONS
 Cl - CHLORIDE
 NMAC – NEW MEXICO ADMINISTRATIVE CODE
 NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
 NOTE: REMEDIATION PERMIT NUMBER 2RP-5309

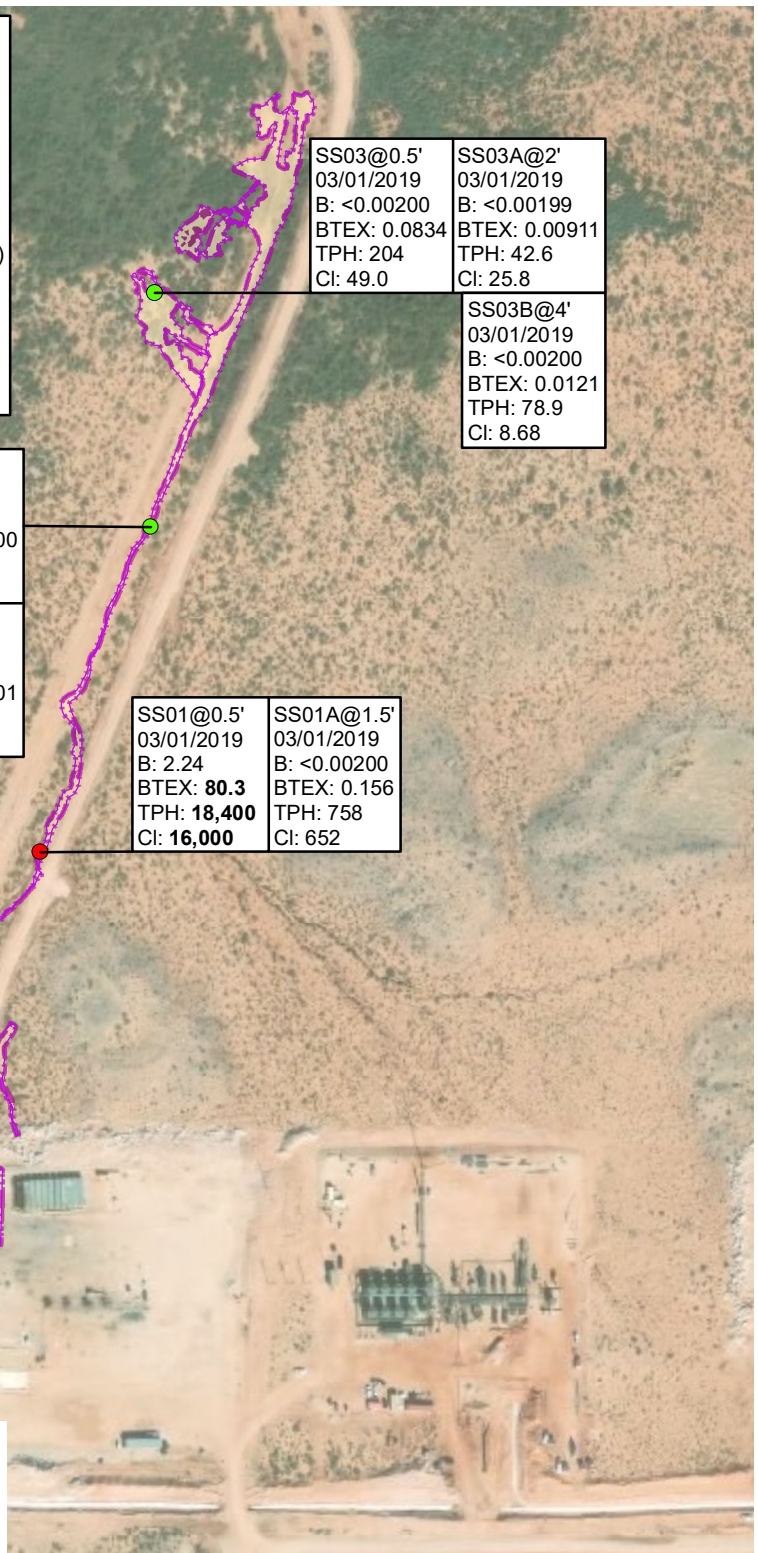


IMAGE COURTESY OF ESRI

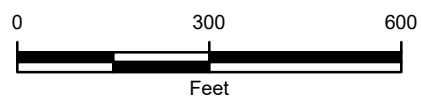


FIGURE 2
 PRELIMINARY SOIL SAMPLE LOCATIONS
 REMUDA 25 OBSERVATION WELL #1
 UNIT D SEC 25 T23S R29E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



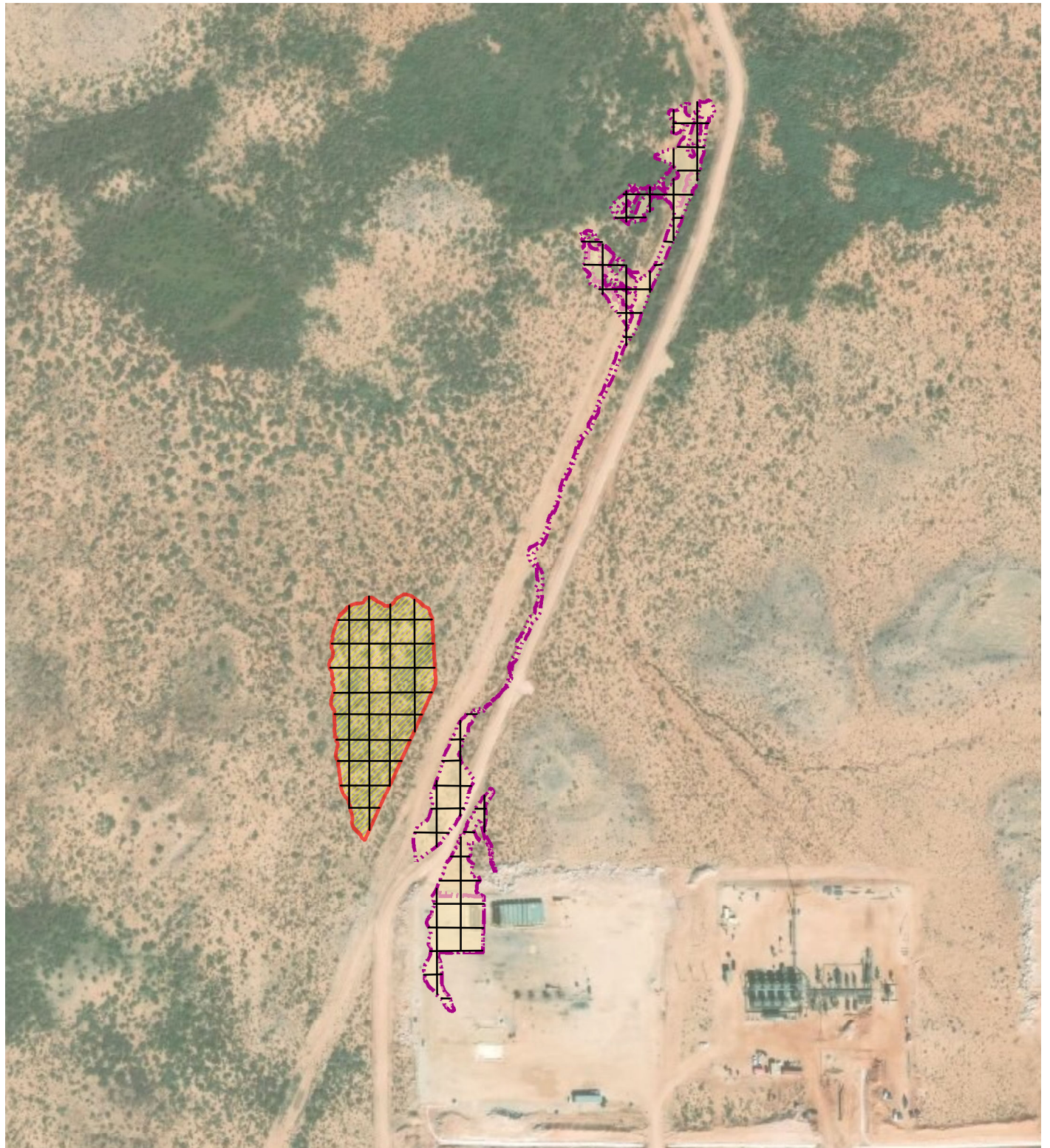


IMAGE COURTESY OF ESRI

LEGEND

- RELEASE EXTENT
- OVERSPRAY EXTENT
- 2,500 SQUARE FOOT GRID

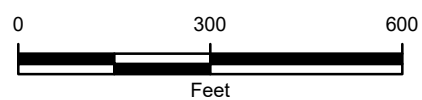


FIGURE 3
SAMPLING 2,500 SQUARE FOOT GRID MAP
REMUDA 25 OBSERVATION WELL #1
UNIT D SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



NOTE: REMEDIATION PERMIT NUMBER 2RP-5309

TABLE 1
SOIL ANALYTICAL RESULTS

REMUDA 25 OBSERVATION WELL #1
REMEDATION PERMIT NUMBER 2RP-5309
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	03/01/2019	2.24	23.3	4.59	50.2	80.3	7,200	10,000	1,170	17,200	18,400	16,000
SS02	2	03/01/2019	<0.00200	0.00361	0.00505	0.0747	0.0834	25.1	161	17.6	186	204	49.0
SS03	0.5	03/01/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
SS01A	1.5	03/01/2019	<0.00201	0.00568	0.0427	0.140	0.156	158	544	56.3	702	758	652
SS02A	4	03/01/2019	<0.00200	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	55.4
SS03A	2	03/01/2019	<0.00199	<0.00199	<0.00199	0.00911	0.00911	<15.0	42.6	<15.0	42.6	42.6	25.8
SS03B	4	03/01/2019	<0.00200	<0.00200	<0.00200	0.0121	0.0121	<14.9	78.9	<14.9	78.9	78.9	8.68
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	10,000

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg - milligrams per kilogram

NE - not established

NMOCD - New Mexico Oil Conservation Division

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

TPH - total petroleum hydrocarbons

< - indicates result is below
laboratory reporting limits

Bold- indicates result exceeds the applicable regulatory
standard

* - indicates sample was collected in area to be reclaimed
after remediation is complete; closure criteria for chloride
concentration in the top 4 feet of soil is 600 mg/kg

Table 1 - closure criteria for soils impacted by a release per

NMAC 19.15.29 August 2018 NMAC -New Mexico Administrative Code

