



# AE Order Number Banner

## Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



**App Number:** pVF1623531671

144B - 14370

XTO ENERGY, INC

2/9/2018

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-144  
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.  
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

BGT C-144 14319

Pit, Below-Grade Tank, or  
Proposed Alternative Method Permit or Closure Plan Application

OIL CONS. DIV DIST. 3

- Type of action: ☐ Below grade tank registration  
☐ Permit of a pit or proposed alternative method  
☒ Closure of a pit, below-grade tank, or proposed alternative method  
☐ Modification to an existing permit/or registration  
☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

DEC 26 2017

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.  
Operator: XTO Energy, Inc. OGRID #: 5380  
Address: 382 Road 3100, Aztec, New Mexico 87410  
Facility or well name: Burr CDP  
API Number: \_\_\_\_\_ OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr F Section 20 Township 29N Range 13W County: San Juan  
Center of Proposed Design: Latitude 36.80291 Longitude 108.1443 NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.  
☐ Pit: Subsection F, G or J of 19.15.17.11 NMAC  
Temporary: ☐ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☐ String-Reinforced  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

3.  
☒ Below-grade tank: Subsection I of 19.15.17.11 NMAC  
Volume: 120 bbl Type of fluid: Produced Water  
Tank Construction material: Steel  
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☒ Other Visible sidewalls, vaulted, automatic high-level shut off  
Liner type: Thickness \_\_\_\_\_ mil ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_

4.  
☐ Alternative Method:  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.  
**Fencing:** Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)  
☐ Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)  
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet  
☒ Alternate. Please specify: Four foot height, steel mesh field fence (hogwire) with pipe top rail.



16.

**Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☐ Screen ☐ Netting ☒ Other: Expanded metal or solid vaulted top
- ☐ Monthly inspections (If netting or screening is not physically feasible)

7.

**Signs:** Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☒ Signed in compliance with 19.15.16.8 NMAC

8.

**Variances and Exceptions:**

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

**Please check a box if one or more of the following is requested, if not leave blank:**

- ☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

**Instructions:** *The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.*

**General siting**

**Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.**

- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.**

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)**

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area. **(Does not apply to below grade tanks)**

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain. **(Does not apply to below grade tanks)**

- FEMA map

☐ Yes ☐ No

**Below Grade Tanks**

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

**Temporary Pit using Low Chloride Drilling Fluid** (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from an occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300 feet of any other fresh water well or spring, in existence at the time of the initial application.

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No



Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Temporary Pit Non-low chloride drilling fluid**

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

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, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Permanent Pit or Multi-Well Fluid Management Pit**

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

#### **Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

11.

#### **Multi-Well Fluid Management Pit Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_



12. **Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13. **Proposed Closure:** 19.15.17.13 NMAC

**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Multi-well Fluid Management Pit  
☐ Alternative

Proposed Closure Method: ☒ Waste Excavation and Removal  
☐ Waste Removal (Closed-loop systems only)  
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)  
☐ In-place Burial ☐ On-site Trench Burial  
☐ Alternative Closure Method

14. **Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15. **Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

**Instructions:** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	



adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

**16. On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

**17. Operator Application Certification:**

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

**18. OCD Approval:** ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: [Signature] Approval Date: 2/9/2018

Title: Environmental Specialist OCD Permit Number: \_\_\_\_\_

**19. Closure Report (required within 60 days of closure completion):** 19.15.17.13 NMAC

*Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

☒ Closure Completion Date: October, 18 2017

**20. Closure Method:**

- ☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
- ☐ If different from approved plan, please explain.

**21. Closure Report Attachment Checklist:** *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

- ☒ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☒ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☒ Disposal Facility Name and Permit Number
- ☒ Soil Backfilling and Cover Installation
- ☒ Re-vegetation Application Rates and Seeding Technique
- ☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude \_\_\_\_\_ Longitude \_\_\_\_\_ NAD: ☐ 1927 ☐ 1983



**Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Otto G. Naegele Jr. Title: EHS Technician

Signature:  Date: 12/21/2017

e-mail address: otto\_naegele@xtoenergy.com Telephone: 505-333-3100



**Pit Permit  
Siting Criteria  
Information Sheet**

**Client:** XTO Energy  
**Project:** Pit Permits  
**Revised:** 12-Nov-08  
**Prepared by:** Brooke Herb

**API#:** 3004509339

**USPLSS:** T30N,R12W,S19K

**Name:** PAN AMERICAN FED C #1

**Lat/Long:** 36.79666, -108.14124

**Depth to groundwater:** > 100 ft

**Geologic formation:** Nacimiento Formation

**Distance to closest continuously flowing watercourse:** 2.05 miles N-NW of the Animas River

**Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:** 1400' W of Hood Arroyo; 1.83 miles W of Beeline Reservoir

**Permanent residence, school, hospital, institution or church within 300'** Yes - 240' E of Permanent Residence

**Soil Type:** Entisols

**Domestic fresh water well or spring within 500'** No

**Annual Precipitation:** 8.21 inches (Farmington)

**Any other fresh water well or spring within 1000'** No

**Precipitation Notes:** no significant precip events

**Within incorporated municipal boundaries** Yes

**Attached Documents:** Groundwater report and Data; FEMA Flood Zone Map

**Within defined municipal fresh water well field** NO

Aerial Photo, Topo Map, Mines Mills and Quarries Map

**Wetland within 500'** No

**Mining Activity:** 2.74 miles SW of a Materials Pit

**Within unstable area** No

**Within 100 year flood plain** No FEMA Flood Zone Data within City Limits

**Additional Notes:**



## **PAN AMERICAN FED C #1 Below Ground Tank Siting Criteria and Closure Plan**

### **Well Site Location**

Legals: T30N, R12W, Section 19, Quarter Section K

Latitude/Longitude: approximately 36.79666, -108.14124

County: San Juan County, NM

General Description: between Glade Run and Animas River

### **General Geology and Hydrology**

The San Juan Basin is a typical Rocky Mountain basin with a gently dipping southern flank and a steeply dipping northern flank. Asymmetrically layered Tertiary sandstones and shales, along with Quaternary alluvial deposits dominate surficial geology (Dane and Bachman, 1965). The proposed below ground tank location will be located on the flanks of the Farmington Glade near Farmington, New Mexico. Within the Farmington Glade, the Tertiary Nacimiento Formation is exposed, along with Quaternary alluvial and aeolian sands surrounding the center of the wash.

Cretaceous and Tertiary sandstones, as well as Quaternary alluvial deposits serve as the primary aquifers in the San Juan basin (Stone et al., 1983). In most of the proposed area, the Nacimiento Formation lies at the surface. Thickness of the Nacimiento ranges from 418 to 2232 feet (Stone et al., 1983). Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1000' deep in this section of the basin (Stone et al., 1983). Groundwater within these aquifers flows toward the nearby San Juan River and its tributaries.

The prominent soil type at the proposed site is entisols, which are defined as soils that do not show any profile development. Soils are basically unaltered from their parent rock. Miles of arroyos, washes and intermittent streams exist as part of the drainage network towards the La Plata River ([www.emnrd.state.nm.us](http://www.emnrd.state.nm.us)). These features often cut into soil and other unconsolidated materials, contributing to sedimentation downstream. The sudden influx of water from storm events easily erodes soils that cover the area.

The climate of the region is arid, averaging just over 8 inches of rainfall annually. As is typical of the southwestern United States monsoonal weather patterns, most precipitation falls from August through October. The heaviest rainfall occurs in the summer in isolated, intense cloudbursts. November through June is relatively dry. Snow generally falls from December to mid-February and averages less than one-half inch in depth. However, most recharge occurs during the winter months during snowmelt periods from the upper elevations (Western Regional Climate Center [www.wrcc.dri.edu](http://www.wrcc.dri.edu)).

The predominant vegetation is sagebrush and grasses with a more restricted pinon-juniper association (Dick-Peddie, 1993).

### **Site Specific Hydrogeology**

Depth to groundwater is estimated to be greater than 100 feet. This estimation is based on data from Stone and others, 1983 and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

Local aquifers include sandstones within the Nacimiento Formation, which ranges from 0 to 1000 feet deep in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1000-foot depth range for Nacimiento aquifers covers an area over 20 miles wide, and depth decreases towards the margin of the San Juan Basin. The site in question is more centrally located, and depth to the aquifer is expected to be closer to 1000 feet. It is well known that groundwater close to the Animas River can be shallow, as the Quaternary deposits near the river itself form shallow aquifers. However, the proposed site is situated over two miles to the northwest and is over 400 feet higher in elevation than the Animas River (Google Earth).

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing the location of wells in reference to the proposed pit location is also included. Pinpoints show locations of wells and the labels for each pinpoint indicate depth to groundwater in feet. Depth to groundwater within the surrounding wells ranges from 16 to 240 feet below ground surface. Elevation at the proposed site is approximately 5822 feet (Google Earth). The closest well to the proposed site is at an approximate elevation of 5803 feet, and has a depth to groundwater of 195 feet below ground surface.



## References

Brister, B.S. and Hoffman, G.K., 2002, Fundamental Geology of San Juan Basin Energy Resources *in* New Mexico's Energy, Present and Future: New Mexico Bureau of Geology and Mineral Resources Decision-Makers Conference 2002, San Juan Basin, p. 20-25.

Dane, C.H. and Bachman, G. O., 1965, Geologic Map of New Mexico: U.S. Geological Survey, 1 sheet, scale 1:500,000.

Dick-Peddie, W.A., 1993, New Mexico Vegetation – Past, Present and Future: Albuquerque, New Mexico, University of New Mexico Press, 244 p.

Stone, W.J., Lyford, F. P., Frenzel, P.F., Mizell, N.H. and Padgett, E.T., 1983, Hydrogeology and water resources of the San Juan Basin, New Mexico: HR-6 New Mexico Bureau of Geology and Mineral Resources Hydrology Report 6.

Western Region Climate Center, 2008, New Mexico climate summaries: Desert Research Institute at <http://www.wrcc.dri.edu/summary/climsmnm.html>.

New Mexico Energy, Minerals and Natural Resources Department,  
[www.emnrd.state.nm.us](http://www.emnrd.state.nm.us)

**Attachments**

Location Map: Topographic Map and Aerial Photograph of Location

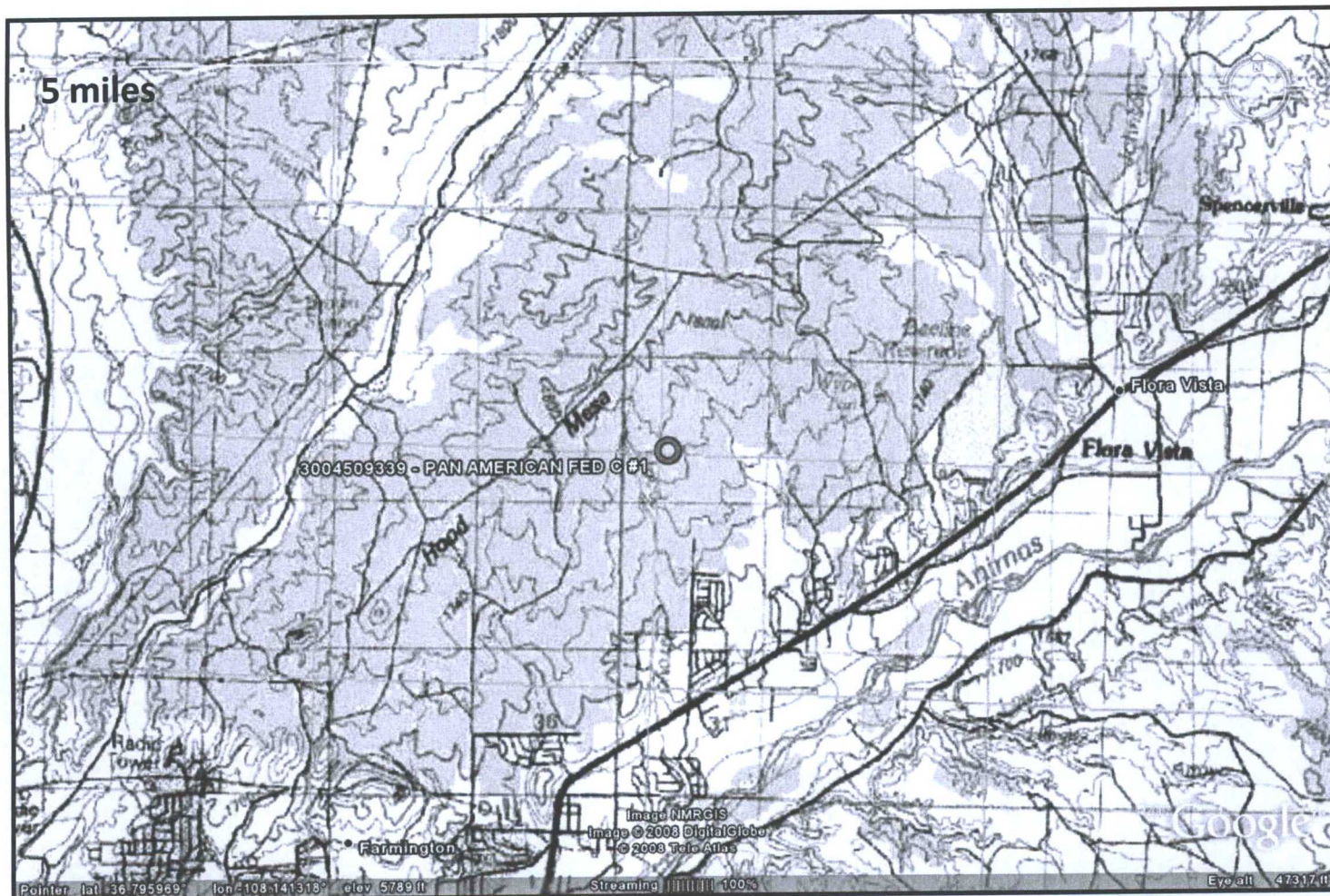
iWaters Database Groundwater Information

Aerial Photo showing location and depth information for nearby groundwater wells

Google Earth Map Showing Location of Mines, Mills and Quarries

FEMA Floodmap





Lodestar Services, Inc  
PO Box 4465  
Durango, CO 81302

PAN AMERICAN FED C #1  
T30N, R12W, S19K  
San Juan County, NM

Topographic Map





Lodestar Services, Inc  
PO Box 4465  
Durango, CO 81302

PAN AMERICAN FED C #1  
T30N, R12W, S19K  
San Juan County, NM

Aerial Photograph

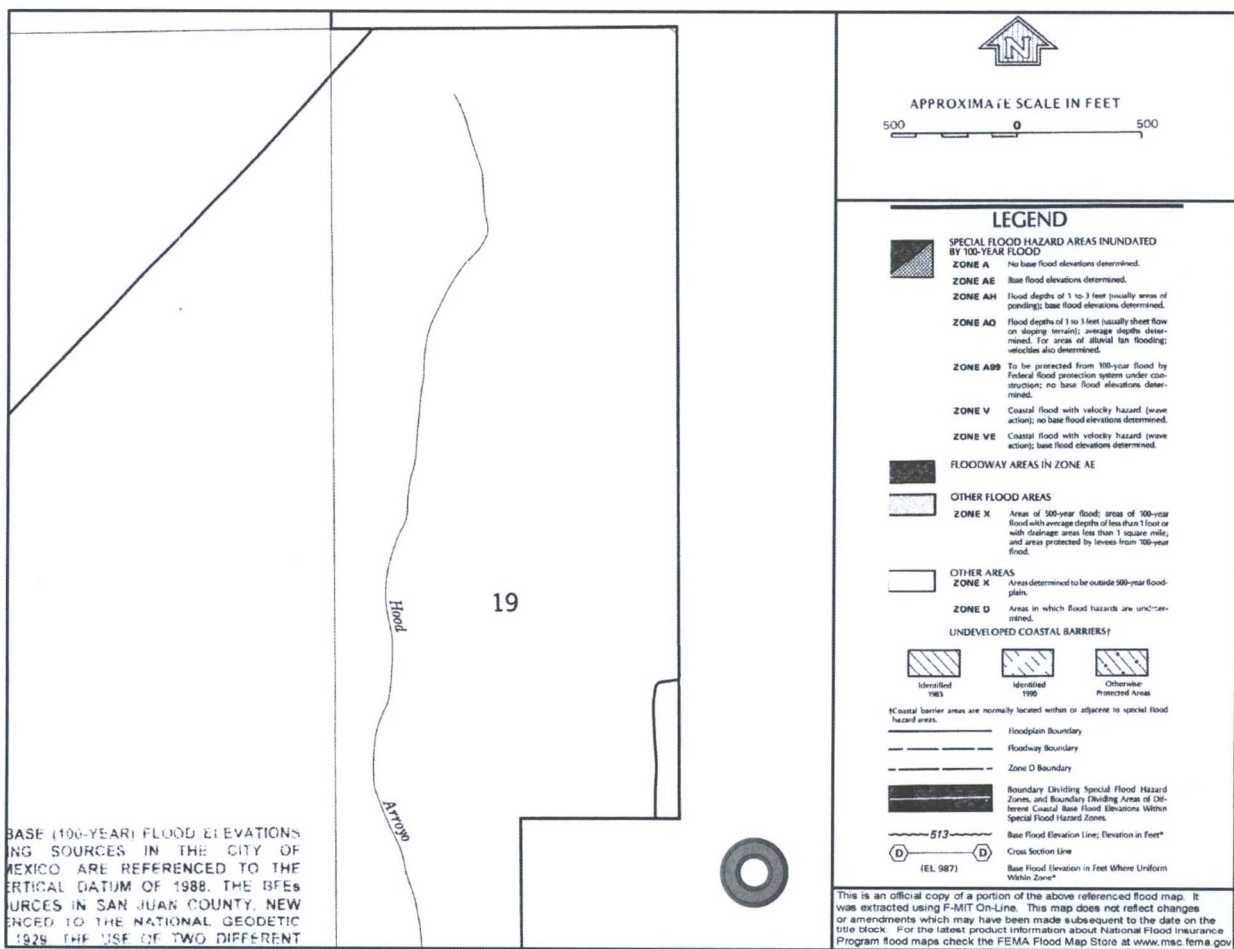




Lodestar Services, Inc  
 PO Box 4465  
 Durango, CO 81302

PAN AMERICAN FED C #1  
 T30N, R12W, S19K  
 San Juan County, NM

Mines, Mills, and  
 Quarries Map



Lodestar Services, Inc  
 PO Box 4465  
 Durango, CO 81302

PAN AMERICAN FED C #1  
 T30N, R12W, S19K  
 San Juan County, NM

FEMA Flood Zone Map





Lodestar Services, Inc  
PO Box 4465  
Durango, CO 81302

PAN AMERICAN FED C #1  
T30N, R12W, S19K  
San Juan County, NM

iWaters Groundwater  
Data Map

*New Mexico Office of the State Engineer*  
**POD Reports and Downloads**

Township: 30N Range: 12W Sections: 19,30

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

**WATER COLUMN REPORT 10/05/2008**

(quarters are 1=NW 2=NE 3=SW 4=SE)													
(quarters are biggest to smallest)													
POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column	Water (in feet)
<u>SJ 00148</u>	30N	12W	19							270	240	30	
<u>SJ 01831</u>	30N	12W	19	3	1					244	195	49	
<u>SJ 03477</u>	30N	12W	19	3	4	3							
<u>SJ 01006</u>	30N	12W	30	1						38	16	22	
<u>SJ 01314</u>	30N	12W	30	1	1	1				240	220	20	
<u>SJ 01637</u>	30N	12W	30	3	3					127	52	75	
<u>SJ 01632</u>	30N	12W	30	3	4	4				175	87	88	
<u>SJ 02219</u>	30N	12W	30	4	4					240	80	160	

Record Count: 8



New Mexico Office of the State Engineer  
POD Reports and Downloads

Township: 30N Range: 12W Sections: 18

POD / Surface Data Report Avg Depth to Water Report Water Column Report

WATER COLUMN REPORT 09/08/2008

(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest)										Depth	Depth	Water (in feet)
POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Well	Water	Column
SJ 02627	30N	12W	18	1	2	2				354	250	104
SJ 03808 POD1	30N	12W	18	1	3	1		266399	2116162	42	9	33
SJ 02697	30N	12W	18	1	4	3				360	290	70
SJ 01892	30N	12W	18	1	4	4				465	420	45
SJ 01619 X	30N	12W	18	2	1					380	350	30
SJ 01619	30N	12W	18	2	1					395	345	50
SJ 02137	30N	12W	18	2	2	4				460	380	80
SJ 02080	30N	12W	18	2	3					370	340	30
SJ 01737	30N	12W	18	2	3					540		
SJ 01014	30N	12W	18	3						306	250	56
SJ 01013	30N	12W	18	3						310	250	60
SJ 01080	30N	12W	18	3	1					305	265	40
SJ 00575	30N	12W	18	3	3	1				420	390	30
SJ 01514	30N	12W	18	3	4	3				430	380	50
SJ 01971	30N	12W	18	4						405	345	60
SJ 02035	30N	12W	18	4						500	190	310
SJ 02040	30N	12W	18	4	1	4				460	400	60
SJ 02247	30N	12W	18	4	3					465	375	90
SJ 01283	30N	12W	18	4	3					425	380	45
SJ 01896	30N	12W	18	4	4					415	372	43
SJ 01809	30N	12W	18	4	4					371	317	54

Record Count: 21

## Hoekstra, Kurt

---

**From:** Hoekstra, Kurt  
**Sent:** Friday, February 02, 2018 8:45 AM  
**To:** Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us); Smith, Cory, EMNRD; Brandon Powell (brandon.powell@state.nm.us)  
**Cc:** Martin Nee (Martin\_Nee@xtoenergy.com); Hixon, Logan; Naegele, Otto  
**Subject:** Burr CDP BGT Closure  
**Attachments:** PanAmericanFedC#1\_Final1.pdf

Hello Vanessa, attached is the siting criteria for the Pan American Federal C # 1, this location is just north of the Burr CDP. The below grade tank at the Pan American Federal C # 1 is approximately 400' from where the BGT at the Burr CDP was, there was about 15' elevation difference between the two sites. The siting criteria for the Pan American Federal C # 1 is the information we used to close the BGT at the Burr CDP, and indicates ground water at greater than 100'. Attached is an electronic copy, a hard copy will be sent in the mail today. If you have any further questions please let me know.

Thanks

Kurt Hoekstra  
EHS Coordinator  
XTO Energy  
505-333-3202 Office  
505-486-9543 Cell  
[Kurt\\_Hoekstra@xtoenergy.com](mailto:Kurt_Hoekstra@xtoenergy.com)  
An ExxonMobil Subsidiary

OIL CONS. DIV DIST. 3  
FEB 07 2018



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

Form C-141  
Revised August 8, 2011

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy, Inc.	Contact: Otto Naegele
Address: 382 Road 3100, Aztec, New Mexico 87410	Telephone No.: (505) 333-3100
Facility Name: Burr CDP	Facility Type: NPF

Surface Owner: Federal	Mineral Owner	API No.:
------------------------	---------------	----------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	20	29N	13W	1450	FNL	1850	FWL	San Juan

Latitude 36.80291 Longitude -108.1443

**NATURE OF RELEASE**

Type of Release: N/A	Volume of Release: N/A	Volume Recovered: N/A
Source of Release: N/A	Date and Hour of Occurrence: N/A	Date and Hour of Discovery: N/A
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* The below grade tank was removed at Burr CDP due to the closing of the site. The BGT cellar beneath the BGT was sampled for TPH via USEPA Method 8015, for BTEX via USEPA Method 8021, and for total chlorides. The sample returned results above the 'pit rule' standards of 100 ppm TPH, 10 ppm benzene, 50 ppm total BTEX, and 250 ppm chlorides, confirming that a release has occurred at this location. The site was evaluated with a depth to groundwater greater than 51 feet but less than 100 feet. This set the closure standard to 2500 ppm TPH, 10 ppm benzene, and 50 ppm total BTEX, Chlorides of 10,000 PPM.

Describe Area Affected and Cleanup Action Taken.\* A release has been confirmed based on TPH results of 257.8 PPM

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

<b><u>OIL CONSERVATION DIVISION</u></b>	
Signature: 	Approved by Environmental Specialist:
Printed Name: Otto G. Naegele Jr.	
Title: EHS Technician	Approval Date: Expiration Date:
E-mail Address: otto_naegele@xtoenergy.com	Conditions of Approval: Attached <input type="checkbox"/>
Date: 12/21/2017 Phone: 505-333-3100	

\* Attach Additional Sheets If Necessary

# **XTO Energy Inc. San Juan Basin Below Grade Tank Closure Report**

**Lease Name: Burr CDP**

**API No.: N/A**

**Description: Unit F, Section 20, Township 29N, Range 13W, San Juan County**

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure requirements of below-grade tanks on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all below-grade tanks. A separate plan will be submitted for any below-grade tank which does not conform to this plan.

## **General Plan**

1. XTO will close below-grade tanks within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the division requires because of imminent danger to fresh water, public health or the environment.  
**Closure Date is 10/18/2017**
2. XTO will close a below-grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after June 16, 2008, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC.  
**Closure Date is 10/18/2017**
3. XTO will close a permitted below-grade tank within 60 days of cessation of the below-grade tank's operation or as required by the transitional provisions of Subsection B of 19.15.17.17 NMAC in accordance with a closure plan that the appropriate division district office approves. The closure report will be filed on form C-144.  
**Required C-144 Form is attached to this document.**
4. XTO will remove liquids and sludge from below-grade tanks prior to implementing a closure method and will dispose of the liquids and sludge in a division-approved facility. Approved facilities and waste streams include:
  - Envirotech Permit No. NM01-0011 and IEI Permit No. NM 01-0010B
    - Soil contaminated by exempt petroleum hydrocarbons
    - Produced sand, pit sludge and contaminated bottoms from storage of exempt wastes
  - Basin Disposal Permit No. NM01-005
    - Produced water**All liquids and sludge were removed from the tank prior to closure activities.**
5. XTO will remove the below-grade tank and dispose of it in a division approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves.  
**XTO has removed the below grade tank, and will dispose of it at a division approved facility, or recycle, reclaim or reuse it in a manner that is approved by the division.**



6. XTO will remove any on-site equipment associated with a below-grade tank unless the equipment is required for some other purpose.

**All equipment has been removed .**

7. XTO will test the soils beneath the below-grade tank to determine whether a release has occurred. At a minimum 5 point composite sample will be collected along with individual grab samples from any area that is wet, discolored or showing other evidence of a release. Samples will be analyzed for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. XTO will notify the division of its results on form C-141.

**A five point composite sample was taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.1 3(B)( 1 )(b). (Sample results attached).**

Components	Test Method	Limit (mg/Kg)	Results
Benzene	EPA SW-846 8021B or 8260B	0.10	<0.000540 mg/kg
BTEX	EPA SW-846 8021B or 8260B	50	<0.0081 mg/kg
TPH	8015	100	257.8 mg/kg
Chlorides	EPA 300.1	250 or Background	87.0 mg/kg

8. If XTO or the division determines that a release has occurred, XTO will comply with 19.15.3.116 NMAC and 19.15.1.19NMAC as appropriate.

**A release has been confirmed at this location due to TPH values of 257.8 PPM**

9. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, XTO will backfill the excavation with compacted, non-waste containing, earthen material; construct a division prescribed soil cover; recontour and re-vegetate the site.

**The pit cellar was backfilled using compacted, non-waste containing earthen material, with a division prescribed soil cover.**

10. Notice of Closure operations will be given to the Aztec Division District III office between 72 hours and one week prior to the start of closure activities via email or verbally.

The notification will include the following:

- i. Operator's name
- ii. Well Name and API Number
- iii. Location by Unit Letter, Section, Township, and Range

**Notification was provided to Mr. Cory Smith with the Aztec office of the OCD via email on October 2, 2017; see attached email printout.**

The surface owner shall be notified of XTO's proposal to close the BGT as per the approved closure plan using certified mail, return receipt requested.

**Email has been approved as a means of surface owner notification to the BLM by Cory Smith, NMOCD Aztec Office. Notification was provided October 2,2017.**



11. Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.  
**The location has been recontoured to match the above specifications.**
12. A minimum of 4 feet of cover shall be achieved and the cover shall include 1 foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.  
**The site has been backfilled to match these specifications.**
13. XTO will seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.  
**Site will be reclaimed now due to site being closed per BLM MOU.**
14. All closure activities will include proper documentation and be available for review upon request and will be submitted in closure report form to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on form C-144 and incorporate the following:
  - i. Proof of closure notice to division and surface owner; **attached**
  - ii. Details on capping and covering, where applicable; **per OCD Specifications**
  - iii. Inspection reports; **attached**
  - iv. Confirmation sampling analytical results; **attached**
  - v. Disposal facility name(s) and permit number(s); **see above**
  - vi. Soil backfilling and cover installation; **per OCD Specifications**
  - vii. Re-vegetation application rates and seeding techniques, (or approved alternative to re-vegetation requirements if applicable); **Per BLM MOU.**
  - viii. Photo documentation of the site reclamation. **Attached**
15. No inspections were performed on this pit. In the future XTO will strive to make sure inspections are completed.

October 18, 2017

## XTO Energy - San Juan Division

Sample Delivery Group: L942576

Samples Received: 10/10/2017

Project Number:

Description:

Report To: Otto Naegele  
382 County Road 3100  
Aztec, NM 87410

Entire Report Reviewed By:



Daphne Richards  
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



BURR COP BGT COMPOSITE L942576-01 Solid

Collected by  
Otto Naegle

Collected date/time  
09/06/17 09:20

Received date/time  
10/10/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1030733	1	10/12/17 12:59	10/12/17 13:12	JD
Wet Chemistry by Method 9056A	WG1031224	1	10/13/17 12:00	10/13/17 17:24	KCF
Volatile Organic Compounds (GC) by Method 8015/8021	WG1030419	1	10/11/17 11:10	10/12/17 00:25	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1030941	1	10/15/17 06:18	10/15/17 18:32	ACM

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards  
Technical Service Representative

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



## BURR COP BGT COMPOSITE

Collected date/time: 09/06/17 09:20

## SAMPLE RESULTS - 01

L942576

ONE LAB. NATIONWIDE.



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.5	Q	1	10/12/2017 13:12	WG1030733

## Wet Chemistry by Method 9056A

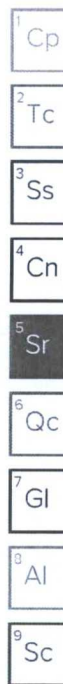
Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	87.0	Q	10.8	1	10/13/2017 17:24	WG1031224

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND	Q	0.000540	1	10/12/2017 00:25	WG1030419
Toluene	ND	Q	0.00540	1	10/12/2017 00:25	WG1030419
Ethylbenzene	ND	Q	0.000540	1	10/12/2017 00:25	WG1030419
Total Xylene	ND	Q	0.00162	1	10/12/2017 00:25	WG1030419
TPH (GC/FID) Low Fraction	ND	Q	0.108	1	10/12/2017 00:25	WG1030419
(S) a,a,a-Trifluorotoluene(FID)	96.1		77.0-120		10/12/2017 00:25	WG1030419
(S) a,a,a-Trifluorotoluene(PID)	102		75.0-128		10/12/2017 00:25	WG1030419

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	95.8	Q	4.32	1	10/15/2017 18:32	WG1030941
C28-C40 Oil Range	162	Q	4.32	1	10/15/2017 18:32	WG1030941
(S) o-Terphenyl	52.3		18.0-148		10/15/2017 18:32	WG1030941



WG1030733

Total Solids by Method 2540 G-2011

## QUALITY CONTROL SUMMARY

L942576-01

ONE LAB. NATIONWIDE.



## Method Blank (MB)

(MB) R3257098-1 10/12/17 13:12

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.0004			

Cp

Tc

Ss

## L942589-01 Original Sample (OS) • Duplicate (DUP)

(OS) L942589-01 10/12/17 13:12 • (DUP) R3257098-3 10/12/17 13:12

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Total Solids	86.9	86.5	1	0		5

Cn

Sr

Qc

## Laboratory Control Sample (LCS)

(LCS) R3257098-2 10/12/17 13:12

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85-115	

Gl

Al

Sc

ACCOUNT:  
XTO Energy - San Juan Division

PROJECT:

SDG:  
L942576DATE/TIME:  
10/18/17 10:24PAGE:  
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WG1031224

Wet Chemistry by Method 9056A

## QUALITY CONTROL SUMMARY

L942576-01

ONE LAB. NATIONWIDE.



## Method Blank (MB)

(MB) R3257320-1 10/13/17 14:29

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		0.795	10.0

1 Cp

2 Tc

3 Ss

## L942114-33 Original Sample (OS) • Duplicate (DUP)

(OS) L942114-33 10/13/17 15:39 • (DUP) R3257320-4 10/13/17 15:48

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	4850	4750	10	2		15

4 Cn

5 Sr

6 Qc

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3257320-2 10/13/17 14:38 • (LCSD) R3257320-3 10/13/17 14:46

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chloride	200	204	206	102	103	80-120			1	15

7 Gl

8 Al

9 Sc

ACCOUNT:  
XTO Energy - San Juan Division

PROJECT:

SDG:  
L942576DATE/TIME:  
10/18/17 10:24PAGE:  
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WG1030419

Volatile Organic Compounds (GC) by Method 8015/8021

## QUALITY CONTROL SUMMARY

L942576-01

ONE LAB. NATIONWIDE.



## Method Blank (MB)

(MB) R3257154-5 10/11/17 20:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000185	J	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S)				
a,a,a-Trifluorotoluene(FID)	98.3			77.0-120
(S)				
a,a,a-Trifluorotoluene(PID)	105			75.0-128

Cp

Tc

Ss

Cn

Sr

Qc

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3257154-1 10/11/17 18:31 • (LCSD) R3257154-2 10/11/17 18:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0475	0.0477	95.1	95.4	71.0-121			0.340	20
Toluene	0.0500	0.0480	0.0476	96.0	95.2	72.0-120			0.840	20
Ethylbenzene	0.0500	0.0500	0.0497	100	99.4	76.0-121			0.690	20
Total Xylene	0.150	0.156	0.153	104	102	75.0-124			1.94	20
(S)										
a,a,a-Trifluorotoluene(FID)				98.0	97.6	77.0-120				
(S)										
a,a,a-Trifluorotoluene(PID)				103	102	75.0-128				

GI

AI

Sc

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3257154-3 10/11/17 19:15 • (LCSD) R3257154-4 10/11/17 19:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.07	6.00	110	109	70.0-136			1.14	20
(S)										
a,a,a-Trifluorotoluene(FID)				102	102	77.0-120				
(S)										
a,a,a-Trifluorotoluene(PID)				113	113	75.0-128				

ACCOUNT:  
XTO Energy - San Juan Division

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WG1030419

Volatile Organic Compounds (GC) by Method 8015/8021

## QUALITY CONTROL SUMMARY

L942576-01

ONE LAB. NATIONWIDE.



L942498-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942498-05 10/12/17 03:16 • (MS) R3257154-6 10/12/17 03:39 • (MSD) R3257154-7 10/12/17 04:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.677	0.695	54.2	55.6	25	10.0-146			2.53	29
Toluene	0.0500	ND	0.724	0.736	57.5	58.4	25	10.0-143			1.58	30
Ethylbenzene	0.0500	ND	0.830	0.846	66.4	67.7	25	10.0-147			1.92	31
Total Xylene	0.150	ND	2.54	2.58	67.6	68.8	25	10.0-149	J6	J6	1.72	30
(S) a,a,a-Trifluorotoluene(FID)					98.6	98.5		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					103	103		75.0-128				

L942498-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942498-05 10/12/17 03:16 • (MS) R3257154-8 10/12/17 04:23 • (MSD) R3257154-9 10/12/17 04:45

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	75.5	77.8	54.9	56.5	25	10.0-147			2.93	30
(S) a,a,a-Trifluorotoluene(FID)					99.4	99.7		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					108	108		75.0-128				

Cp

Tc

Ss

Cn

Sr

Qc

GI

AI

Sc

ACCOUNT:  
XTO Energy - San Juan Division

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WG1030941

Semi-Volatile Organic Compounds (GC) by Method 8015

## QUALITY CONTROL SUMMARY

L942576-01

ONE LAB. NATIONWIDE.



## Method Blank (MB)

(MB) R3257614-1 10/15/17 13:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	65.0			18.0-148

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3257614-2 10/15/17 13:23 • (LCSD) R3257614-3 10/15/17 13:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	31.9	34.8	53.1	58.0	50.0-150			8.73	20
(S) o-Terphenyl				62.1	68.3	18.0-148				

## L942114-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L942114-24 10/15/17 14:33 • (MS) R3257614-4 10/15/17 14:47 • (MSD) R3257614-5 10/15/17 15:01

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	72.7	ND	46.2	47.1	63.6	64.7	1	50.0-150			1.80	20
(S) o-Terphenyl					52.2	51.2		18.0-148				

ACCOUNT:  
XTO Energy - San Juan Division

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## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
Q	Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



# ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

## State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey-NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina <sup>1</sup>	DW21704
Florida	E87487	North Carolina <sup>2</sup>	41
Georgia	NELAP	North Dakota	R-140
Georgia <sup>1</sup>	923	Ohio-VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky <sup>1</sup>	90010	South Dakota	n/a
Kentucky <sup>2</sup>	16	Tennessee <sup>14</sup>	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

## Third Party & Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC	100789
A2LA - ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>n/a</sup> Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

[illegible]

\* Sample ID will be the office and sampler-date-military time FARJM-MMDDYY-1200

mwll  $\text{CoCSI}$



**ESC LAB SCIENCES**  
**Cooler Receipt Form**

Client: <u>XTORM</u>		SDG#	<u>1942576</u>
Cooler Received/Opened On: <u>10/10</u> /17		Temperature:	<u>1.7</u>
Received by : Kevin Turner			
Signature: <u>[Signature]</u>			
Receipt Check List		NP	Yes
COC Seal Present / Intact?		/	/
COC Signed / Accurate?		/	/
Bottles arrive intact?		/	/
Correct bottles used?		/	/
Sufficient volume sent?		/	/
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			



**Naegele, Otto**

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**From:** Naegele, Otto  
**Sent:** Monday, October 02, 2017 8:28 AM  
**To:** Cory Smith (Cory.Smith@state.nm.us); Fields, Vanessa, EMNRD; Thomas, Leigh (l1thomas@blm.gov)  
**Cc:** James McDaniel (James\_McDaniel@xtoenergy.com); Hoekstra, Kurt; Weaver, John; Trujillo, Marcos; Tucker, Wes; Weber, Justin  
**Subject:** 2017-10-2 Burr CDP (API:NPF) 10/5-12/2017, BGT Closure Notification

All,

Please accept this email as the required notification for BGT closure activities at the following site:

*-Burr CDP (API NPF) located in Section 19 , Township 30N, Range 12W, and San Juan County, New Mexico.*

This site is being closed due to no longer being utilized.

The closure plan was approved on August 22, 2017

Work is tentatively scheduled for Thursday October 5, 2017 at approximately 0800 MST.

If there is any unforeseen delays in closure activities with this BGT and it will not be initiated within a week's time (October 12, 2017), a follow up email notification will be made for the change.

Thank you and have a good day

January 27, 2015

Mr. Cory Smith  
Oil Conservation Division  
1000 Rio Brazos Rd.  
Aztec, New Mexico 87410

Email: cory.smith@state.nm.us  
Phone (505) 334-6178 Ext 115

**RE: VARIANCE REQUEST FOR 19.15.17 NMAC TABLE I AND TABLE II**

Mr. Smith,

Please accept this letter as a variance request as outlined in 19.15.17.15(A) NMAC. XTO Energy would like to request the replacement of USEPA Method 418.1 for the analysis of Total Petroleum Hydrocarbons (TPH) for USEPA Method 8015M, measuring carbon ranges C6-C36, for all sampling associated with closures and confirmations samples in relation to 19.15.17 NMAC, both in Table I and Table II (2103) and the 'pit rule' passed in 2008.

XTO Energy is requesting this variance on the grounds that USEPA Method 418.1 is an outdated analytical method that reports a full range of hydrocarbons from C<sub>8</sub> through C<sub>40</sub>. (*Reference: American Petroleum Institute*). The attached table demonstrates the carbon ranges, and the typical hydrocarbon products that can be found in those ranges. As you can see, lube oil ranges from C<sub>28</sub>-C<sub>35</sub>. Analytical Method USEPA 418.1 extends past lube oils from C<sub>35</sub> through C<sub>40</sub>. This range of hydrocarbons is above the range that can reasonably be expected to be found in our field in both drilling pits and beneath below grade tanks. USEPA Method 8015M (GRO/DRO + extended analysis) will report hydrocarbons ranging from C<sub>6</sub>-C<sub>10</sub> for GRO, C<sub>10</sub>-C<sub>28</sub> for DRO, and C<sub>28</sub>-C<sub>36</sub> for extended analysis. This information was provided by Environmental Science Corporation Laboratories. As the information demonstrates, the 8015M analytical method reports as low as C<sub>6</sub>, reporting lower than USEPA Method 418.1. Utilizing analytical method 8015M, lighter range hydrocarbons will be reported instead of higher range, heavy hydrocarbons that may not be reasonably expected to be found in our field. Utilization of USEPA Method 8015M will better protect groundwater resources by identifying lighter, more mobile hydrocarbons that USEPA Method 418.1 cannot identify. The heavier range hydrocarbons, C<sub>36</sub>-C<sub>40</sub>, that are not identified by USEPA Method 8015M are not a mobile form of hydrocarbon, and are not a threat to human health and the environment. With your acceptance of this variance request, XTO Energy will begin utilizing USEPA Method 8015M in place of USEPA Method 418.1 for all sampling activities associated with 19.15.17 NMAC, both from the rules passed in 2008 and 2013.

Respectfully Submitted,

James McDaniel, CHMM #15676  
EH&S Supervisor  
XTO Energy, Inc.  
Western Division

### Carbon Ranges of Typical Hydrocarbons

Hydrocarbon	Carbon Range
Condensate	C2-C12
Aromatics	C5-C7
Gasoline	C7-C11
Kerosene	C6-C16
Diesel Fuel	C8-C21
Fuel Oil #1	C9-C16
Fuel Oil #2	C11-C20
Heating Oil	C14-C20
Lube Oil	C28-C35







