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 April 3, 2017

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.

16276

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

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

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: Florance D # 10B
API Number: 30-045-31086 OCD Permit Number:
U/L or Qtr/Qtr A Section 17 Township 27N Range 8W County: San Juan
Center of Proposed Design: Latitude 36.58083 Longitude -107.69806 NAD: 83
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 Visable sidewalls, vaulted, automatic high-level shut off
Liner type: Thickness _____mil ☐ HDPE ☐ PVC ☐ Other _____

NMOCD
MAR 05 2018
DISTRICT III

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 high, steel mesh field fence (hogwire) with pipe top rail

33

6.

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 a 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 300feet 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_2S, 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	☐ Yes ☐ No ☐ 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	☐ Yes ☐ No ☐ 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	☐ Yes ☐ No ☐ 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	☐ 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 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	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ 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
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	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - 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. - FEMA map	☐ Yes ☐ 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): Kurt Hoekstra Title: EHS Coordinator

Signature Kurt Hoekstra Date: 2-27-2018

e-mail address: Kurt_Hoekstra@xtoenergy.com Telephone: 505-333-3100

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

OCD Representative Signature: **Approval Date:**

Title: Environmental Spec **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:**

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

22.

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): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Lodestar Services, Inc.
PO Box 4465, Durango, CO 81302

Pit Permit Siting Criteria Information Sheet

Client:	XTO Energy
Project:	tank permitting
Revised:	26-Aug-08
Prepared by:	Trevor Ycas

API#:	30-045-31086	**USPLSS:**	27N 08W 17 A
Name:	FLORANCE D No. 010B	**Lat/Long:**	36.580830, -107.698060
Depth to groundwater:	>100'	**Geologic formation:**	San Jose Formation (Tsj)
Distance to closest continuously flowing watercourse:	11.1 miles NW to 'San Juan River'	Site Elevation: 2036m/6680'	
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	7130' E to 'Largo Canyon'		
		Soil Type:	Rockland
Permanent residence, school, hospital, institution or church within 300':	NO		
		Annual Precipitation:	Navajo Dam: 12.95", Governador: 11.98", Capulin Rgr Stn.: 14.98", Otis: 10.41"
Domestic fresh water well or spring within 500':	NO	**Precipitation Notes:**	
Any other fresh water well or spring within 1000':	NO		
Within incorporated municipal boundaries	NO	**Attached Documents:**	26N06W_iWaters.pdf, 26N07W_iWaters.pdf, 26N08W_iWaters.pdf, 27N07W_iWaters.pdf, 27N08W_iwaters.pdf, 27N09W_iwaters.pdf, 28N07W_iWaters.pdf, 28N08W_iWaters.pdf, 28N09W_iWaters.pdf
Within defined municipal fresh water well field	NO	FM3500640750B-30-045-31086.jpg	30-045-31086_gEarth-PLS.jpg, 30-045-31086_topo-PLS.jpg, 30-045-31086_gEarth-iWaters.jpg
Wetland within 500'	NO	**Mining Activity:**	None Near
Within unstable area	NO		
Within 100 year flood plain	No -FEMA Zone 'X'		

Additional Notes:

drains to Largo Canyon

atop Blanco Mesa

Florance D #10B Below Grade Tank
Hydrogeologic Report for Siting Criteria

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 pit location will be located in the western Largo Canyon region of the San Juan Basin, on Blanco Mesa overlooking Star Canyon. The predominant geologic formation is the San Jose Formation of Tertiary age, which underlies surface soils and is often exposed (Dane and Bachman, 1965). Deposits of Quaternary alluvial and aeolian sands occur prominently near the surface of the area, especially near streams and washes.

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 San Jose Formation lies at the surface and overlies the Nacimiento Formation. Thickness of the San Jose ranges from 200 to 2700 feet, thickening from west to east across the region of interest (Stone et al., 1983). Aquifers within the coarser and continuous sandstone bodies of the San Jose Formation are between 0 and 2700' deep in this section of the basin (Stone et al., 1983). Groundwater within these aquifers flows north, toward the San Juan River. Little specific hydrogeologic data is available for the San Jose Formation system, but "numerous well and springs used for stock and domestic supplies" draw their water from the San Jose Formation (Stone et al, 1983).

The prominent soil type at the proposed site are rocklands and aridisols, which are defined as soils that exhibit little to no any profile development (www.emnrd.state.nm.us). Soils are basically unaltered from their parent rock. Miles of arroyos, washes and intermittent streams exist as part of the drainage network towards the San Juan River. These features often cut into soil and other unconsolidated materials, contributing to sedimentation downstream. The sudden influx of water from storm events easily erodes the soils that cover the area and prohibits effective recharge to the underlying aquifers.

Dry and arid weather further prohibit active recharge. The climate of the region is arid, averaging just over 12 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).

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), the USGS Groundwater Atlas of the United States 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.

Beds of water-yielding sandstone are present in the San Jose Formation, which are fluvial in origin and are interbedded with mudstone, siltstone, shale. "Extensive intertonguing" of different members of this formation is reported.(Stone et al, 1983). Porous sandstones form the principal aquifers, while relatively impermeable shales and mudstones form confining units between the aquifers (Stone et al., 1983). Local aquifers exist within the San Jose Formation at depths greater than 100 feet and thicknesses of the aquifer can be up to several hundred feet (USGS, Groundwater Atlas of the US) (Stone et al, 1983).

The site in question is located on top of the Blanco Mesa at an elevation of approximately 6680 feet and approximately 7100 feet west of Largo Canyon. This region is deeply incised by canyons, washes, gullies and arroyos, with large, flat-topped mesas the predominant topographic feature. The mesas are composed of cliff-forming sandstone, and systems of dry washes and their tributaries composed of alluvium are evident on the attached aerial image. Groundwater is expected to be shallow within Blanco Canyon and within major tributary systems. However, an elevation difference between the site and the base of Blanco Canyon of over seven hundred feet suggests groundwater at the proposed site is considerably deeper. The nearest tributary is over 400 feet lower in elevation.

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. Groundwater data is extremely limited in this region; the nearest iWaters data point lies 5.3 miles southeast (SJ02410). Other 'nearby' iWaters wells are located 6.2 miles southeast (RG62248) and 6.2 miles east-southeast (SJ02314). Wells located at similar elevations along Largo Canyon contain groundwater primarily at depths of 180 feet and deeper, occasionally in excess of 500 feet. A map showing the location of wells in reference to the proposed pit location is attached.

References

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

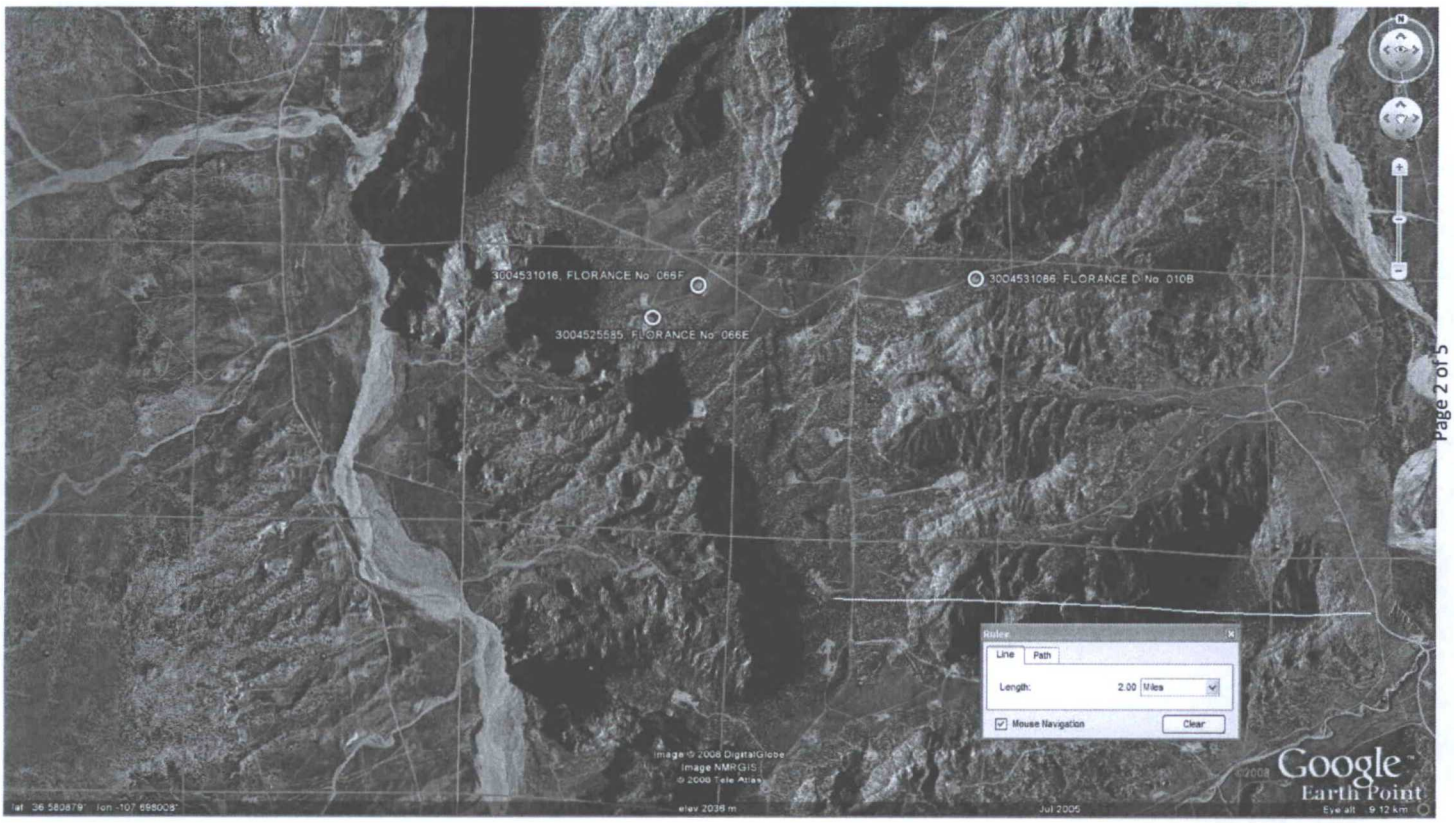
Dick-Peddie, W.A., 1993, New Mexico Vegeation – Past, Present and Future: Albuquerque, New Mexico, University of New Mexico Press, 244 p.

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.

USGS, Groundwater Atlas of the United States: Arizona, Colorado, New Mexico, Utah, HA 730-C: (http://www.pubs.usgs.gov).

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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Earth Point
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Eye alt 9.12 km


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SJ 00195
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RG 81025
SJ 02404
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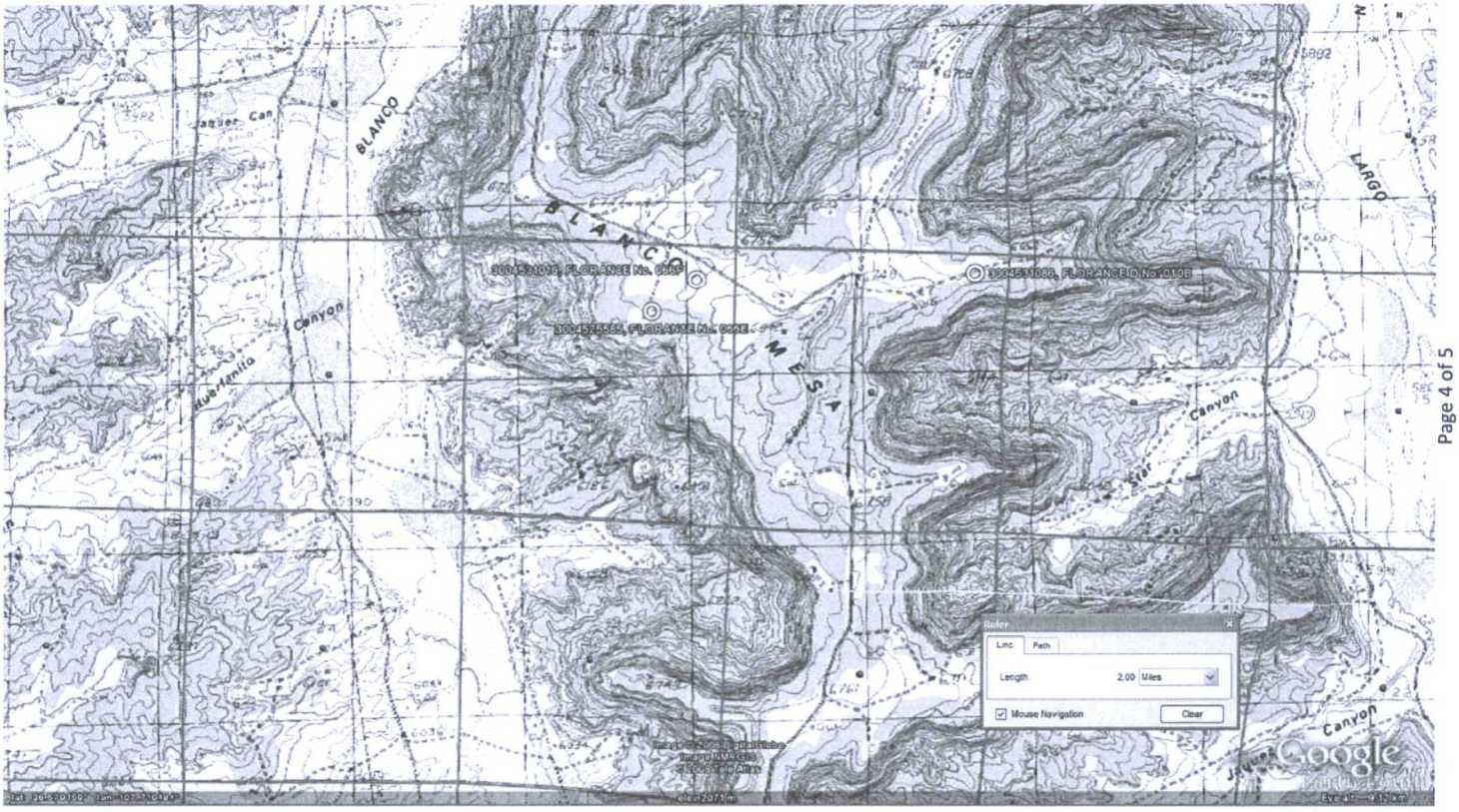
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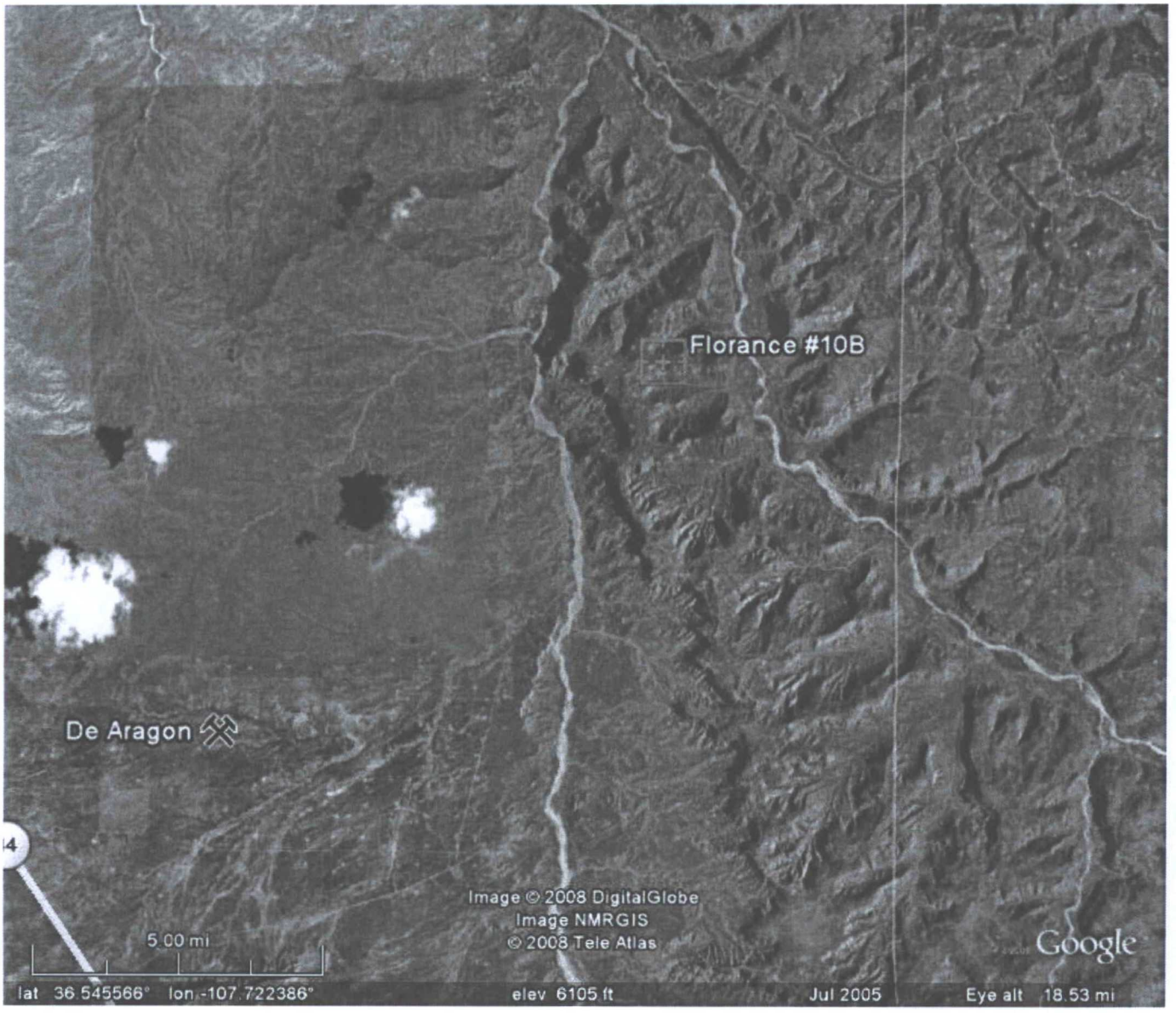
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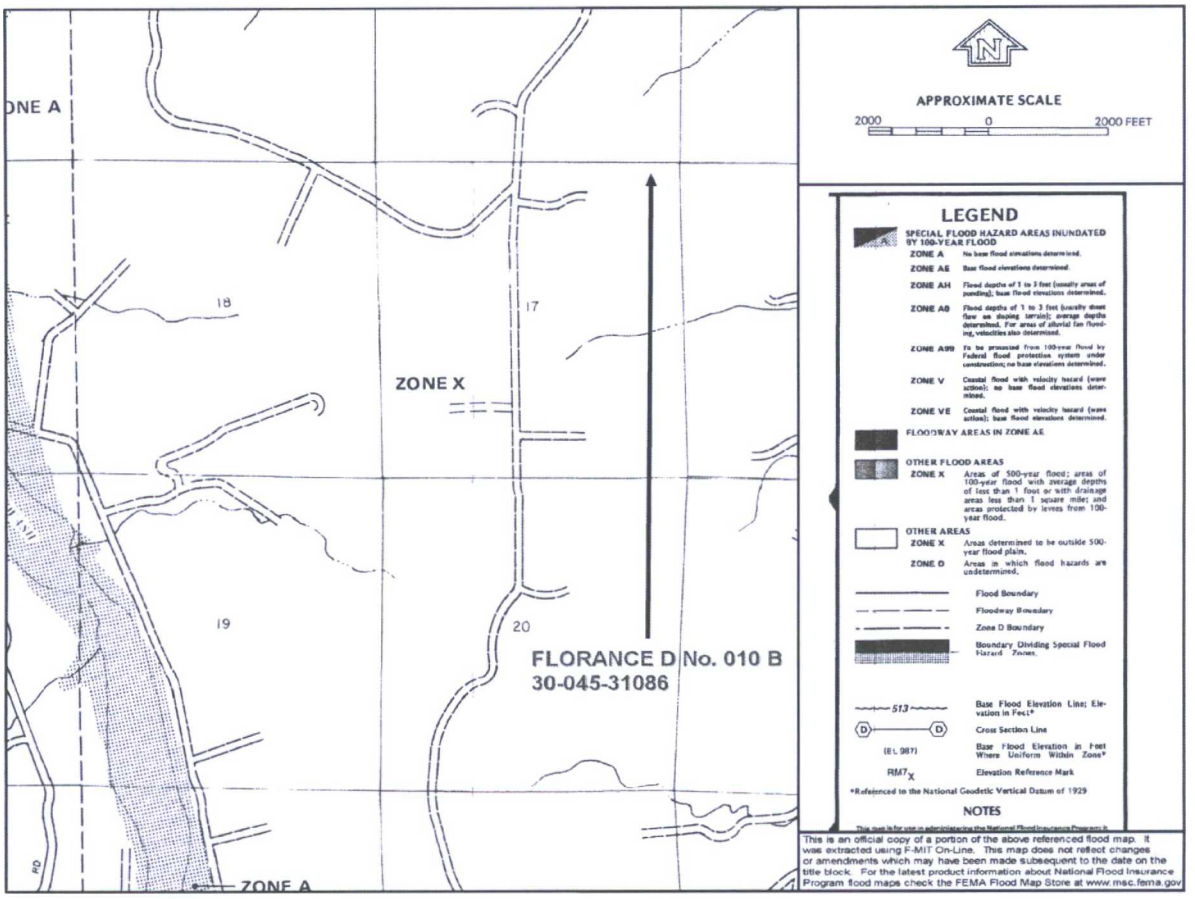
ONE A
18
17
ZONE X
19
20
FLORANCE D No. 010 B
30-045-31086
ZONE A
APPROXIMATE SCALE
2000 0 2000 FEET
LEGEND
SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
ZONE A No base flood elevations determined.
ZONE AE Base flood elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.
ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.
FLOODWAY AREAS IN ZONE AE
OTHER FLOOD AREAS
ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.
OTHER AREAS
ZONE X Areas determined to be outside 500-year flood plain.
ZONE D Areas in which flood hazards are undetermined.
Flood Boundary
Floodway Boundary
Zone D Boundary
Boundary Dividing Special Flood Hazard Zones
513 Base Flood Elevation Line; Elevation in Feet*
D D Cross Section Line
(EL 987) Base Flood Elevation in Feet Where Uniform Within Zone*
RM7X Elevation Reference Mark
*Referenced to the National Geodetic Vertical Datum of 1929
NOTES
This map is for use in administering the National Flood Insurance Program. It
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 28N Range: 08W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/04/2008

(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 (in feet)
SJ 02283	28N	08W	14	4	2	1				540	480	60
SJ 00209	28N	08W	17	3	2	1				15		
SJ 00209 -AMENDED-S	28N	08W	17	4	1	1				15		
SJ 00209 S	28N	08W	17	4	1	1				15		15
SJ 00163 S	28N	08W	18	4	4	2				1450	800	650

Record Count: 5

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 28N Range: 07W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/11/2008

(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 (in feet)
SJ 00002	28N	07W	14	1						375		
SJ 03116	28N	07W	21	3	3	3				98	20	78

Record Count: 2

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 27N Range: 09W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

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

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POD / SURFACE DATA REPORT 08/12/2008

DB File Nbr	Use	(acre ft per annum) Diversion	Owner	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest Source	Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X	Y	UTM are in Meters) UTM_Zone	Easting	Northing	Start Date	Finish Date	Depth Well	Dept Water
No Records found, try again																					

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 27N Range: 08W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/04/2008

(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 (in feet)
SJ 02410	27N	08W	36	1	3	2				2200		

Record Count: 1

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 27N Range: 07W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/04/2008

(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 (in feet)
RG 81025	27N	07W	35	4	3	3				560	465	95
SJ 00195	27N	07W	15	2						1633	500	1133
SJ 02314	27N	07W	17	3	3					355	320	35
SJ 02408	27N	07W	21	2	1	3				400	300	100
SJ 03274	27N	07W	35	3	4	4				450		
SJ 02404	27N	07W	35	4	3	3				550	250	300

Record Count: 6

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 26N Range: 09W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/08/2008

(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 (in feet)
SJ 02961	26N	09W	01	2	2	3				1500		
SJ 02962	26N	09W	01	3	2	3				1500		
SJ 01756	26N	09W	11	2	2	3				75	40	35
SJ 03811 POD1	26N	09W	12	3	3	3				348	175	173
SJ 00412	26N	09W	16	4	2					202	65	137
SJ 00214	26N	09W	26	2	4	2				946	230	716
SJ 00064	26N	09W	26	4	2	1				490	215	275
SJ 00063	26N	09W	26	4	2	3				479	234	245

Record Count: 8

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 26N Range: 08W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/07/2008

(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 (in feet)
SJ 02405	26N	08W	01	3	4	3				180	100	80
SJ 02411	26N	08W	01	4	4	1				6000		
SJ 02407	26N	08W	01	4	4	1				2200		

Record Count: 3

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 26N Range: 07W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/06/2008

(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 (in feet)
SJ 02409	26N	07W	01	1	2	2				700	400	300
SJ 02402	26N	07W	05	3	3	2				36	18	18
SJ 00071	26N	07W	15	4	1	2				365	26	339
SJ 00070	26N	07W	15	4	2	3				335	22	313
SJ 02406	26N	07W	30	3	2	1				280	180	100

Record Count: 5

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 28N Range: 09W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

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

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/06/2008

(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 (in feet)
SJ 03746 POD1	28N	09W	20	1	2	3				190	40	150
SJ 00018	28N	09W	20	3	1	4				135	71	64
SJ 02800	28N	09W	24	4	2	3				200		

Record Count: 3

General Design and Construction Plan

In accordance with Rule 19.15.17.11 NMAC the following information describes the general design and construction requirements of below-grade tanks on XTO Energy Inc. (XTO) locations. This is XTO's standard design and construction for all below-grade tanks. Because this below-grade tank is already installed, this design and construction plan would apply only if the below grade tank was upgraded or replaced.

General Plan

- **Criteria to be met for existing tank.**

1. XTO will design and construct below-grade tanks to contain liquids and solids and prevent contamination of fresh water, and protect human health and the environment.

2. XTO will post a well sign, pursuant to 19.15.16.8 NMAC, on the existing well site where the below grade tank is located. The sign will list the Operator, the location of the well site by Unit letter, section, township and range, county, and an emergency telephone number.

3. XTO is requesting approval of an alternative fencing to be used on below grade tank locations. XTO instead requests to utilize hog wire fencing at least four (4) feet high with a top rail for fencing around below grade tanks. This will provide equal protection for livestock from the below grade tank. A 6' chain link fence with two strands of barbed wire on top will be used on locations within city limits or within ¼ mile of a permanent residence, school, hospital, institution or church.

4. XTO shall construct below grade tanks with an expanded metal covering.

5. The below grade tank cellar will be constructed with a foundation consisting of a level base free of rocks, debris, sharp edges, or irregularities to prevent punctures, cracks or indentations of the tank bottom or liner.

6. Below grade tanks will be constructed inside a berm in order to prevent the collection of surface water and run on. Below grade tanks will be equipped with automatic high level shut off devices as well as manually operated shut off valves.

- **In addition to the plans above, if the below grade tank is upgraded or replaced the following will be utilized as well:**

7. XTO will use single walled below grade tanks with the sidewalls opened for visual inspection, and the bottom will be elevated a minimum of 6" above the underlying ground surface to allow for leak detection. (see attached diagram)

8. XTO will equip below grade tanks with a properly functioning, automatic high level high-level shut off control device, as well as manual controls, to prevent overflows.

9. The geomembrane liner will be compliant with the specifications outlined in 19.15.17.11 NMAC. The liner will be composed of an impervious material that is resistant to hydrocarbons, salts and acids, and sunlight.

XTO Energy Inc.
San Juan Basin
Below Grade Tank
Operation and Maintenance Procedures

In accordance with Rule 19.15.17.12 NMAC the following information describes the operation and maintenance requirements of below-grade tanks on XTO Energy Inc. (XTO) locations. This is XTO's standard operation procedure for all below-grade tanks.

Procedures

1. XTO will operate below grade tanks in such a way as to contain liquids, and maintain the integrity of the liner, liner system, and secondary containment, prevent contamination of fresh water, and protect public health and the environment.

2. XTO will not discharge into or store any hazardous waste into a below grade tank.

3. In the event of a leak in the below grade tank, XTO will:

    a. Remove all liquids above the leak within 48 hours
    b. Notify the Aztec Office of the NMOCD of the leak within 48 hours
    c. Repair the leak, or replace the below grade tank as necessary

4. All below grade tanks will be installed and operated in such a way as to prevent surface water run on or collection.

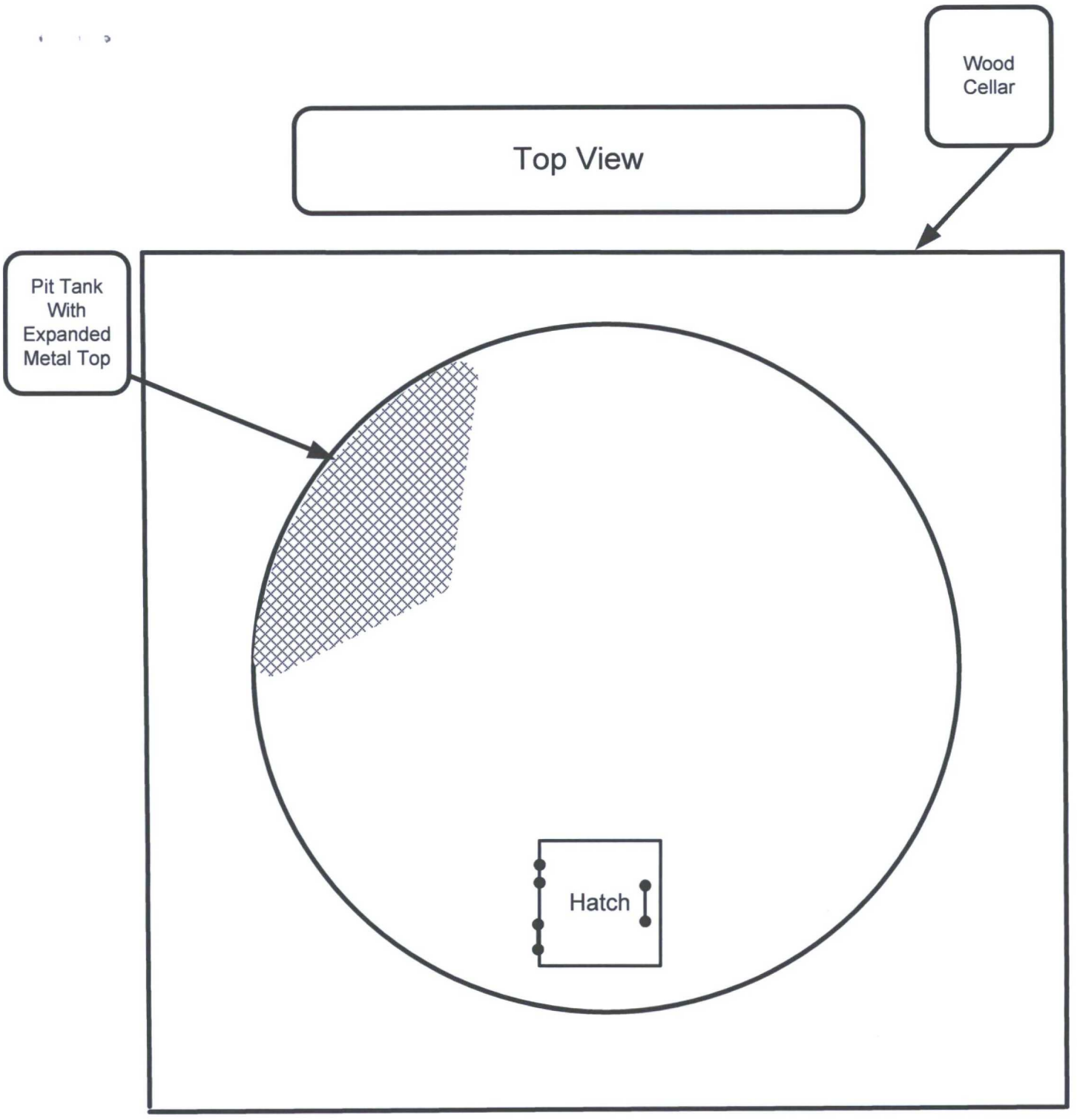
5. XTO will remove any measurable layer of oil from the fluid surface of a below grade tank.

6. XTO will inspect the below grade tank for leaks and damage at least monthly, documenting the inspections, and maintaining a record of the inspections for five (5) years.

7. XTO will operate the below grade tank in such a way as to maintain adequate freeboard to prevent overtopping of the below grade tank.

8. In the event the below grade tank no longer demonstrates integrity, XTO will close the below grade tank in accordance with the requirements of 19.15.17.11.I (5) NMAC. If the below grade tank was modified or retrofitted then it will be closed per 19.15.17.13 NMAC.

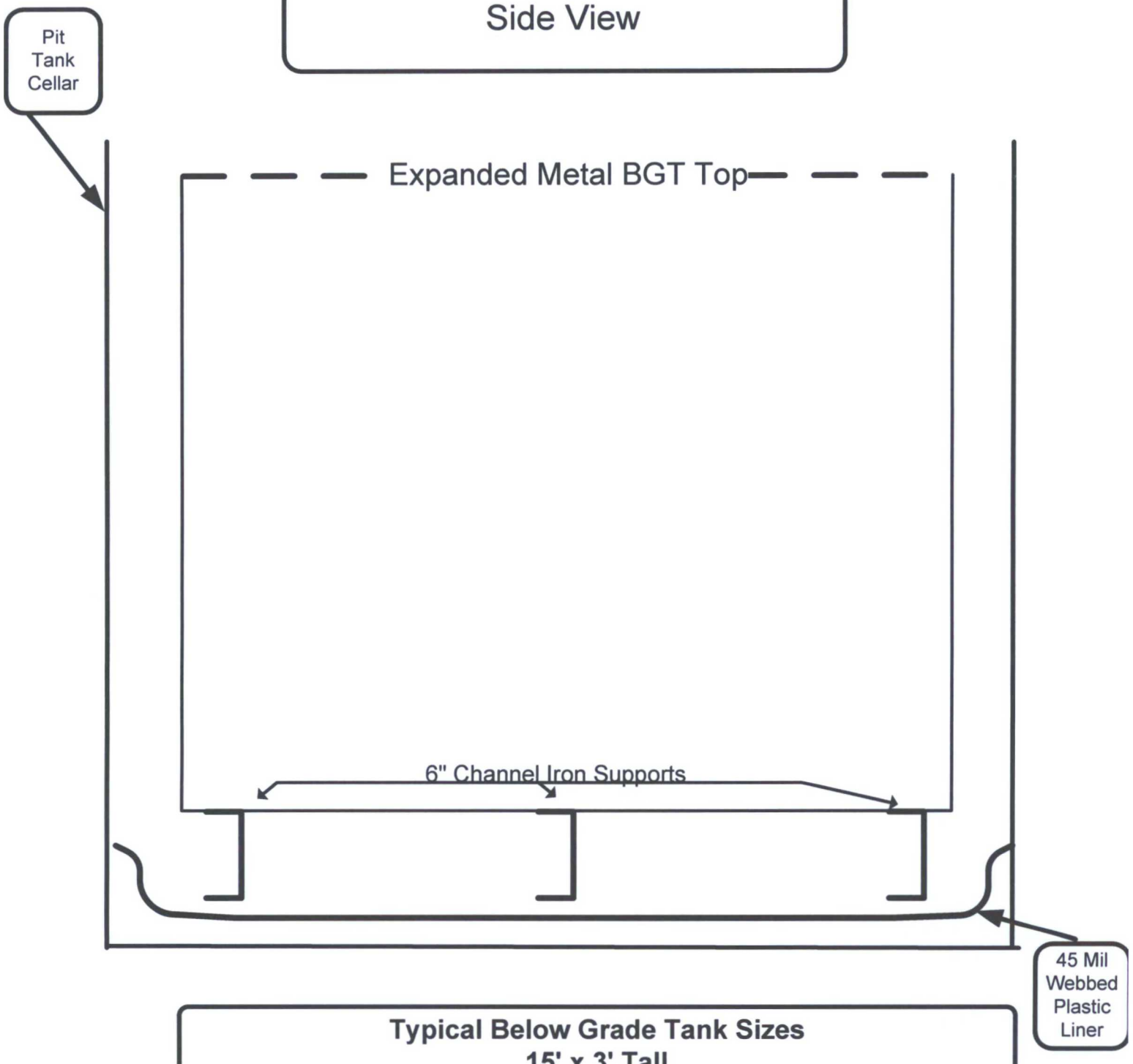
9. In the event that the below grade tank requires modification, XTO will make any modifications to the existing below grade tank following the attached *Construction Design* and *Design And Construction Plans* meeting the requirements of 19.15.17.11 along with 19.15.17.12.D(6)



Typical Below Grade Tank Sizes
15' x 3' Tall
12' x 6' Tall
10' x 5' Tall
***Tank Size Will Vary Upon Need**

Typical Below Grade Tank Containment Sizes-Vary Upon Need
17' x 4' Tall- For 15' x 3' Tall BGT
14' x 7' Tall- For 12' x 6' Tall BGT
14' x 7' Tall- For 10' x 5' Tall BGT
***Containment Size Will Vary Upon Need of BGT Size**

Side View



Typical Below Grade Tank Sizes
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12' x 6' Tall
10' x 5' Tall
***Tank Size Will Vary Upon Need**

Typical Below Grade Tank Containment Sizes-Vary Upon Need
17' x 4' Tall- For 15' x 3' Tall BGT
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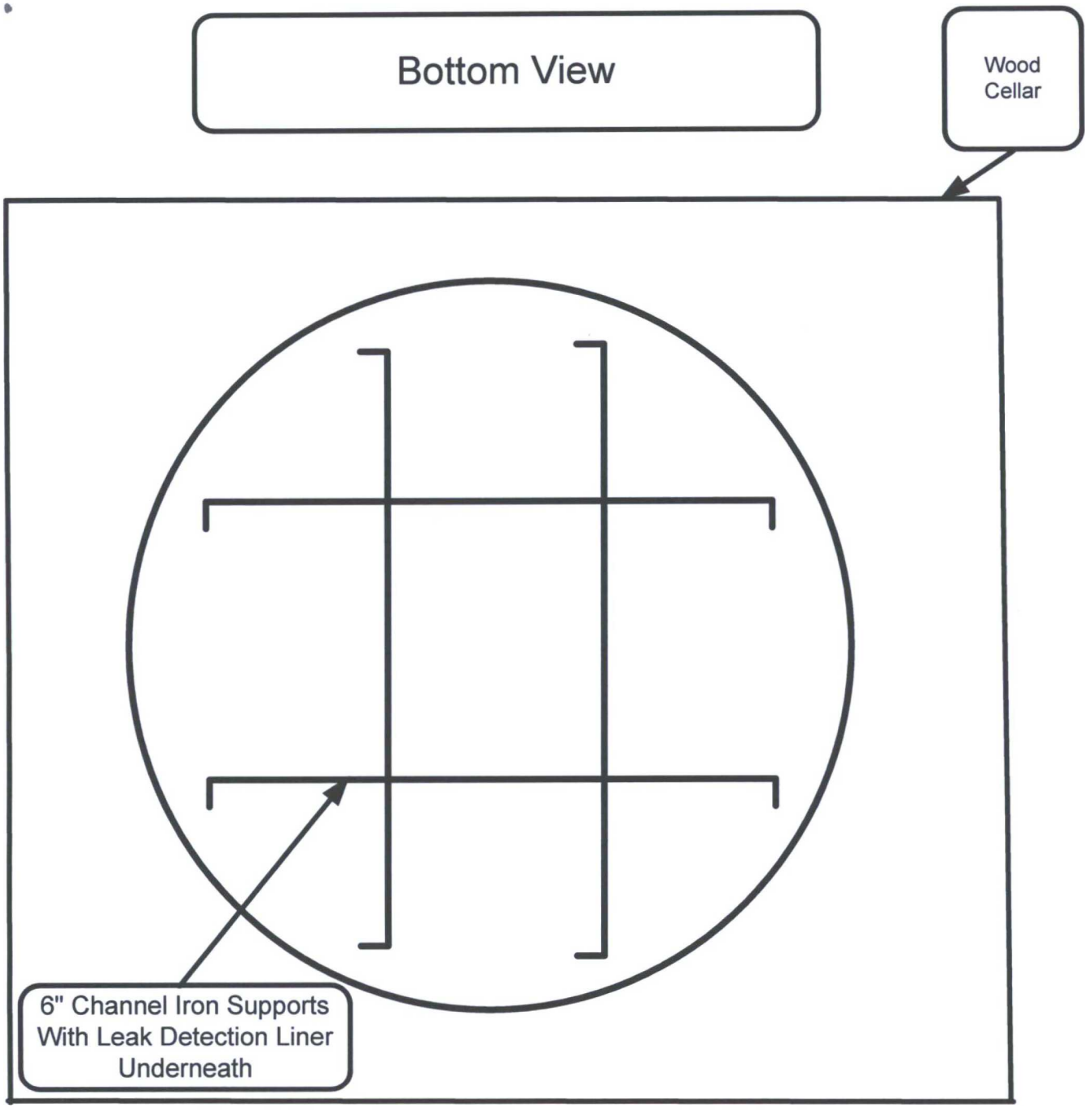
14' x 7' Tall- For 10' x 5' Tall BGT
***Containment Size Will Vary Upon Need of BGT Size**



Typical Below Grade Tank Sizes
15' x 3' Tall
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10' x 5' Tall
***Tank Size Will Vary Upon Need**

Typical Below Grade Tank Containment Sizes-Vary Upon Need
17' x 4' Tall- For 15' x 3' Tall BGT
14' x 7' Tall- For 12' x 6' Tall BGT
14' x 7' Tall- For 10' x 5' Tall BGT
***Containment Size Will Vary Upon Need of BGT Size**

XTO Energy Inc.
San Juan Basin
Below Grade Tank
Closure Plan

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 obtain approval of this closure plan prior to commencing closure of the below grade tank at this location pursuant to 19.15.17.13.C (1) NMAC

2. XTO will notify the surface owner by certified mail, return receipt requested, that the operator plans closure operations at least 72 hours, but no more than one week, prior to any closure operation. Notice will include:
   a. Well Name
   b. API #
   c. Well Location

3. XTO will notify the NMOCD Aztec Office by email that the operator plans closure operations at least 72 hours, but no more than one week, prior to any closure operation. Notice will include:
   a. Well Name
   b. API #
   c. Well Location

4. Within 60 days of cessation of operations, 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:

   a. Soils, tank bottoms, produced sand, pit sludge and other exempt wastes impacted by petroleum hydrocarbons will be disposed of at:
   Envirotech: Permit #NM01-0011 and *IEI: Permit # NM01-0010B*

   b. Produced Water will be disposed of at:
   Basin Disposal: Permit #NM01-005 and *XTO owned salt water Disposal Facilities*

5. Within six (6) months of cessation of operations, 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. If there is any equipment associated with a below-grade tank, then the operator shall remove the equipment, unless the equipment is required for some other purpose.

6. XTO will collect a closure sample of the soil beneath the location of the below grade tank or liner that is being closed. The closure sample will consist of a five-point composite sample to include any obvious stained or wet soils, or other evidence of contamination. The closure sample will be analyzed for all constituents listed in Table I below, including DRO+GRO, Chlorides, TPH (C6-C36), benzene and BTEX.

TABLE I Closure Criteria for Soils Beneath Below-Grade Tanks, Drying Pads Associated with Closed-Loop Systems and Pits where Contents are Removed			
Depth Below bottom of pit to groundwater less than 10,000 mg/l TDS	**Constituent**	**Method**	**Limit**
≤ 50 Feet	Chloride	EPA 300.0	600 mg/kg
	TPH	EPA SW-846 Method 418.1	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
51 feet - 100 feet	Chloride	EPA 300.0	10,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO + DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
> 100 feet	Chloride	EPA 300.0	20,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO + DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

XTO will meet the limits for <50' to groundwater detailed in Table I.

a. In accordance with Rule 19.15.17.13.C(3)(b) if contaminant concentrations exceed the proposed limit and groundwater is found to be deeper than 50', XTO may elect to submit additional groundwater information to the Division and request a higher closure limit. XTO will submit the additional groundwater data via email documenting the depth to groundwater at the location. XTO will wait for approval of the groundwater data by the NMOCD, prior to completing closure activities at the site.
b. If a higher closure limit is submitted and approved by the Division, XTO will submit a copy of the request, the groundwater information and the received approval in their closure report

7. If any contaminant concentration is higher than the parameters listed in Table I of 19.15.17.13 NMAC, the division may require additional delineation upon review of the results and the operator must receive approval before proceeding with closure. If all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, then the operator can proceed to backfill the pit, pad, or excavation with non-waste containing, uncontaminated, earthen material.

8. After closure has occurred, XTO will reclaim the former BGT area, if it is no longer being used for extraction of oil and gas, by substantially restoring the surface area to the condition that existed prior to oil and gas operations. XTO will construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover materials. The soil cover shall consist of the background thickness of topsoil, or one foot of suitable materials to establish vegetation at the site, whichever is greater. All areas will be reclaimed as early as practicable, and as close to their original condition or land use as possible. They shall be maintained in a way as to control dust and minimize erosion.

9. XTO will complete reclamation of all disturbed areas no longer in use when the ground disturbance activities at the site have been completed. The reseeding shall take place during the first favorable growing season after closure. Reclamation activities will be considered completed when a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels, and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

   *Re-vegetation and reclamation obligations imposed by other applicable federal, state or tribal agencies on lands managed by those agencies shall supersede the above requirements, provided they provide equal or better protection of fresh water, human health and the environment.

10. XTO will notify the Aztec Office of the NMOCD by C-103 when reclamation and closure activities are completed, unless the site is managed by another regulatory agency whose reclamation requirements provide equal or greater cover than NMOCD requirements. In those instances, the requirements of the other regulatory agency will be followed.

11. Within 60 days of closure, XTO will submit a closure report to the Aztec office of the NMOCD, filed on Form C-144. The report will include the following:
    a. Proof of closure notice to NMOCD and surface owner
    b. Confirmation sampling analytical results
    c. Soil backfill and cover installation information
    d. Photo documentation of site reclamation
    e. Alternative Table I groundwater criteria request, groundwater information and received approval. (If Needed)

XTO Energy Inc.
San Juan Basin
Below Grade Tank
Variance Page

In accordance with Rule 19.15.17.15 NMAC, the following outlines all variances that are being requested for below grade tanks at XTO facilities. All variances requested provide equal or better protection of fresh water, public health and the environment.

Fencing

XTO requests a variance on rule 19.15.17.11.D(3) NMAC which requires fencing around below grade tanks to have at least four (4) strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level. XTO instead requests to utilize hogwire fencing at least four (4) feet high with a top rail for fencing around below grade tanks. This will provide equal protection for livestock from the below grade tank.

Closure Requirements

XTO requests a variance on rule 19.15.17.13.C(3)(a) NMAC which requires operators to analyze closure samples for the constituents listed in Table I of 19.15.17.13 NMAC. XTO instead requests to replace the USEPA analytical method 300.0 for total chloride to USEPA Method 9056. The SW846 9056 method Determination of Inorganic Anions By Ion Chromatography, from *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, which also contains methods for the analysis of groundwater, is customarily used to comply with RCRA regulations. EPA Method 300.0 Determination of Inorganic Anions by Ion Chromatography is taken from *Methods for Chemical Analysis of Waters and Wastes*, and includes test procedures that are approved for monitoring under the Safe Drinking Water Act (SDWA) and the National Pollutant Discharge Elimination System (NPDES). The Scope of Application for each method is the same, and both methods utilize ion chromatograph instrumentation. Following either procedure, steps for instrument calibration and data calculation are equivalent. Sample preservation, holding time, handling and storage is identical between the two methods. It is expected that data produced from either method should be consistent.

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_8 through C_{40}. (*Reference: American Petroleum Institute*). 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_6-C_{10} for GRO, C_{10}-C_{28} for DRO, and C_{28}-C_{36} 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_6, 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_{36}-C_{40}, 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.

XTO requests a variance on rule 19.15.17.13.E(2) requiring that operators notify the appropriate division office verbally AND in writing at least 72 hours prior to any closure operation. XTO instead requests that the verbal notification be waived, as suggested by the local division office. XTO will provide written notification to the division office in the form of an email at least 72 hours prior to beginning closure activities.