Jones, Brad A., EMNRD

From:

Kim_Champlin@xtoenergy.com

Sent:

Friday, December 10, 2010 8:36 AM

To:

Jones, Brad A., EMNRD

Cc: Subject: James_McDaniel@xtoenergy.com RE: EH Pipken #10E Closure Plan

Brad,

After review of the initial information submitted there was a mistake in the well info. EH Pipken #10E is API # 30-045-23781 and the application was submitted to your office on 01/09/2009. I am truly sorry for the inconvenience. Thanks Brad.

Kim Champlin
XTO Energy Inc.
EH&S Administrative Coordinator
San Juan Division
(505) 333-3100 office
(505) 330-8357 cell
(505) 333-3280 fax
kim_champlin@xtoenergy.com

"Jones, Brad A., EMNRD" < brad.a.jones@state.nm.us>

12/09/2010 05:43 PM

To <<u>James McDaniel@xtoenergy.com</u>>
cc <<u>Kim Champlin@xtoenergy.com</u>>
Subject RE: EH Pipken #10E Closure Plan

James,

The OCD was unable to locate the BGT identified below based upon the information provided. The search included 2 boxes dated 11/21/08 and 1 box dated 11/18/08. Please verify the information initially provided or resubmit the C-144 packet to the District office for approval.

Brad

Brad A. Jones

Environmental Engineer Environmental Bureau. NM Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

E-mail: <u>brad.a.jones@state.nm.us</u> Office: (505) 476-3487

Fax: (505) 476-3462

From: <u>James McDaniel@xtoenergy.com</u> [mailto:James McDaniel@xtoenergy.com]

State of New Mexico

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

2009 JAN 12 PM 1 38

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

	Pit, Close	d-Loop Syst	em, Belov	<u>v-Grade Ta</u>	ank, or
Propose	ed Alternat	ive Method	Permit or	Closure Pl	an Application

Type of action:

Existing BGT

Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method

Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method

Modification to an existing permit

Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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 County Road 3100, Aztec, NM 87410
Facility or well name:Pipkin EH #10E
API Number: 30-045-23781 OCD Permit Number:
U/L or Qtr/Qtr H Section 01 Township 27N Range 11W County: San Juan
Center of Proposed Design: Latitude36.60747 Longitude107.94852 NAD: ☐ 1927 ☒ 1983
Surface Owner: ☑ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment
2.
Pit: Subsection F or G of 19.15.17.11 NMAC
Temporary: Drilling Workover
Permanent Emergency Cavitation P&A
☐ Lined ☐ Unlined Liner type: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: Welded Factory Other Volume: bbl Dimensions: L x W x D
3.
Closed-loop System: Subsection H of 19.15.17.11 NMAC
Type of Operation: P&A Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent).
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other
☐ Lined ☐ Unlined Liner type: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
Liner Seams: Welded Factory Other
4
■ Below-grade tank: Subsection I of 19.15.17.11 NMAC
Volume: 95 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, no liner
Liner type: Thickness mil
5.
Alternative Method:

<u></u>	
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 railing	
7.	
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)	
8.	
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 19.15.3.103 NMAC	
9. Administrative Approvals 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: Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau	office for
consideration of approval.	011100 101
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
10. 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 accep	otable source
material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appro	priate district
office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dry	
above-grade tanks associated with a closed-loop system.	ing pade of
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	⊠ Yes □ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa	☐ Yes ⊠ No
lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	☐ Yes 🛛 No
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)	□ NA
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits)	⊠ NA
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock	☐ Yes ☑ No
watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	☐ Yes ⊠ No
adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☑ No
Within the area overlying a subsurface mine.	☐ Yes ⊠ No
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	
Within an unstable area.	☐ Yes ⊠ No
 Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map 	· .
Within a 100-year floodplain.	☐ Yes ⊠ No
- FEMA map	

11. <u>Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist</u> <i>Instructions: Each of the following items must be attached to the application. Please indicate, by a che</i>	
attached. ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subs ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.1 ☐ 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 ☐ Cleaner Plan (Plantanere Plantanere Pl	2) of Subsection B of 19.15.17.9 NMAC 0 NMAC
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requand 19.15.17.13 NMAC	direments of Subsection C of 19.13.17.9 NMAC
Previously Approved Design (attach copy of design) API Number: or	Permit Number:
Closed-loop Systems 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 che attached. Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Parag Siting Criteria Compliance Demonstrations (only for on-site closure) - 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	raph (3) of Subsection B of 19.15.17.9
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requand 19.15.17.13 NMAC	uirements of Subsection C of 19.15.17.9 NMAC
Previously Approved Design (attach copy of design) API Number:	
☐ Previously Approved Operating and Maintenance Plan API Number:	(Applies only to closed-loop system that use
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)	
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 che attached. Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.1 Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.1 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. Leak Detection Design - based upon the appropriate requirements of 19.15. 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 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. Nuisance or Hazardous Odors, including H ₂ 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	9 NMAC 10 NMAC C 17.11 NMAC 9.15.17.11 NMAC
Proposed Closure: 19.15.17.13 NMAC Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure.	osure plan.
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-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 (Exceptions must be submitted to the Santa Fo	s)
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of 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 □ 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 □ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC □ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	The following items must be attached to the In F of 19.15.17.13 NMAC Ition H of 19.15.17.13 NMAC

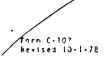
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Instructions: Please indentify the facility or facilities for the disposal of liquids, a facilities are required.		
Disposal Facility Name:	Disposal Facility Permit Number:	
Disposal Facility Name: Disposal Facility Name:	Disposal Facility Permit Number:	
Will any of the proposed closed-loop system operations and associated activities oc ☐ Yes (If yes, please provide the information below) ☐ No	cur on or in areas that will not be used for future service.	vice and operations?
Required for impacted areas which will not be used for future service and operation Soil Backfill and Cover Design Specifications based upon the appropriate Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	requirements of Subsection H of 19.15.17.13 NMA(I of 19.15.17.13 NMAC	C
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the provided below. Requests regarding changes to certain siting criteria may require considered an exception which must be submitted to the Santa Fe Environmental demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC features.	e administrative approval from the appropriate dist Bureau office for consideration of approval. Justi	rict office or may be
Ground water is less than 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 between 50 and 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
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 300 feet of a continuously flowing watercourse, or 200 feet of any other signalake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	nificant watercourse or lakebed, sinkhole, or playa	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church - Visual inspection (certification) of the proposed site; Aerial photo; Satellite		☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less water	oring, in existence at the time of initial application.	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approve	•	☐ Yes ☐ No
Within 500 feet of a wetland US Fish and Wildlife Wetland Identification map; Topographic map; Visua	l inspection (certification) of the proposed site	☐ 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 Society; Topographic map	& Mineral Resources; USGS; NM Geological	Yes No
Within a 100-year floodplain FEMA map		☐ Yes ☐ No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the by a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of Construction/Design Plan of Burial Trench (if applicable) based upon the ap Construction/Design Plan of Temporary Pit (for in-place burial of a drying particle Protocols and Procedures - based upon the appropriate requirements of 19.15 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Disposal Facility Name and Permit Number (for liquids, drilling fluids and described Soil Cover Design - based upon the appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	sirements of 19.15.17.10 NMAC Subsection F of 19.15.17.13 NMAC propriate requirements of 19.15.17.11 NMAC ad) - based upon the appropriate requirements of 19. 17.13 NMAC sirements of Subsection F of 19.15.17.13 NMAC Subsection F of 19.15.17.13 NMAC rill cuttings or in case on-site closure standards cann t of 19.15.17.13 NMAC	15.17.11 NMAC

19. 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): Kim Champlin Title: Environmental Representative
Signature: Date: 01/02/2009
e-mail address: kim_champlin@xtoenergy.com Telephone: (505) 333-3100
20. OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)
OCD Representative Signature: Approval Date: 2/15/1
Title: OCD Permit Number:
21.
Closure Report (required within 60 days of closure completion): Subsection K of 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:
22. 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.
23. Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.
Disposal Facility Name: Disposal Facility Permit Number:
Disposal Facility Name: Disposal Facility Permit Number:
Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations? Yes (If yes, please demonstrate compliance to the items below) No
Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation) ☐ Soil Backfilling and Cover Installation
Re-vegetation Application Rates and Seeding Technique
24. 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)
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): Title:
Signature: Date:
e-mail address: Telephone:

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501



STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

All distances must be from the cuter boundaries of the Section.

Cperator ENERGY RES	ERVES GROUP		Lease E. H. PIPKIN	Well No.	
Unit Latter	Section	Townsnip	Range	County	105
Н	1	27.1	1174	San Juan	
Actual Pootage Loc 1520	teet from the NOT	th loss and	810 fee	, . Post	
Ground Lavel Elev.	Producing For		Fco! tee	timm the East	line Deglated Acreage:
5721	Dakot	3	Basin Dakota		(320) Acres
1. Outline th	e acreage dedica	ted to the subject w	ell by colored pencil o	r hachure marks on the	e plat below.
interest ar	nd royalty).			•	ereof (both as to working
	ommunitization, u	nitization, force-pool	ng. etc?	have the interests of	all owners been consoli-
Yes Yes	No If ar	iswer is "yes;" type o	of consolidation	<u></u>	
this form i No allowat	f necessary.) ble will be assign	ed to the well until al	l interests have been c	consolidated (by comm	nunitization, unitization, approved by the Commis-
1160'	1620'	ec.		8101 Position Field Se	ertify that the information conein is true and complete to the knowledge and belief. Ervices wiministrator Reserves Group
	 	1 U.5		shown on notes of a under my is true a	t 15; 1579 a
0 330 660	90 1322 1650 198	0 2310 2640 200	0 1500 1000 1	Fred Constitute :	News In



Pit Permit Siting Criteria Information Sheet

Client:	XTO Energy
Project:	Pit Permits
Revised:	18-Dec-08
repared by:	Devin Hencmann

V	Information Shee	Prepared by:	Devin Hencmann
API#:	3004523781	USPLSS:	27N, 11W, 01H
Name:	PIPKIN EH #10E	Lat/Long:	36.60747/-107.94852
Depth to groundwater:	< 50'	Geologic formation:	Naciemento
Distance to closest continuously flowing watercourse:	7 miles N to the 'San Juan River'		
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	1,500' W to Kutz Canyon wash		
Permanent residence, school, hospital, institution or church within 300'	No	Soil Type:	Entisols
		Annual Precipitation:	Bloomfield: 8.71" , Farmington: 8.21", Otis: 10.41"
Domestic fresh water well or spring within 500'	No 	Precipitation Notes:	Historical daily max: Bloomfield (4.19")
Any other fresh water well or spring within 1000'	No	<u> </u>	
Within incorporated municipal boundaries	No	Attached Documents:	27N 11W i-Waters pdf,27N 12W i-Waters pdf
Within defined municipal fresh water well field	No		Topo map pdf, Aerial pdf, Mines and Quarries Map pdf,i-Waters Ground Water Data Map pdf, FEMA flood zone map pdf
Wetland within 500'	No	Mining Activity:	None
Within unstable area	No		·
Within 100 year flood plain	No-FEMA Zone 'X'		•
Additional Notes:			,
	3,000' N to concrete lined irrigation canal		

PIPKIN EH #10E Below Ground 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 southernmost Kutz Canyon region of the San Juan Basin. The predominant geologic formation is the Nacimiento 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 Nacimiento Formation lies at the surface and grades into the Animas Formation to the west. 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 San Juan River.

The prominent soil type at the proposed site are entisols 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 8 to 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). However, vegetation is very sparse and discontinuous.

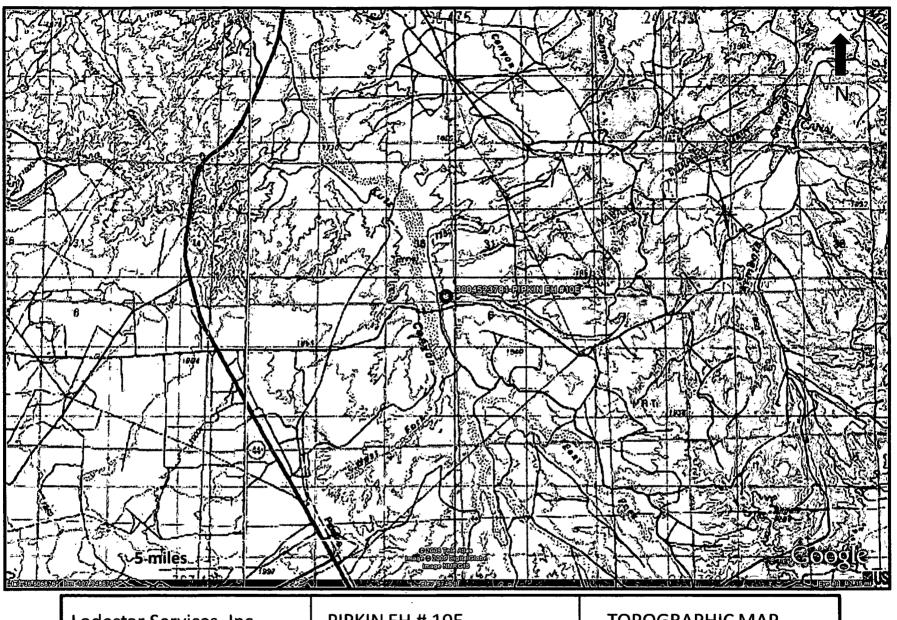
Site Specific Hydrogeology

Depth to groundwater is estimated to be less than 50°. 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 Nacimiento Formation, which are fluvial in origin and are interbedded with siltstone, shale and coal. Porous sandstones form the principal aquifers, while relatively impermeable shales form confining units between the aquifers (Stone et al., 1983). Local aquifers exist within the Nacimiento Formation at depth s greater than 100 feet and thicknesses of the aquifer can be up to 3500 feet (USGS, Groundwater Atlas of the US).

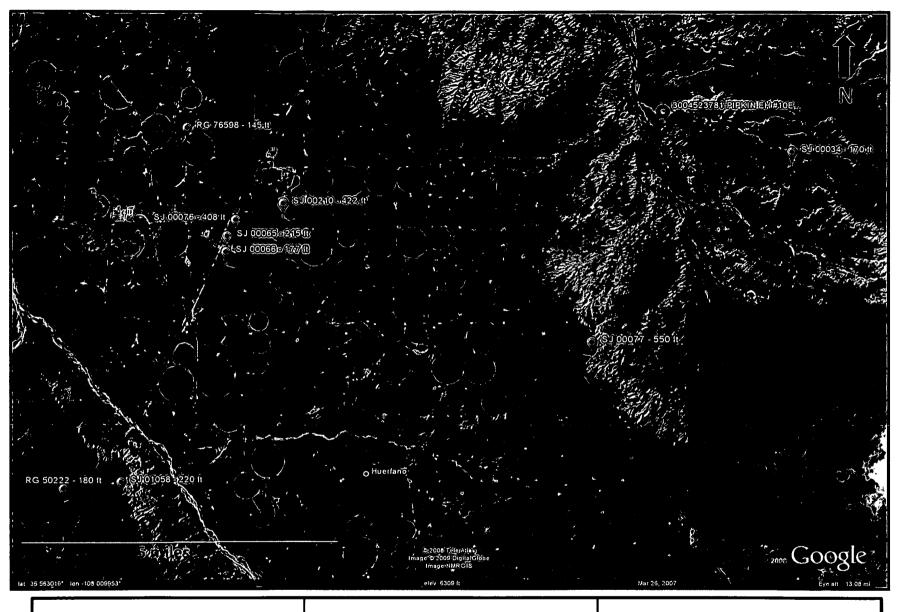
The site in question is located near the edge of Kutz Canyon, where deeply eroded sandstone-capped mesas and slope-forming mudstones occur in a sparsely vegetated and arid badlands-type setting. Broad shalely hills are interspersed with occasional sandstone outcrops, and systems of dry washes and their tributaries are evident on the attached aerial image.

The pit will be located at an elevation of approximately 5740 feet near the head of Kutz Wash. It will be located within the Kutz Canyon tributary system 1,500 feet east of Kutz Wash. Groundwater is expected to be shallow within Kutz Wash. The lack of distance between the Canyon and the site, as well as an elevation difference of only 30 feet suggest groundwater is greater than 100 feet at the proposed site.



Lodestar Services, Inc PO Box 4465 Durango, CO 81302

PIPKIN EH # 10E T27N, R11W, S01H San Juan county, NM TOPOGRAPHIC MAP



Lodestar Services, Inc PO Box 4465 Durango, CO 81302 PIPKIN EH # 10E T27N, R11W, S01H San Juan county, NM i-Waters Ground Water Data Map

New Mexico Office of the State Engineer POD Reports and Downloads

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

WATER COLUMN REPORT 03/22/2008

	(quarter	s are 1=NW 2=NE	3=SW 4=SE)			,		
	(quarter	s are biggest to	smallest)		Depth	Depth	Water	(in feet)
POD Number	Tws	Rng Secqqq	Zone	X	Y	Well	Water	Column	
SJ 01787	27n	11w 07 2 2				650			
SJ 00077	27n	11W 26 2 1 3				1102	550	552	

Record Count: 2

WATER COLUMN REPORT 09/23/2008

(q)	ıarter	es ar	e 1=1	NM 3	Z=NB	3=5W 4=5E	5)						
(क्	ıartex	s ar	e bi	gge:	st t	o smallest	5)		Depth	Depth	Water	(in feet	.)
POD Number	Tws	Rng	Sec	q c	P	Zone	X	Y	Well	Water	Column		
SJ 00034	27N	10%	80	2 3	2 3				235	170	€5		

New Mexico Office of the State Engineer POD Reports and Downloads

WATER COLUMN REPORT 08/22/2008

(quarters are 1=NW 2=NE 3=SW 4=SE)

		arters are biggest to smallest) Depth De						Depth	Water (in fee	(in feet)
POD Number	Tws	Rng Sec	qqq	Zone	X	Y	Well	Water	Column	
RG 76598	27N	12W 02	3 4 1				225	145	80	
SJ 00076	27N	12W 13	1 3 2				641	408	233	
SJ 00210	27N	12W 13	222				717	422	295	
SJ 00065	27N	12W 13	3 1 1				671	215	456	
SJ 00066	27N	12W 13	3 3 1				750	177	573	

Record Count: 5

New Mexico Office of the State Engineer POD Reports and Downloads

-				
Township:	301 Range	12V	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)

	(qua	arters	are	bie	gge	st	; to	smallest))		Depth	Depth	Water	(in feet)
POD Numi	oer	Tws	Rng	Sec	q	q	q	Zone	X	Y	Well	Water	Column	
SJ 0014	8	30N	12W	19							270	240	30	
SJ 0183	1	30N	12W	19	3	ŀ					244	195	49	
SJ 0347	7	30N	12W	19	3	4	3				,			
SJ 0100	6	30N	12W	30	1						38	16	22	
SJ 0131	4	30N	12W	30	1	1	1				240	220	20	
SJ 0163	7	30N	12W	30	3	3					127	52	75	
SJ 0163	2	30N	12W	30	3	4	4				175	87	88	
SJ 0221	9	30N	12W	30	4	4					240	80	160	

Record Count: 8

New Mexico Office of the State Engineer POD Reports and Downloads

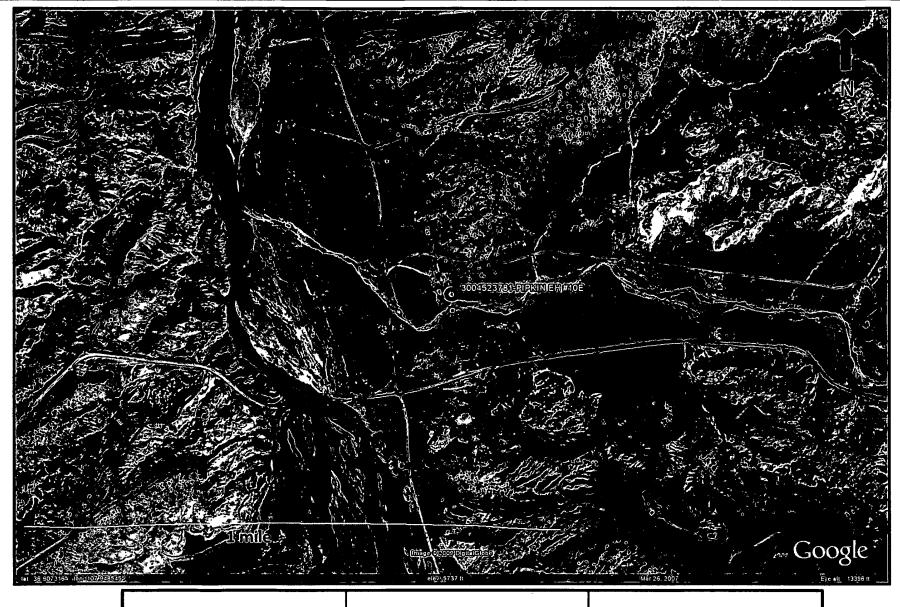
				l
	30h Range:	1 12V	·	129
Lownship	l "Kange"		Sections:	
TOWNSHIP.	ıRange.]	Sections.	/

WATER COLUMN REPORT 11/12/2008

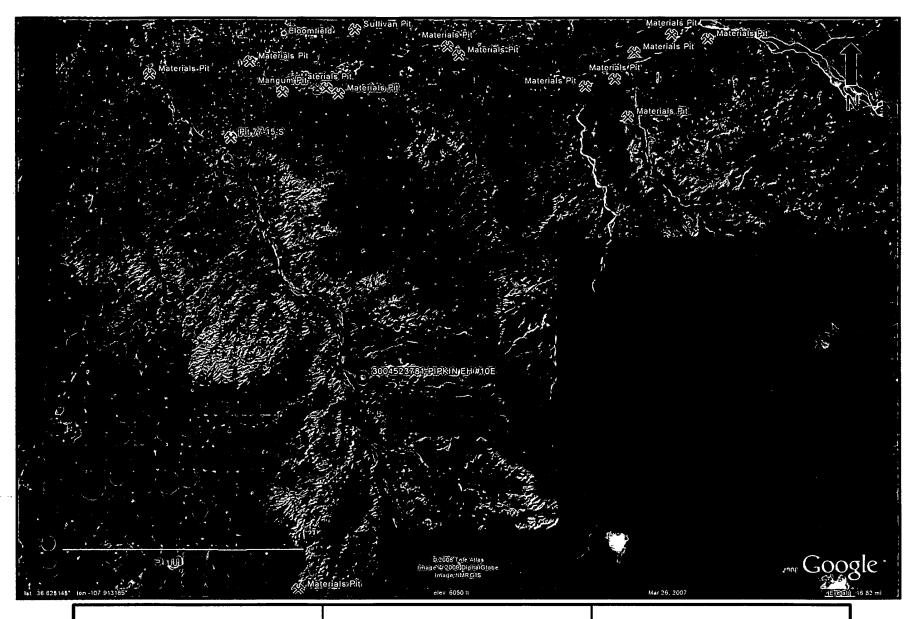
(quarters are 1=NW 2=NE 3=SW 4=SE).

	(quart	(quarters are biggest to smallest)									Depth	Water	(in f	feet)
POD Number	Tw	s Rng	Sec	q	q	q	Zone	X	Y	Well	Water	Column		
SJ 02022	30	N 12W	29	3						297	100	197		
SJ 03187	30	N 12W	29	3	1	1				160	29	131		
SJ 02476	30	N 12W	29	3	2	1				225	185	40		
SJ 03280	30	N 12W	29	3	2	4				100				
SJ 03358	30	N 12W	29	3	3	1				100	60	40		
SJ 03278	30	N 12W	29	3	3	3				120	40	80		
SJ 03279	30	N 12W	29	3	3	4				120	60	60		
SJ 00536	30	N 12W	29	4						50	28	22		
SJ 02309	30	N 12W	29	4	1	2		•		50	27	23		
SJ 02306	30	N 12W	29	4	4	1				44	25	19		
SJ 01052	30	N 12W	29	4	4	3		•		39	11	28		

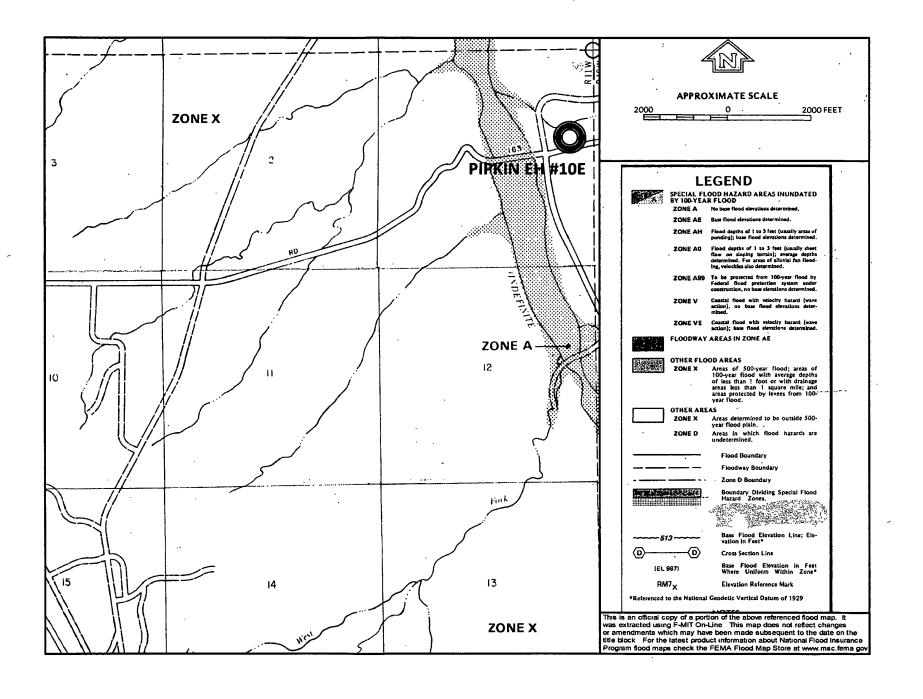
Record Count: 11



Lodestar Services, Inc PO Box 4465 Durango, CO 81302 PIPKIN EH # 10E T27N, R11W, S01H San Juan county, NM **AERIAL PHOTOGRAPH**



Lodestar Services, Inc PO Box 4465 Durango, CO 81302 PIPKIN EH # 10E T27N, R11W, S01H San Juan county, NM Mines and Quarries Map



XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Closure Plan For Below-Grade Tanks

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.
- 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.
- 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.
- 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

- 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 has approved prior to removal. Any associated liners will be removed, properly cleaned and disposed of per 19.15.9.712 NMAC at San Juan County Landfill. Documentation of the final disposition will be included in the closure report.
- 6. XTO will remove any on-site equipment associated with a below-grade tank unless the equipment is required for some other purpose.
- 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

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Closure Plan
For Below-Grade Tanks
Page 2

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.

- 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.
- 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.
- 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

The surface owner shall also be notified prior to the implementation of any closure operations of below-grade tanks as per the approved closure plan using certified mail, return receipt requested.

- 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.
- 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. Soil cover will be constructed to the site's existing grade and ponding of water and erosion of the cover material will be prevented with drainage control, natural drainages and silt traps where needed.
- 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.

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Closure Plan
For Below-Grade Tanks
Page 3

- 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;
 - ii. Details on capping and covering, where applicable;
 - iii. Inspection reports;
 - iv. Confirmation sampling analytical results;
 - v. Disposal facility name(s) and permit number(s);
 - vi. Soil backfilling and cover installation;
 - vii. Re-vegetation application rates and seeding techniques, (or approved alternative to re-vegetation requirements if applicable);
 - viii. Photo documentation of the site reclamation.

XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Design and Construction Plan For Below-Grade Tanks

In accordance with Rule 19.15.17.11 NMAC the following information describes the design and construction 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.

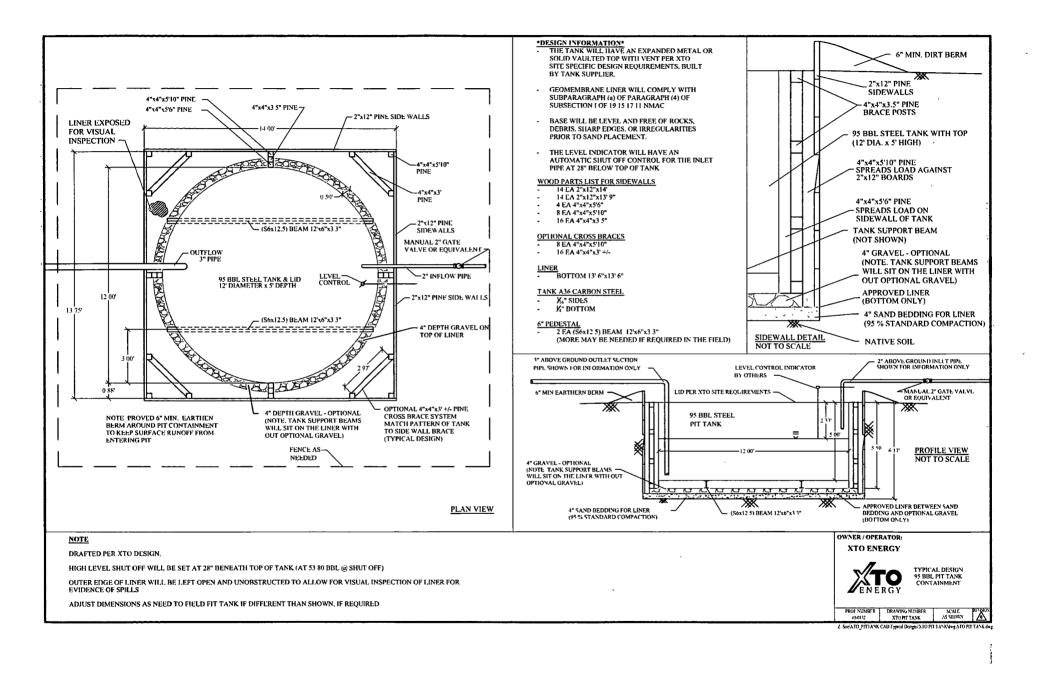
General Plan

- 1. XTO will design and construct below-grade tanks to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
- 2. XTO will post a well sign, in compliance with 19.15.3.103 NMAC, on the existing well site operated by XTO where the existing below-grade tank is located. The sign will list the Operator on record as the operator, the location of the well site by unit letter, section, township, range, and emergency telephone numbers.
- 3. XTO is requesting approval of an alternative fencing to be used on below-grade tank locations. Below-grade tank locations will be fenced utilizing 48" steel mesh field-fence (hogwire) with pipe railing along the top. A 6' chain link fence will be utilized around the well pad if the well site is within a city limits or ¼ mile of a permanent residence, school, hospital, institution or church. Below-grade tanks located within 1000' of a permanent residence, school, hospital, institution or church will be fenced by 6' chain link fence with at least two strands of barbed wire at the top. All gates associated with below-grade tanks will remain closed and locked when responsible individuals are not on site.
- 4. XTO shall construct below-grade tanks with an expanded metal covering or solid vaulted top on the top of the below-grade tank.
- 5. XTO will ensure that below-grade tanks are constructed of materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight. Tanks will be constructed of A36 carbon steel with 3/16" sides and ¼" bottom. (See attached drawing).
- 6. The below-grade tank system will have a properly constructed foundation consisting of a level base free of rocks, debris, sharp edges or irregularities to prevent punctures, cracks or indentations of the liner or tank bottom. Sand bedding (4") will be placed on top of a level foundation to ensure prevention of punctures, cracks or indentations of the liner or tank bottom.
- 7. XTO will construct a berm and/or diversion ditch in a manner that prevents the collection of surface water run-on. Below-grade tanks will be equipped with automatic high level shut-off devices as well as manually operated shut-off valves. (See attached drawing).
- 8. XTO will construct and use below-grade tanks that do not have double walls. The below-grade tank sidewalls will be open for visual inspection for leaks. The sidewalls of the cellar will be constructed with 2" X 12" pine sidewalls and 4" X 4" pine brace posts. The below-grade tank

XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Design and Construction Plan For Below-Grade Tanks Page 2

bottom will be elevated a minimum of 6" above the underlying ground surface and the below-grade tank will be underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected. (See attached drawing).

- 9. XTO will equip below-grade tanks designed in this manner with a properly functioning automatic high-level shut-off control device and manual controls to prevent overflows. (See attached drawing).
- 10. XTO will demonstrate to the OCD that the geomembrane liner complies with the specifications of Subparagraph (a) of Paragraph (4) of Subsection I of 19.15.17.11 NMAC and obtain approval from OCD prior to the installation of the design. The geomembrane liner shall have a hydraulic conductivity no greater than 1 x 10-9 cm/sec. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidics and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A. (See attached drawing).
- 11. The general specifications for design and construction are attached.



XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Maintenance and Operating Plan For Below-Grade Tanks

In accordance with Rule 19.15.17.12 NMAC the following information describes the operation and maintenance 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 operate and maintain below-grade tanks to contain liquids and solids, maintain the integrity of the liner and secondary containment system, prevent contamination of fresh water and protect public health and the environment. Fluid levels will be monitored weekly and high levels will be removed as necessary. Monthly inspections will be conducted to monitor integrity of below-grade tank systems and below-grade tanks will be equipped with automatic high-level shut-off devices.
- 2. XTO will not allow below-grade tanks to overflow and will use berms and/or diversion ditch to prevent surface run on to enter the below-grade tank. Below-grade tanks will be equipped with automatic high-level shut-off control devices as well as manually operated shut-off valves. See attached drawing for vault design and placement of diversion berms and shut-off devices.
- 3. XTO will continuously remove any visible or measurable layer of oil from the fluid surface of below-grade tanks in order to prevent significant accumulation of oil.
 - 4. XTO will inspect the below-grade tank monthly and maintain written records for five years. Monthly inspections will consist of documenting the following: (see attached template),

Well Name
API #
Sec., Twn., Rng.
XTO Inspector's name
Inspection date and time
Visible tears in liner
Visible signs of tank overflow
Collection of surface run on
Visible layer of oil
Visible signs of tank leak
Estimated freeboard

- 5. XTO will maintain adequate freeboard to prevent over topping of the below-grade tank. High level shut-off devices control the freeboard at an average of 28" beneath the top of the tank.
- 6. XTO will not discharge into or store any hazardous waste in any below-grade tank.
- 7. If a below-grade tank develops a leak, or if any penetration of a below-grade tank occurs below the liquids surface, XTO will remove all liquids above the damage or leak line within 48 hours,

XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Maintenance and Operating Plan For Below-Grade Tanks Page 2

notify the appropriate division district office within 48 hours of the discovery and repair the damage or replace the below-grade tank. If an existing below-grade tank does not meet current requirements of Paragraphs 1-4 of Subsection I of 19.15.17.11 NMAC the tank will be modified or retrofitted to comply. If compliance can not be achieved XTO will implement the approved closure plan.

		MONT	HLY BELO	W GRADE TANK	INSPECTIO	N FORM		
Well Nam	ie:				API No.:		·	
Legals	Sec:		Township:		Range:	<u> </u>		
XTO Inspector's Name	Inspection Date	Inspection Time	Any visible liner tears (Y/N)	Any visible signs of tank overflows (Y/N)	Collection of surface run on (Y/N)	Visible layer	Any visible signs of a tank leak (Y/N)	Freeboard Est. (ft)
19-2-								

						-		
Notes:	Provide De	tailed Descri	ption.					
<u>.</u>								
Misc:								
		·						
					··-			
1								

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