Distrat I 1625 N. F District I 1301 W. REGISTERED District I 1000 Rio District F 1220 S. St. Francis Dr. Santa Fe, NM 87505 2009 FEB 18

State of New Mexico 1d Natural Resources rtment ation Division St. Francis Dr.

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.

Santa Fe, NM 87505

Proposed Alternative Method Permit or Closure Plan Application Type of action: 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 lease 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 nation of the proposed alternative request lease be advised that approval relieve the operator of liability should operations result in pollution of surface water, ground water or the nation of the proposed alternative request lease be advised that approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances. I. Operator: XTO Energy, Inc. OGRID #: 5380 Address: #382 County Road 3100, Aztec, NM 87410 Facility or well name: Pan American Fed GC B #1 API Number: 30-045-08926 OCD Permit Number: U/L or Qtr/Qtr Qtr Qtr/Qtr Qtr/Qtr/Qtr/Qtr/Qtr/Qtr/Qtr/Qtr/Qtr/Qtr/
Existing BGT 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 lease 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 rivironment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances. 1. Operator: YTO Energy, Inc. OGRID #: 5380 Address: #382 County Road 3100, Aztec, NM 87410 Facility or well name: Pan American Fed GC B #1 API Number: 30-045-08926 OCD Permit Number:
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 lease 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 nvironment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances. I. OGRID #: 5380 Address: #382 County Road 3100, Aztec, NM 87410 Facility or well name: Pan American Fed GC B #1 API Number: 30-045-08926 OCD Permit Number:
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API Number: 30-045-08926 OCD Permit Number:
API Number: 30-045-08926 OCD Permit Number:
U/L or Otr/Otr O Section 31 Township 30N Range 11W County: San Juan
Center of Proposed Design: Latitude 36.76367 Longitude 108.02812 NAD: ☐1927 ☑ 1983
Surface Owner: 🛮 Federal 🗌 State 🦳 Private 🔲 Tribal Trust or Indian Allotment
☐ Pit: Subsection F or G of 19.15.17.11 NMAC Temporary: ☐ Drilling ☐ Workover ☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Lined ☐ Unlined Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other ☐ String-Reinforced Liner Seams: ☐ Welded ☐ Factory ☐ Other Volume:
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: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other Liner Seams: ☐ Welded ☐ Factory ☐ Other
4. Below-grade tank: Subsection I of 19.15.17.11 NMAC
A Online, 170 DOI 17DE OLITHO. BLOONGED MAIEL
Volume: 120 bbl Type of fluid: Produced Water Tank Construction material: Steel
Tank Construction material: Steel

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

<i>i</i> 6. ,'										
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, institution or church)	hospital,									
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)										
Working inspections (it needing is not physically leaster)										
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										
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 consideration of approval. Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	office for									
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 accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate 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 drying above-grade tanks associated with a closed-loop system.	priate district pproval. ing pads or									
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 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. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA									
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA									
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock 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	☐ 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 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. - 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									

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 19.15.17.12 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:
12. 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 check mark in the box, that the documents are
attached. Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9 Siting Criteria Compliance Demonstrations (only for on-site closure) - 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:
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 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 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 ₂ S, Prevention Plan Glosure Plan - based upon the appropriate requirements of 19.15.17.13 NMAC Closure Plan - based upon the appropriate requirements of 19.15.17.9 NMAC and 19.15.17.13 NMAC
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 Closed-loop System 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 Fe Environmental Bureau for consideration)
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 F 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 G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Gro Instructions: Please indentify the facility or facilities for the disposal of liqu										
facilities are required.	5									
Disposal Facility Name:										
Disposal Facility Name:										
Will any of the proposed closed-loop system operations and associated activit ☐ Yes (If yes, please provide the information below) ☐ No	ies occur on or in areas that will not be used for future ser	vice and operations?								
Required for impacted areas which will not be used for future service and ope Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection Plan - based upon the appropriate	priate requirements of Subsection H of 19.15.17.13 NMA etion I of 19.15.17.13 NMAC	С								
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NM. Instructions: Each siting criteria requires a demonstration of compliance in provided below. Requests regarding changes to certain siting criteria may reconsidered an exception which must be submitted to the Santa Fe Environm demonstrations of equivalency are required. Please refer to 19.15.17.10 NM.	n the closure plan. Recommendations of acceptable sout equire administrative approval from the appropriate dist ental 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								
Ground water is between 50 and 100 feet below the bottom of the buried wast - NM Office of the State Engineer - iWATERS database search; USGS		Yes No								
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								
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed sit		☐ Yes ☐ No								
Within 300 feet from a permanent residence, school, hospital, institution, or cl - Visual inspection (certification) of the proposed site; Aerial photo; Sa		☐ Yes ☐ No								
Within 500 horizontal feet of a private, domestic fresh water well or spring the watering purposes, or within 1000 horizontal feet of any other fresh water well - NM Office of the State Engineer - iWATERS database; Visual inspec	l or spring, in existence at the time of initial application.	Yes No								
Within incorporated municipal boundaries or within a defined municipal fresh adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approximately		☐ 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								
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-M	ining and Mineral Division	☐ Yes ☐ No								
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Ge Society; Topographic map	ology & Mineral Resources; USGS; NM Geological	☐ Yes ☐ No								
Within a 100-year floodplain FEMA map		☐ Yes ☐ No								
18. 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 F of 19.15.17.13 NMAC Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 19.15.17.13 NMAC Protocols and Procedures - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F 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 I of 19.15.17.13 NMAC										

Operator Application Certification:		
I hereby certify that the information submitted with this application is	s true, accurate and complete to t	he best of my knowledge and belief.
Name (Print): Kim Champlin	Title:	Environmental Representative
Signature: him Champlin	Date:	01/16/2009
e-mail address: kim_champlin@xtoenergy.com	Telephone:	(505) 333-3100
OCD Approval: Permit Application (including closure plan)	Closure Plan (only) OCE	O Conditions (see attachment)
OCD Representative Signature:		Approval Date:
Title:	OCD Permit Num	nber:
Closure Report (required within 60 days of closure completion): Instructions: Operators are required to obtain an approved closure The closure report is required to be submitted to the division within section of the form until an approved closure plan has been obtaine	plan prior to implementing any 60 days of the completion of the d and the closure activities have	closure activities and submitting the closure report.
22. Closure Method: Waste Excavation and Removal On-Site Closure Method If different from approved plan, please explain.	☐ Alternative Closure Method	I ☐ Waste Removal (Closed-loop systems only)
Closure Report Regarding Waste Removal Closure For Closed-lo Instructions: Please indentify the facility or facilities for where the two facilities were utilized.		
Disposal Facility Name:	Disposal Facility F	Permit Number:
Disposal Facility Name:	Disposal Facility F	Permit Number:
Were the closed-loop system operations and associated activities performed Yes (If yes, please demonstrate compliance to the items below)		be used for future service and operations?
Required for impacted areas which will not be used for future service Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	and operations:	
24. Closure Report Attachment Checklist: Instructions: Each of the 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-s Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation)	ite closure)	
On-site Closure Location: Latitude	Longitude	NAD: 1927 1983
Operator Closure Certification: I hereby certify that the information and attachments submitted with t belief. I also certify that the closure complies with all applicable clos	his closure report is true, accurat ure requirements and conditions	e and complete to the best of my knowledge and specified in the approved closure plan.
Name (Print):	Title:	
Signature:	Date:	
e-mail address:	Telephone:	

NUMBER OF COPIE	TRIBUTE		
SANTA FF			
FILE			
U.S.G.1.			
LAND OFFICE			
TRANSPORTER	OIL		
PROSATION OFFI	CE		
OPERATOR			
OP EMATOR			

NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-128 Revised 5/1/57

B.G.S.		WELL LOCATION			
IANSPORTER OIL GAS		SEE INSTRUCTIONS FOR	COMPLETING THIS	FORM ON THE REVER	ZE ZIDE
EMATOR			CTION A		Well No.
perator	om Petrolom		Pan American P	ederal Gas Unit	
Pan America	Section	Township	Range	County	
0	32	30 Herth	11 West	Sen June	
tual Footage Le	ocation of Well:		1020 (t from the East	line
790	feet from the	Senth line and	1730 fee		Dedicated Acreage:
ound Level Ele-		rets	Basin Dake	ta	320 Acres
unother. (65- If the answer to wise? YES	-329 (e) NMSA 19: to question one is '	to produce from any pool as 55 Comp.) 'no,'' have the interests of answer is "yes,'' Type of 'no,'' list all the owners an	all the owners been consolidation	onsolidated by community one below:	
		SECTION B			CERTIFICATION
agreege dedigation for illed to the Messwerds d to Lebota on a lease tigation and operating	Corporation for 5/2 Leasehold omer of the ta rights on the EE/4 Freege now owed by			plete to t	ON A above is true and conhe best of my knowledge as the hard hard hard hard hard hard hard hard
126 filed to slow of the state	intermational (41) to mational comparation as the mational comparation as (41) Corporation as		MM 04.05%	shown or plotted fi survey supervis and corre	made the core of actual made the core of the same if the core of the same if the core to the base of my howless.
Department Form (-) formation. Wall banks permitted	B and and		1730°	Register and/or L	veyed Original ed Professional Engineer and Surveyor
330 660	990 1320 1650	1980 2310 2640 2000	0 1500 1000	500 0 Certifice	te No.

A	_		Client:	XTO Energy				
Lodestar Services	i, Inc.	Pit Permit	Project:	Pit Permits				
PO Box 4465, Durango,	CO 81302	Siting Criteria	Revised:	14-Jan-09				
V			Prepared by:	Brooke Herb				
API#:		30-045-8926	USPLSS:[T30N,R11W,S310				
Name:	PAN AN	MERICAN FED GC B #1	Lat/Long:	36.76367, -108.02812				
Depth to groundwater:		50' - 100'	Geologic formation:	Nacimiento Formation				
Distance to closest continuously flowing watercourse:	2.84 mil	les S-SE of the Animas River						
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	1890	' SE of Jones Arroyo						
			Soil Type:	Entisols				
Permanent residence, school, hospital, institution or church within 300'		No						
			Annual Precipitation:	8.21 inches (Farmington)				
Domestic fresh water well or spring within 500'		No	Precipitation Notes:	no significant precip events				
Any other fresh water well or spring within 1000'		No						
Within incorporated municipal boundaries		No	Attached Documents:	Groundwater report and Data; FEMA Flood Zone Map				
Within defined municipal fresh water well field		No		Aerial Photo, Topo Map, Mines Mills and Quarries Map				
Wetland within 500'		No	Mining Activity:					
Within unstable area		No		3630' E of a Open Pit				
Within 100 year flood plain	No - F	FEMA Flood Zone 'X'						
Additional Notes:								

PAN AMERICAN FED GC B #1 Below Ground Tank Siting Criteria and Closure Plan

Well Site Location

Legals: T30N, R11W, Section 31, Quarter Section O Latitude/Longitude: approximately 36.76367, -108.02812

County: San Juan County, NM

General Description: near Animas River and Crouch Mesa

General Geology and Hydrology

The San Juan Basin is a typical Rocky Mountain basin with a gently dipping southern flank and a steeply dipping northern flank. Asymmetrically layered Tertiary sandstones and shales, along with Quaternary alluvial deposits dominate surficial geology (Dane and Bachman, 1965). The proposed below ground tank location will be located near Crouch Mesa between the Animas and San Juan rivers. The Nacimiento Formation of Tertiary Age is exposed, along with Quaternary alluvial and aeoloian sands within dry washes and arroyos.

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

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

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

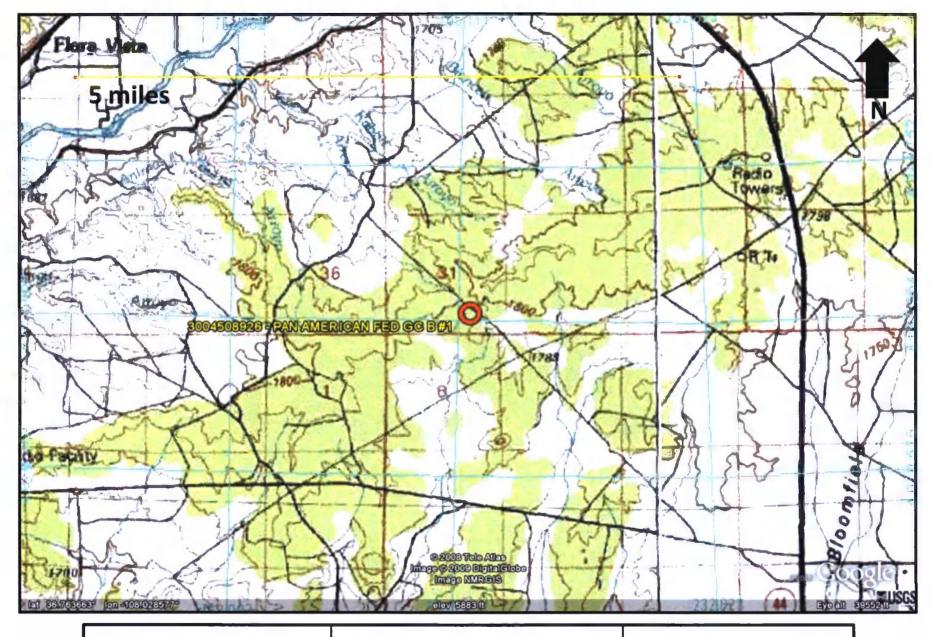
The predominant vegetation is sagebrush and grasses with a more restricted pinon-juniper association (Dick-Peddie, 1993).

Site Specific Hydrogeology

Depth to groundwater is estimated to be between 50 feet and 100 feet. This estimation is based on data from Stone and others, 1983 and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

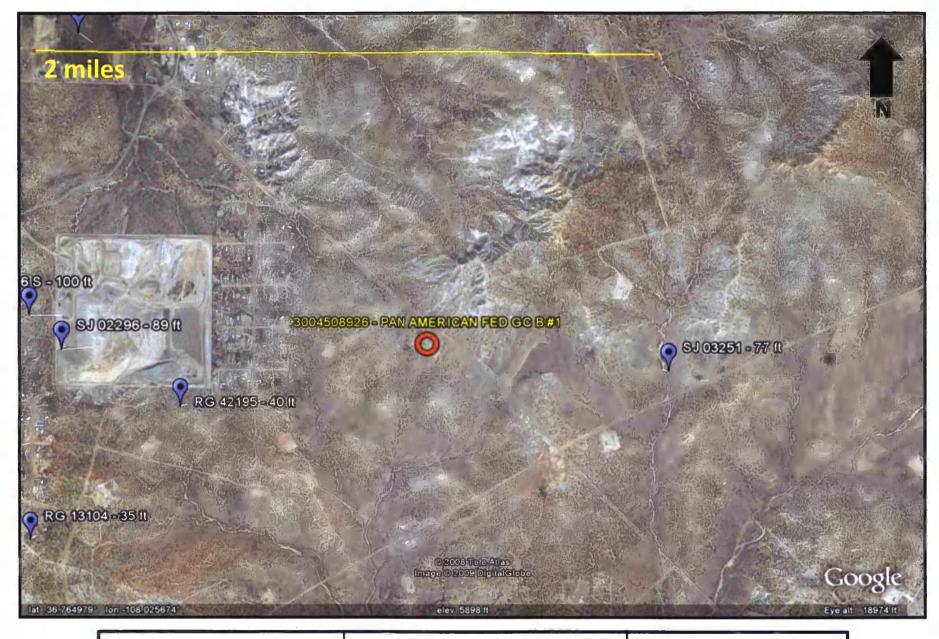
Local aquifers include sandstones within the Nacimiento Formation, which ranges from 0 to 1000 feet deep in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1000-foot depth range for Nacimiento aquifers covers an area over 20 miles wide, and depth decreases towards the margin of the San Juan Basin. The site in question is more centrally located, and depth to the aquifer is expected to be closer to 1000 feet. It is well known that groundwater close to the Animas River can be shallow, as the Quaternary deposits near the river itself form shallow aquifers. However, the proposed site is situated over two miles to the southeast of the Animas River, and is approximately 350 feet higher in elevation (Google Earth).

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing the location of wells in reference to the proposed pit location is also included. Pinpoints show locations of wells and the labels for each pinpoint indicate depth to groundwater in feet. The closest well to the proposed site is located to the east, and is approximately 30 feet lower in topographic elevation (Google Earth). Depth to groundwater within the well is 77 feet below ground surface. A well to the southwest is approximately 10 feet lower in elevation, and has a depth to groundwater of 40 feet below ground surface.



PAN AMERICAN FED GC B #1 T30N, R11W, S310 San Juan County, NM

Topographic Map



PAN AMERICAN FED GC B #1 T30N, R11W, S310 San Juan County, NM

iWaters Groundwater Data Map

New Mexico Office of the State Engineer POD Reports and Downloads

	30N_	11W			
Township:	Range:	1	Sections:		

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

(qr	uarter	s are	e 1=1	NW	2=NE	3=SW 4=SE)						
(q	uarter	s are	e bi	gge	st to	smallest)			Depth	Depth	Water	(in feet)
POD Number	Tws	Rng	Sec	P	PP	Zone	X	Y	Well	Water	Column	
RG 50669	30N	110							360	310	50	
SJ 02193	30N	11W	19							108		
SJ 03403	30%	117	19	1	2 2				400			
SJ 00638	30N	11W	19	2	1				130	7.0	60	
SJ 01073	30N	11W	19	2	1				100	38	62	
SJ 03615	30%	11W	15	2	1 1				105	38	7.0	
SJ 03434	30N	1100	19	2	1 4				140			
SJ 03088	30N	21W	19	2	1 4				120	80	4.0	
SJ 01636	30N	11W	19	2	2				7.0	25	45	
SJ 02862	30%	1197	19	2	2 3				2.0			
SJ 00284	30N	11W	19	2	4				200	35	165	
SJ 03645	30%	1197	19	3	1 1				€0	20	4.0	
SJ 03533	30N	11W	19	3	1 3				210			
SJ 01621	30%	MIL	19	3	2				40	38	2	
SJ 02692	30%	11W	19	3	2 2				52	12	40	
SJ 02968	30%	119	19	3	2 2				75	8	70	
SJ 02812	30N	1199	19	3	2 2				80			
SJ 01123	300	1100	19	4	1				4.0	15	28	
SJ 03437	30%	liw	19	4	1 2				3.0			
SJ 03315	30N	1199	19	4	1 2				6.0	54	€	
SJ 00284 CLW222415	30N	11W	19	4	4				200	35	165	
SJ 03224	30N	11W	30	1	2 4				8.0	30	50	
SJ 03077	30N	117	30	2	1 1				7.5	70	5	
SJ 03668	30N	119	30	2	1 2				380	280	100	
SJ 03251	30N	1177	32	3	4 4				150	77	73	

SJ 01148	30N	12 W 23	4			140	80	60
SJ 03380	30N	12W 23	4 1	1		42	7	35
SJ 03375	30N	12W 23	4 1	1		42	7	35
SJ 03664	30N	12W 23	4.1	3		22	6	16
SJ 02653	30N	12 W 23	4 1	3		21	9	12
SJ 03665	30N	12W 23	4 1	3		25	6	19
SJ 03663	30N	12W 23	4 1	4		32	8	24
SJ 01513	30N	12W 23	4 2			31	7	24
SJ 01272	30N	12W 23	4 2	1		35	12	23
SJ 03506	30N	12W 23	4 2	2		40	8	32
SJ 03156	30N	12W 23	4 2	2		14	8	6
SJ 00117	30N	12W 23	4 2	. 3		38	20	18
SJ 00114	30N	12W 23	4 2	. 3		40	20	20
SJ 01381	30N	12W 23	4 3			29	10	19
SJ 00111	30N	12W 23	4 3			28	18	10
SJ 00896	30N	12 W 23	4 4			40	20	20
SJ 03638	30N	12W 23	4 4	1		38	10	28
SJ 00633	30N	12W 24	1 3			38	10	28
SJ 02616	30N	12W 24	1 4			27	5	22
SJ 01682	30N	12W 24	1 4			22	4	18
SJ 01681	30N	12W 24	2 4			22	4	18
SJ 01680	30 N	12W 24	2 4			22	4	18
SJ 00691	30N	12W 24	3 1			30	15	15
SJ 00686	30N	12W 24	3 1	1		20	10	10
SJ 00404	30N	12W 24	3 1	. 3		54	44	10
SJ 01511	30N	12W 24	3 2			60	30	30
SJ 03054	30N	12 W 25	3 2	1		43	22	21
SJ 01429	30 N	12W 25	4			230	150	80
SJ 03008	30N	12 W 25	4 1	. 2		100		
SJ 03418	30N	12W 25	4 1	4		75	18	57
SJ 01427	30N	12W 25	4 3	3		147	70	77
SJ 03799 POD1	30N	12W 26	2 1	. 3	265470 21061	24 175	80	95
SJ 00429	30N	12W 26	3 3	3		114	40	74
SJ 02032	30N	12W 27	1 2			35	5	30
SJ 00127 X	30N	12W 27	1 2			36	15	21
SJ 00127	30N	12W 27	1 2	-		30	5	25
SJ 01646	30N	12W 27	1 3		•	23	6	17
SJ 01599	30N	12W 27	1 3			25	6	19
SJ 01617	30N	12W 27	1 3			24	4	20
SJ 01239	30N	12W 27	1 3	3		23	5	18

SJ 01174	30N	129	33	1	3						36	19	17
SJ 03143 POD2	30%	12W	33	1	4	2					40	10	30
SJ 03133	3000	120	33	1	4	4					39	20	19
SJ 00605	30N	127	33	2	1	2					7.2	35	37
SJ 02981	30N	12W	33	2	1	2					100	€0	4.0
SJ 00606	30N	12W	33	2	1	2					104	35	69
SJ 01036	30N	12W	33	2	2						105	70	35
SJ 01045	30N	12W	33	2	2						73	4.5	2.9
SJ 01072	30N	12W	33	2	2						110	50	60
SJ 03140	30N	12W	33	2	3	2					4.2	20	22
SJ 00474	3020	12W	33	2	3	3					104	60	4.4
SJ. 03614	30%	12W	33	2	3	3					42	33	9
SJ 01256	30N	120	33	2	4						250	160	90
SJ 00444	30%	12W	33	2	4						€€	34	32
SJ 00505	30N	12W	33	2	4						8.5	48	40
SJ 01286	30N	12W	33	3							265	227	3.6
SJ 01118	3.035		33	3	2						3.2	1.0	22
SJ 00613	30N	32W	33	3	2	3					147	95	52
SJ 02212	30N			3	3						320	269	51
SJ 01633	30N	12W	33	3	3						280	240	40
SJ 00447	30%	12W		4	1						104	€5	39
SJ 00622	30N	13W	33	4	1	2					7€	41	35
SJ 00590	30N	12W	33	4	1	3					9.8	60	38
SJ 00986	30N			4	2						104	80	24
SJ 01231	30N	12W	33	4	2	3					24€	161	88
SJ 00428	30N		_	4	4						107	25	82
SJ 02296	30N	12W	36	4	3						300	89	211
SJ 02296 S	30N	12W	36	4	3	-	M	4369.	10	2097860	300	100	200

Record Count: 31

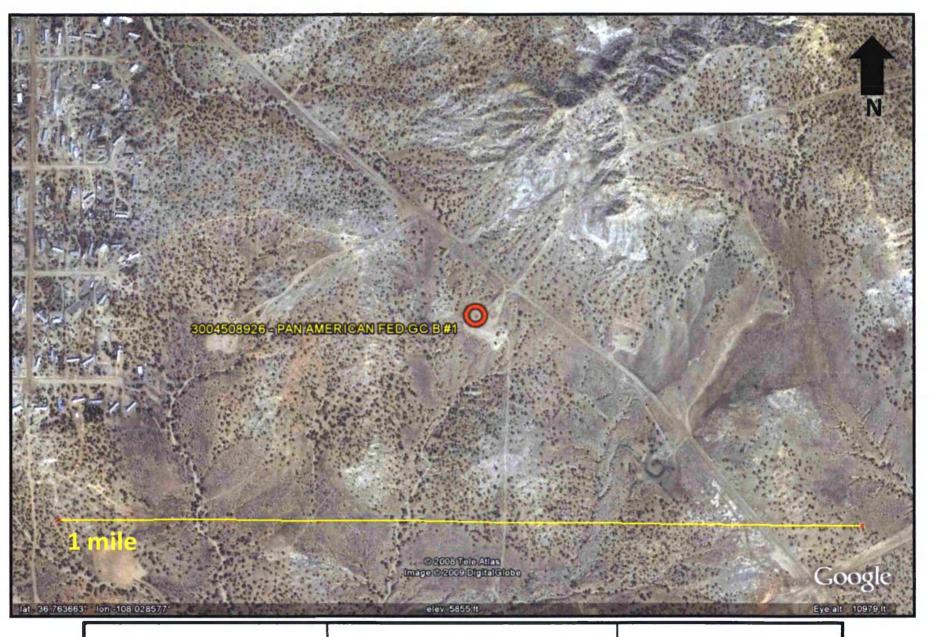
New Mexico Office of the State Engineer POD Reports and Downloads

Township:	29N Range:	124	Sections:	
1 ownship:	Kange:		Sections:	I

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

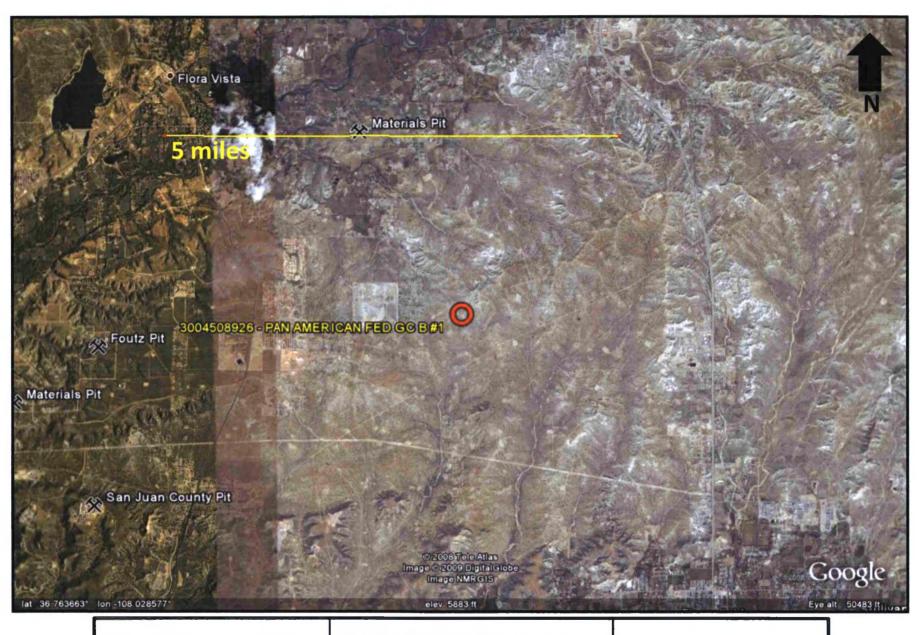
WATER COLUMN REPORT 10/17/2008

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest)										Depth	Depth	Water	(in fe	feet)
POD	Number	T	ws R	ng	Sec	q	q	q	Zone	X	Y	Well	Water	Column		
RG	13104	2	9N 1:	2W	01	1	4	_				70	35	35		
RG	42195	21	9N 1:	27/	01	2	2	2				100	4.0	€0		
RG	27250	21	9N 1:	2W	0.2	1						8.5	40	45		
RG	36980	21	9N 1:	2W	0.2	1						113	40	73		



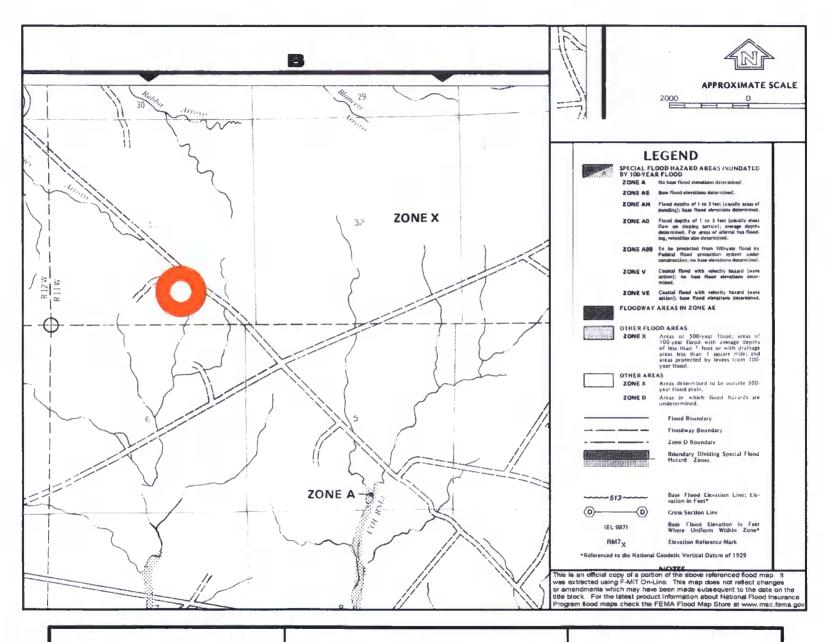
PAN AMERICAN FED GC B #1 T30N, R11W, S310 San Juan County, NM

Aerial Photograph



PAN AMERICAN FED GC B #1 T30N, R11W, S310 San Juan County, NM

Mines, Mills, and Quarries Map



PAN AMERICAN FED GC B #1 T30N, R11W, S310 San Juan County, NM

FEMA Flood Zone Map

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.

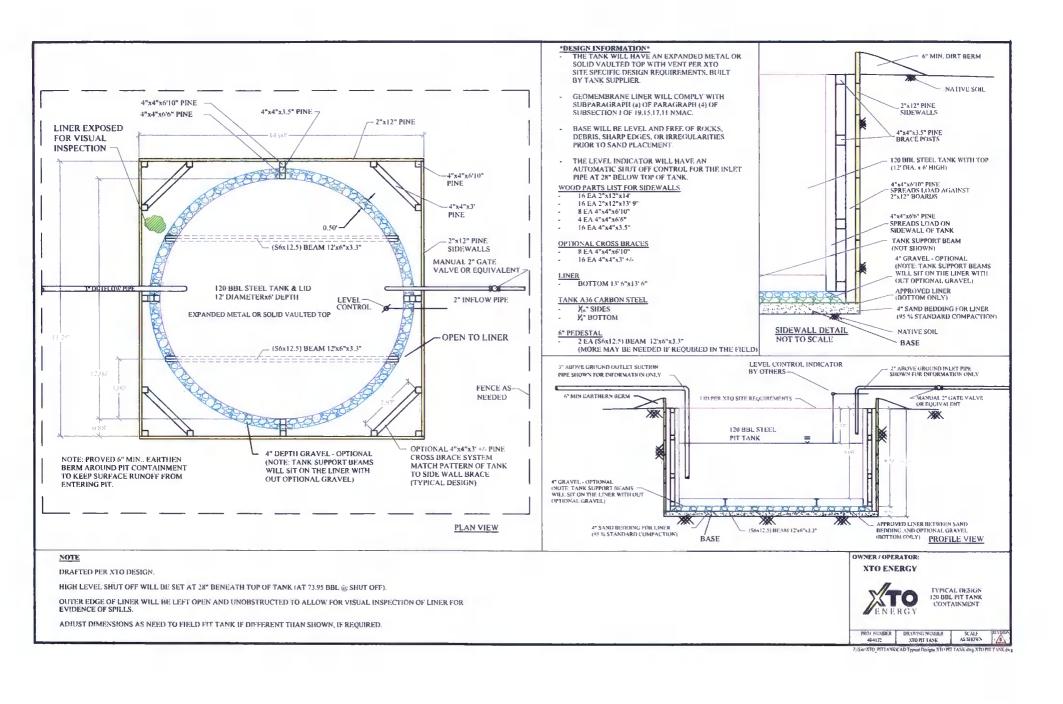
General Plan

- 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 ½ 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 belowgrade 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.

MONTHLY BELOW GRADE TANK INSPECTION FORM										
Well Nam	ne:			API No.:						
Legals	Sec:	*	Township:		Range:					
XTO Inspector's		Inspection	Any visible liner	Any visible signs of	Collection of surface	Visible layer	Any visible signs	Freeboard		
Name	Date	Time	tears (Y/N)	tank overflows (Y/N)	run on (Y/N)	of oil (Y/N)	of a tank leak (Y/N)	Est. (ft)		
								. ,		
Notes:	Provide De	etailed Descr	iption:							
Misc:										
4										

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

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.

