Di IOU AGO BALLOS ACOR, ALICO, ANN OFFICE	REGISTERED als and Natural Resources Department servation Division				
	Loop System, Below-Grade	- C - C - C - C - C - C - C - C - C - C			
Proposed Alternative	Method Permit or Closure F	Plan Application			
Existing BGT Closure of a pit, Modification to	ly submitted for an existing permitted or	or proposed alternative method			
Instructions: Please submit one application (Form	r C-144) per individual pit, closed-loop syste	em, below-grade tank or alternative request			
Please be advised that approval of this request does not relieve the environment. Nor does approval relieve the operator of its respon					
i. Operator: <u>XTO Energy, Inc.</u>	OGRID #:	5380			
Address: #382 County Road 3100, Aztec, NM 87410					
API Number:	OCD Permit Number:				
U/L or Qtr/Qtr <u>B</u> Section <u>06</u> Towns	hip <u>27N</u> Range <u>10W</u> Cou	unty: <u>San Juan</u>			
Center of Proposed Design: Latitude 36.60881	Longitude <u>107.9335</u>	NAD: 🔲 1927 🔀 1983			
Surface Owner: 🛛 Federal 🗌 State 🗌 Private 🗋 Tribal Tr	rust 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: Thicknessr String-Reinforced Liner Seams: Welded Factory Other		her Dimensions: L x W x D			
3.					
Josed-loop System: Subsection H of 19.15.17.11 NM Type of Operation: P&A Drilling a new well W Intent) Drying Pad Above Ground Steel Tanks Haul-o Lined Unlined Liner type: Thickness Liner Seams: Welded Factory Other	orkover or Drilling (Applies to activities whi ff Bins Other mil LLDPE HDPE PVC				
4. Below-grade tank: Subsection I of 19.15.17.11 NMAG					
Volume: <u>95</u> bbl Type of fluid:					
Tank Construction material: <u>Steel</u>					
Secondary containment with leak detection 🗌 Visible	sidewalls liner 6-inch lift and automatic on	erflow shut-off			
□ Visible sidewalls and liner □ Visible sidewalls only					
Liner type: Thicknessmil					
s. Alternative Method:					

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

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)

Signs: Subsection C of 19.15.17.11 NMAC

7.

10.

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 office for consideration of approval.

Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

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

11. <u>Temporary Pits, Emergency Pits, and Below-grade T</u> Instructions: Each of the following items must be attac attached.	anks Permit Application Atta ched to the application. Please	chment Checklist: Subsection B of 19.15.17.9 NMAC <i>indicate, by a check mark in the box, that the documents are</i>
 Hydrogeologic Report (Below-grade Tanks) - base Hydrogeologic Data (Temporary and Emergency F Siting Criteria Compliance Demonstrations - based 	Pits) - based upon the requirement of upon the appropriate requirement	ents of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
 Design Plan - based upon the appropriate requirem Operating and Maintenance Plan - based upon the Closure Plan (Please complete Boxes 14 through 1 and 19.15.17.13 NMAC 	appropriate requirements of 19.	15.17.12 NMAC ne appropriate requirements of Subsection C of 19.15.17.9 NMAC
Previously Approved Design (attach copy of design)) API Number:	or Permit Number:
		9.15.17.9 NMAC e indicate, by a check mark in the box, that the documents are
 attached. Geologic and Hydrogeologic Data (only for on-site Siting Criteria Compliance Demonstrations (only Design Plan - based upon the appropriate requirer 	for on-site closure) - based upo	uirements of Paragraph (3) of Subsection B of 19.15.17.9 n the appropriate requirements of 19.15.17.10 NMAC
Operating and Maintenance Plan - based upon the	e appropriate requirements of 19	0.15.17.12 NMAC
Closure Plan (Please complete Boxes 14 through and 19.15.17.13 NMAC	18, if applicable) - based upon t	he appropriate requirements of Subsection C of 19.15.17.9 NMAC
Previously Approved Design (attach copy of design)		
Previously Approved Operating and Maintenance Pl	lan API Number:	(Applies only to closed-loop system that use
above ground steel tanks or haul-off bins and propose to	o implement waste removal for a	closure)
 Certified Engineering Design Plans - based upon Dike Protection and Structural Integrity Design - Leak Detection Design - based upon the appropria Liner Specifications and Compatibility Assessmee Quality Control/Quality Assurance Construction a Operating and Maintenance Plan - based upon the Freeboard and Overtopping Prevention Plan - base Nuisance or Hazardous Odors, including H₂S, Pre Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Closure Plan - based upon the appropriate require 	based upon the appropriate requ iate requirements of 19.15.17.11 ent - based upon the appropriate and Installation Plan e appropriate requirements of 19 sed upon the appropriate require evention Plan	uirements of 19.15.17.11 NMAC NMAC requirements of 19.15.17.11 NMAC 0.15.17.12 NMAC ments of 19.15.17.11 NMAC
<u>Proposed Closure</u> : 19.15.17.13 NMAC Instructions: Please complete the applicable boxes, Bo		
Type: Drilling Workover Emergency Ca	avitation P&A Perman	ent Pit 🔀 Below-grade Tank 📋 Closed-loop System
Proposed Closure Method: Waste Excavation and F Waste Removal (Close On-site Closure Method	ed-loop systems only) d (Only for temporary pits and c	losed-loop systems)
	irial On-site Trench Burial	itted to the Santa Fe Environmental Bureau for consideration)
	thod (Exceptions must be subm	the to the sama rectivitorimental bareau for consideration)
Waste Excavation and Removal Closure Plan Check closure plan. Please indicate, by a check mark in the b	box, that the documents are atte	ructions: Each of the following items must be attached to the ached.
Protocols and Procedures - based upon the approp	priate requirements of 10 15 17	
	ad upon the approximation of 17.15.17.	13 NMAC
	ed upon the appropriate requirer	13 NMAC nents of Subsection F of 19.15.17.13 NMAC
 Disposal Facility Name and Permit Number (for l Soil Backfill and Cover Design Specifications - b 	ed upon the appropriate requirer liquids, drilling fluids and drill observed upon the appropriate requi	13 NMAC nents of Subsection F of 19.15.17.13 NMAC cuttings) rements of Subsection H of 19.15.17.13 NMAC
Disposal Facility Name and Permit Number (for l	ed upon the appropriate requirer liquids, drilling fluids and drill o pased upon the appropriate requi requirements of Subsection I of	13 NMAC nents of Subsection F of 19.15.17.13 NMAC cuttings) rements of Subsection H of 19.15.17.13 NMAC 19.15.17.13 NMAC

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16. Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13 Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment is									
facilities are required. Disposal Facility Name:									
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that <i>will not</i> be used for future service and operations? Yes (If yes, please provide the information below) No									
Required for impacted areas which will not be used for future service and operations: 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 I of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	AC								
^{17.} Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable son provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate dis considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Just demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	trict 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 waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	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 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. Visual inspection (certification) of the proposed site; Aerial photo; Satellite image 	Yes No								
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; 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								
 18. On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure p 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 19.15.17.13 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 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F 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 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 can Soil Cover Design - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC 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 I of 19.15.17.13 NMAC 	0.15.17.11 NMAC								

 Operator Application Certification: I hereby certify that the information submitted with this application i 	s true, accurate and complete to t	he best of my knowledge and belief.
	Title:	Environmental Representative
Signature: Kim Champin	Date:0	/30/2009
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:
Title:		ber:
^{21.} 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 obtained	plan prior to implementing any 60 days of the completion of the ed and the closure activities have	closure activities and submitting the closure report. closure activities. Please do not complete this
 22. Closure Method: Waste Excavation and Removal On-Site Closure Method If different from approved plan, please explain. 	Alternative Closure Method	Waste Removal (Closed-loop systems only)
23. <u>Closure Report Regarding Waste Removal Closure For Closed-lo</u> Instructions: Please indentify the facility or facilities for where the two facilities were utilized.	oop Systems That Utilize Above liquids, drilling fluids and drill d	Ground Steel Tanks or Haul-off Bins Only: cuttings were disposed. Use attachment if more than
Disposal Facility Name:	Disposal Facility P	ermit Number:
Disposal Facility Name:		ermit Number:
Were the closed-loop system operations and associated activities perf Yes (If yes, please demonstrate compliance to the items below	formed on or in areas that will not	
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	e 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-sice Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On site Chourge Logation: Latitude 	site closure)	
On-site Closure Location: Latitude		
 25. Operator Closure Certification: I hereby certify that the information and attachments submitted with belief. I also certify that the closure complies with all applicable closed on the submitted with the closure complex with all applicable closed on the submitted with the closure complex with all applicable closed on the submitted with the closure complex with all applicable closed on the submitted with the closure complex with all applicable closed on the submitted with the closed on the submitted withe submitted with the closed on the submitted	this closure report is true, accurate sure 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:	

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Form C-_28 Revised 5 1/57

NEW MEXICO OIL CONSERVATION COMMISSION

Well Location and Acreage Dedication Plat

ction A.				Date April 22, 1959	
aratorismeet International Tet.	(105)	Lease	8F 9 77354		
1 No Unit Letter	Section	SEK 6	Township		NMI NMI
ated Feet From nty Set June G. I	Lin . Elevation	e	re	et From ed Acreage	Lir Acre
of Producing Formation	Detota		Pool	Kas Angels Took	
Is the Operator the only o	wner* in the	dedicate	d acreage o	utlined on the plat	below?
Yes X No	and to Health	have the		of all the owners h	
If the answer to question consolidated by communitiz	one is no, ation agreeme	nave the nt or of	herwise? Y	es No . If	answer is
"ves," Type of Consolidati	on				
If the answer to question	two is "no,"	list all	the owners	and them respect	interest
below:				MAY 1 2 195	
Owner			Land Des	cription 14 180	9
				-Onion-	
				WEHL S	
AMENDED REPORT TO COR					
tion B		7		REA. GLO Plat deta	et the faster 1 m
CLOR D		<u> </u>			a te sery ist
1		1		This is to certi	fur that the
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1				to the best of m	iy knowledge
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COM.				from field notes	of actual
CON				surveys made by	
OIL CON. 3				my supervision a same is true and	
				the best of my k	
				belief.	_
				Date Surveyed 3	January 1959
ł	-	1		original signed by	James D Te
				Registered Profe	ssional
				Engineer and/or	Lana Surveyo
			/ /		
30 660 990 1320 1650 1980 2310	2640 2000	1500		Certificate No	1440

ALLER		Pit Permit	Client:	XTO Energy		
Lodestar Service		Siting Criteria	Project:	Pit Permits		
P0 Box 4465, Durange	a, CO 81302	-	Revised:	1/27/2009		
V		Information Sheet	Prepared by:	Daniel Newman		
API#:		80-045-06909	USPLSS:	T27N,R10W,06B		
Name:	Ku	tz J Federal # 2	Lat/Long:	36.60881 / -107.9335		
Depth to groundwater:		> 100 feet	Geologic formation:	Nacimiento Formation		
Distance to closest continuously flowing watercourse:	6.58 miles	s south of the San Juan River				
Distance to closest ignificant watercourse, lakebed, playa lake, or	896 feet	north of an unnamed arroyo				
sinkhole:		arroyo				
			Soil Type:	Entisols & Aridsoils		
Permanent residence, school, hospital, institution or church within 300'		No				
			Annual Precipitation:	Bloomfield 8.71", Farmington 8.21", Otis 10.41"average		
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				
Within incorporated municipal boundaries		No	Attached Documents:			
Within defined municipal fresh water well field		No		Topo map, ground water data map, arie photo, mines and quarries map, FEMA map		
Wetland within 500'		No	Mining Activity:	No		
Within unstable area		No				
Within 100 year flood plain		FEMA Zone 'X'				
Additional Notes:				<u>, son an an</u>		

Kutz J Federal # 2 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 southern Kutz Canyon region of San Juan County. 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 aridsoils, 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 rain fall annually. As is typical of the southwestern United States monsoonal weather patterns, most precipitation fall 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 pinionjuniper association (Dick-Peddie, 1993). However, vegetation is very sparse and discontinuous.

Site Specific Hydrogeology

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

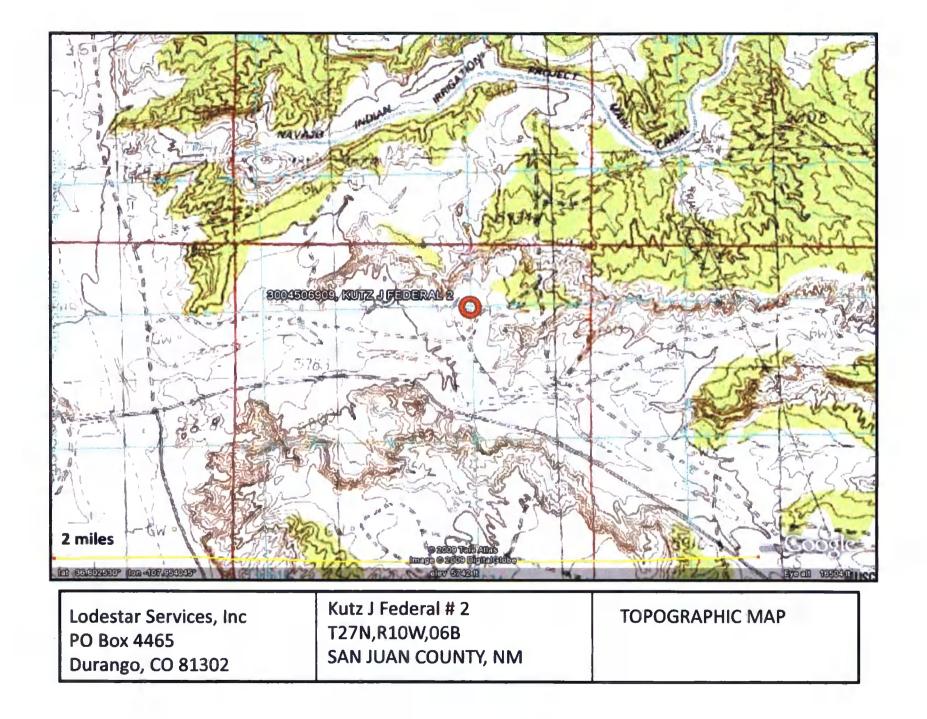
Beds of water-yielding sandstone are present in the Nacimiento Formation, which are fluvial in origin and are interbedded with siltstone, shale and coal. Porous sandstones form the principal aquifers, while relatively impermeable shales form confining units between the aquifers (Stone et al., 1983). 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).

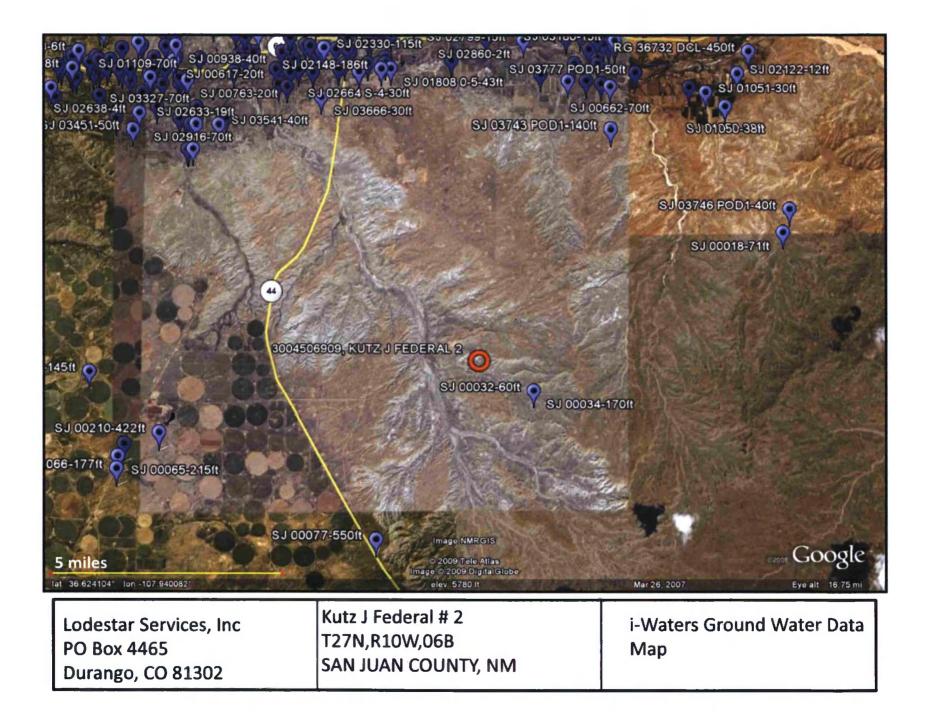
The site in question is located near Kutz Canyon, where deeply eroded sandstone-capped mesas and slope-forming mudstone occur in a sparsely vegetated and arid badlands-type setting. Broad shaley hills are interspersed with occasional sandstone outcrops, and systems of dry washes and their tributaries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

The pit will be located approximately 1.15 miles east of Kutz Canyon at an elevation of approximately 5,883 feet. Ground water is expected to be shallow within Kutz Canyon. The floor of Kutz Canyon sits at 5,702 feet, an elevation difference of approximately 180 feet exists between the site and the floor of Kutz Canyon. The elevation difference of approximately 180 feet between the proposed site and the floor of Kutz Canyon, suggests that depth to groundwater is greater than 100 feet at the proposed site.

Lined channels associated with the Navajo Irrigation Project supply water for nearby agriculture lands, which are characterized by center-pivot irrigation patterns. During spring and summer, irrigation practices often produces shallow perched aquifers that are not defined in published literature. These shallow zones of water are not continuous and are not saturated year round.

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing the locations of wells in reference to the proposed pit location is also attached. Water drops show locations of wells and the labels for each water drop indicate depth to groundwater in feet. The closest well to the site (SJ00032) is at an elevation of approximately 5,983 feet and is located 1.52 miles to the southeast this well puts depth to groundwater at 60 feet below the surface. However this site is not representative of the proposed site, for it place groundwater at an elevation above the proposed site. The elevation difference of approximately 180 feet between the floor of Kutz Canyon and the proposed site should be used as the deciding factor on distance to groundwater in this case, seeing how the water wells surrounding the proposed sites cannot be used to accurately judge distance to groundwater. The observations made within this report suggest that distance to groundwater to be greater than 100 feet deep at the proposed location.





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(Depth Water in Feet) Y Wells Bsn Tws Rng Sec Zone Х Avg Min Max 09W 11 40 SJ 26N 40 40 1 SJ 26N 09W 12 1 175 175 175 SJ 26N 09W 16 1 65 65 65 SJ 26N 09W 26 3 215 226 234

AVERAGE DEPTH OF WATER REPORT 11/11/2008

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AVERAGE DEPTH OF WATER REPORT 11/10/2008(Depth Water in Feet)BsnTwsRng SecZoneXYWellsMinMaxAvgSJ27N10W 08260170115

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		AVER	AGE	DEPTH	op	WATER	REPORT	1	1/03/200	8			
										(Depth			
Bsn	Tws	Rng	Sec	Zone	2	X :		Y	Wells	Min	Mai	K	Avg
SJ	27N	1-1W	26						1	550	550)	550

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AVERAGE DEPTH OF WATER REPORT 11/03/2008

							(Depth	Water in	Feet)
Bsn	TWS	Rng Se	c Zone	X	Y	Wells	Min	Max	Avg
RG	27N	12W 02				1	145	145	145
SJ	27N	12W 13				4	177	422	306

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AVERAGE DEPTH OF WATER REPORT 01/21/2009 (Depth Water in Feet) Y Wells Ban Twa Rng Sec Zone X Min Max Avg 08W 14 480 480 SJ 28N 1 480 SJ 23N 08W 17 1 1 800 800 28N 08W 18 800 SJ

Record Count: 3

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		A	/ERAG	E DEPTH	OF WATER	REPOR	T 01/09	/2009		
Bsn	Tws	Rng	Sec	Zone	x	Ŷ	Wells	(Depth Min	Water in Max	Feet) Avg
SJ	28N	09W	20				2	40	71	56
Reco	rd Co	unt:	2							

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								(Depth	Water in	Feet)
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
SJ	2 9 N	0 9 W	02				23	3	71	11
SJ	29N	09W	03				10	2	40	11
SJ	29N	09W	04				2	5	20	13
SJ	29N	09W	05				3	16	20	18
SJ	29N	09W	06				1	40	40	40
SJ	29N	09W	07				1	ê	£	ē
SJ	2 9 N	0 9 W	08				3	24	100	65
SJ	2 9 N	09W	09				2	5	e	ē
SJ	29N	0 9 W	09		273716	2090921	1	250	250	250
SJ	2 9 N	09W	16				2	87	100	94
SJ	2 9 N	09W	18				9	1	5	4

AVERAGE DEPTH OF WATER REPORT 01/05/2009

							1/20/20		Water in	Feet)
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
RG	29N	107	25				1	450	450	450
SJ	29N	1077	13				3	10	20	17
SJ	29N	10W	18				1	65	65	65
SJ	29N	1.0W	19				3	2	5	5
SJ	29N	107	20				4	2	12	E
SJ	2 9N	1.0%	21				5	7	30	17
SJ	2 9 N	100	22				1	20	20	20
SJ	29N	1,077	23				1	16	16	16
SJ	29N	1.07	24				3	20	34	28
SJ	29N	100	25				1	12	12	12
SJ	29N	1.0,97	26				1	4	4	4
SJ	29N	100	27				1	31	31	31
SJ	29N	10W	2.8				9	4	70	23
SJ	29N	1.0%	28	W 4	84600	2075600	the second	20	20	20
SJ	29N	10%	29				1	35	35	35
SJ	29N	10%	29	2	70344	2071311	1	50	50	50
SJ	29N	1077	3Ŭ				1	10	10	10
SJ	29N	1.00	.33				1	140	140	140
SJ	29N	10W	35				1	30	30	30
SJ	29N	1.0%	36				1	38	38	3.8

AVERAGE DEPTH OF WATER REPORT 11/15/2008

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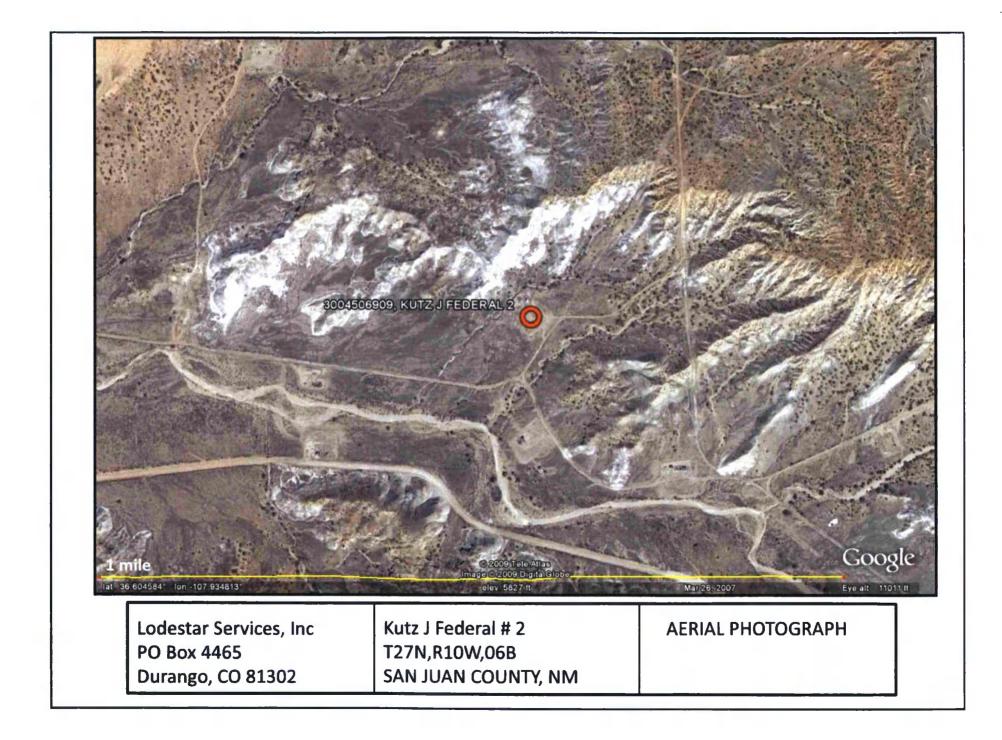
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					F WAILK		1/10/20		Water in	Feet)
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
SJ	29N	1197	07				2	55	210	133
SJ	29N	1177	10				1	48	48	48
SJ	29N	111	13				1	300	3,0:0	300
SJ	29N	1107	14				4	E	5.6	24
SJ	29N	1117	15				3	12	30	21
SJ	29N	1197	16				1	40	40	40
SJ	29N	1177	17				2	.6	80	43
SJ	29N	111W	19				3	18	55	31
SJ	29N	11W	19		440000	2077700	1	E	e	÷E.
SJ	29N	117	20				2	3	30	17
SJ	29N	1177	21				7	8	55	18
SJ	29N	1177	22				25	3	59	15
SJ	29N	1177	23				15	15	3.0:	21
SJ	29N	119	24				2	12	18	15
SJ	29 N	110	25				1	25	25	25
SJ	2 9 N	1107	26				1	43	43	43
SJ	29N	14W	27				20	E	186	25
SJ	29N	11W	28				9	5	115	27
SJ	29N	11W	28		267348	2075529	1	15	15	15
SJ	29N	1177	29				9	4	28	13
SJ	29N	11W	30				6	.6	25	16
SJ	29N	1177	31				1	4.0	40	40
SJ	29N	1177	31		266438	2067001	1	45	45	.45
SJ	29N	117	33				1	30	30	30

AVERAGE DEPTH OF WATER REPORT 11/10/2008

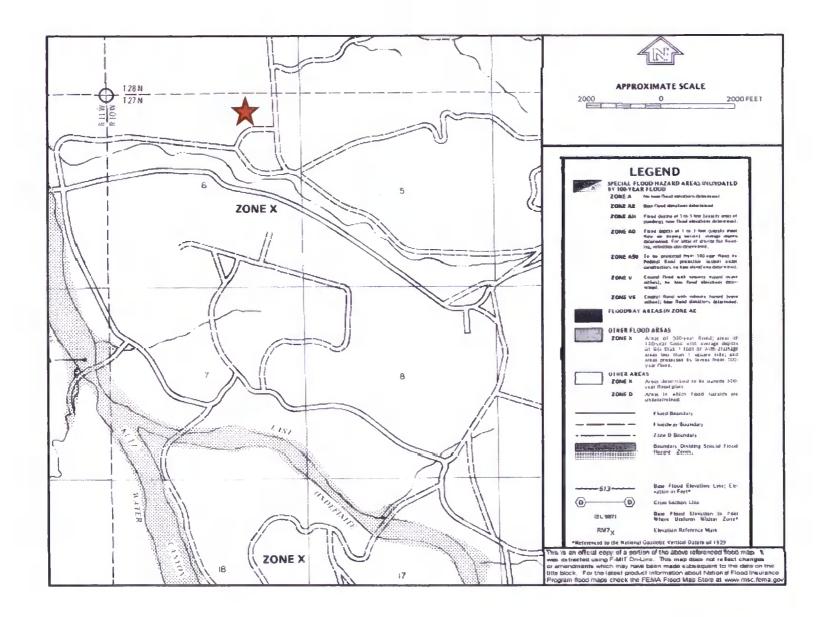
Record Count: 119

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Lodestar Services, Inc PO Box 4465 Durango, CO 81302	Kutz J Federal # 2 T27N,R10W,06B SAN JUAN COUNTY, NM	Mines and Quarries Map
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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.

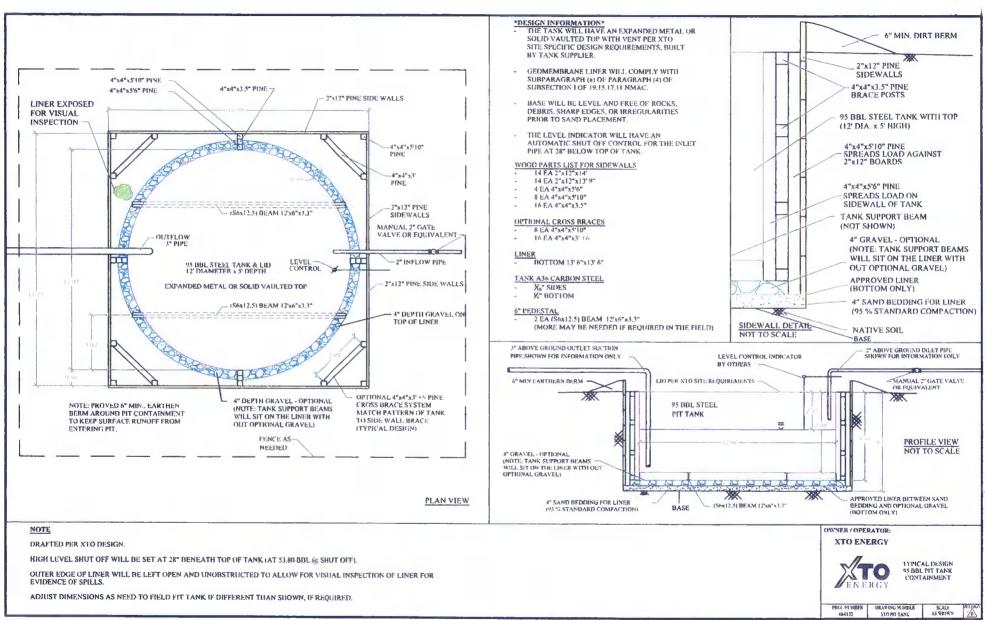
General Plan

- 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.
- 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.



SupVTO PITTANKC AD Typical Daligns XTO PIT TANK dwg/VTO PIT TINK dwg

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.
 - 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

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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 Name:									
Legals	Sec:		Township:		Range:				
XTO Inspector's Name	Inspection Date	Inspection Time	Any visible liner tears (Y/N)	Any visible signs of	Collection of surface run on (Y/N)	Visible layer	Any visible signs of a tank leak (Y/N)	Freeboard Est. (ft)	
								•	
Notes:	Provide De	tailed Descri	ption:		. .				
Misc:									

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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.
- 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.
- 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.

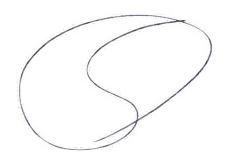
- 11. Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion 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 divisionapproved 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

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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.



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