D. Greet I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505	State of New Mexico Energy Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505	Form C-144 July 21, 2008 For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office. For permanent/pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.
Pit, C	Closed-Loop System, Below-Grade 7	Tank, or
Proposed Alt	ernative Method Permit or Closure F	Plan Application
Type of action: Perm Existing BGT Clos Mod Clos	at of a pit, closed-loop system, below-grade tank, o ure of a pit, closed-loop system, below-grade tank, ification to an existing permit ure plan only submitted for an existing permitted or posed alternative method	or proposed alternative method or proposed alternative method n non-permitted pit, closed-loop system,
Instructions: Plage submit one and	cation (Form C-144) nor individual nit closed-loon syste	em helow-grade tank or alternative request
Please be advised that approval of this request does environment. Nor does approval relieve the operato	not relieve the operator of liability should operations result is r of its responsibility to comply with any other applicable go	n pollution of surface water, ground water or the overnmental authority's rules, regulations or ordinances.
1. Operator: XTO Energy Inc.	OGRID #:	5380
Address: #382 County Road 3100 Aztec	NM 87410	
Facility or well name: Little Stinker #1		
A DI Number: 3004525532	OCD Permit Number	
IVI or Otr/Otr I Section 11	Township 20N Pange 12W Cou	inter San Juan
	Township Kange Cou	
Center of Proposed Design: Latitude 30.823	D T i L T et es la l'es Allaterent	NAD: 01927 @ 1983
Pit: Subsection F or G of 19.15.17.11 NM Temporary: Drilling Workover Permanent Emergency Cavitation Lined Unlined Liner type: Thickness String-Reinforced Liner Seams: Welded Factory Othe	IAC P&A mil LLDPE HDPE PVC O rVolume:bb	ther 1 Dimensions: L x W x D
3. Closed-loop System: Subsection H of 19. Type of Operation: P&A Drilling a new intent) Drying Pad Above Ground Steel Tanks Lined Unlined Liner type: Liner Seams: Welded Factory	15.17.11 NMAC well Workover or Drilling (Applies to activities wh Haul-off Bins Other mil LLDPE HDPE PVC er	ich require prior approval of a permit or notice of] Other
A. Below-grade tank: Subsection I of 19.15. Volume:21bbl Type of f Tank Construction material:bteel Secondary containment with leak detection Visible sidewalls and liner □ Visible side Liner type: Thickness	17.11 NMAC luid: Produced Water Visible sidewalls, liner, 6-inch lift and automatic over the sidewalls only Other Visible sidewalls only Other Visible sidewalls only Other Other Other Other Other	verflow shut-off natic high-level shut off, no ling
5. Alternative Method: Submittal of an exception request is required.	Exceptions must be submitted to the Santa Fe Environme	ental Bureau office for consideration of approval.

4	3		
Fencing:	Subsection D of 19.15.17.11 NMAC	Applies to permanent pits, temp	porary 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

6.

7.

8

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.

10.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of accep material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appro office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dry above-grade tanks associated with a closed-loop system.	ptable source 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 	🗋 Yer 🖾 No
Within an unstable area.	🗌 Yes 🖾 No

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

Within a 100-year floodplain.

🗌 Yes 🖾 No

11. Témporarý 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. M Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC Hydrogeologic Cata (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 19.15.17.10 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 nat 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 Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC Quality Control/Quality Assurance Construction and Installation Plan Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.11 NMAC NMAC Muisance or Hazzardous Odors, including H ₂ S, Prevention Plan Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Erosion Control Plan Erosion Control Plan Closure Plan - based upon the appropriate requirements of 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 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) Descention
In-place Burial On-site Trench Burial
Anemative Closure method (Exceptions must be submitted to the Santa re 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.

^{16.} Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Ta Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling j	nks or Haul-off Bins Only: (19.15.17.13. Auids and drill cuttings. Use attachment if n) NMAC) <i>more than two</i>
Disposal Facility Name: Disposa	l Facility Permit Number:	
Disposal Facility Name: Disposal	I Facility Permit Number:	
Will any of the proposed closed-loop system operations and associated activities occur on o Yes (If yes, please provide the information below) No	r in areas that will not be used for future serv	vice and operations?
Required for impacted areas which will not be used for future service and operations: Soil Backfill and Cover Design Specifications based upon the appropriate required Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.1 Site Reclamation Plan - based upon the appropriate requirements of Subsection G of	nents of Subsection H of 19.15.17.13 NMA 5.17.13 NMAC 19.15.17.13 NMAC	2
^{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 provided below. Requests regarding changes to certain siting criteria may require admin considered an exception which must be submitted to the Santa Fe Environmental Bureau demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guida	plan. Recommendations of acceptable sour istrative approval from the appropriate distr office for consideration of approval. Justi ince.	rce material are rict office or may be fications and/or
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	d from nearby wells	□ Yes □ No □ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained	d from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained	d from nearby wells	☐ Yes ☐ No ☐ NA
 Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant lake (measured from the ordinary high-water mark). Topographic map; Visual inspection (certification) of the proposed site 	watercourse or lakebed, sinkhole, or playa	🗌 Yes 🗌 No
Within 300 feet from a permanent residence, school, hospital, institution, or church in exist - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	ence at the time of initial application.	🗌 Yes 🗌 No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in - NM Office of the State Engineer - iWATERS database; Visual inspection (certification certification cert	ve households use for domestic or stock existence at the time of initial application. tion) of the proposed site	🗌 Yes 🗌 No
 Within incorporated municipal boundaries or within a defined municipal fresh water well fi adopted pursuant to NMSA 1978, Section 3-27-3, as amended. Written confirmation or verification from the municipality; Written approval obtain 	eld covered under a municipal ordinance ed from the municipality	🗌 Yes 🗌 No
 Within 500 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspective 	tion (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 Mi	neral Division	🗌 Yes 🗌 No
 Within an unstable area. Engineering measures incorporated into the design; NM Bureau of Geology & Min Society; Topographic map 	eral Resources; USGS; NM Geological	🗌 Yes 🗌 No
Within a 100-year floodplain. - FEMA map		🗌 Ye; 🗍 No
 18. On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the follow by a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of Subsect Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - base 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 Subsect Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cutti Soil Cover Design - based upon the appropriate requirements of Subsection H of 19. 	ing items must be attached to the closure plates of 19.15.17.10 NMAC ion F of 19.15.17.13 NMAC e requirements of 19.15.17.11 NMAC sed upon the appropriate requirements of 19. NMAC ts of Subsection F of 19.15.17.13 NMAC ion F of 19.15.17.13 NMAC ngs or in case on-site closure standards cann 15.17.13 NMAC 5 17 13 NMAC	an. Please indicate, 15.17.11 NMAC ot be achieved)

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

19. Operator Application Certification:	
I hereby certify that the information submitted with this application is true, acc	surate and complete to the best of my knowledge and belief.
Name (Print): Kim Champlin	Title: Environmental Representative
Signature: Kim pamplin	Date:11/19/2008
e-mail address: kim_champlin@xtoenergy.com	Telephone: (505) 333-3100
20. <u>OCD Approval</u> : Permit Application (including closure plan) [] Closure	Plan (only) OCD Conditions (see attachment)
OCD Representative Signature:	Approval Date: 1913
Title: Burean Chut	OCD Permit Number:
^{21.} Closure Report (required within 60 days of closure completion): Subsection Instructions: Operators are required to obtain an approved closure plan prior The closure report is required to be submitted to the division within 60 days of section of the form until an approved closure plan has been obtained and the	on K of 19.15.17.13 NMAC or to implementing any closure activities and submitting the closure report. If the completion of the closure activities. Please do not complete this closure activities have been completed.
	Closure Completion Date:
 22. Closure Method: Waste Excavation and Removal On-Site Closure Method Alter If different from approved plan, please explain. 	mative Closure Method 🗌 Waste Removal (Closed-loop systems only)
23. Closure Report Regarding Waste Removal Closure For Closed-loop System	ms That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
Instructions: Please indentify the facility or facilities for where the liquids, d two facilities were utilized.	rilling fluids and drill cuttings were disposed. Use attachment if more than
Disposal Facility Name:	Disposal Facility Permit Number:
Disposal Facility Name:	Disposal Facility Permit Number:
Were the closed-loop system operations and associated activities performed on Yes (If yes, please demonstrate compliance to the items below) No	or in areas that will not be used for future service and operations?
Required for impacted areas which will not be used for future service and oper Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique 	ations:
24. Closure Report Attachment Checklist: Instructions: Each of the following	items must be attached to the closure report. Please indicate, by a check
Proof of Closure Notice (surface owner and division)	
Proof of Deed Notice (required for on-site closure)	
Confirmation Sampling Analytical Results (if applicable)	
Waste Material Sampling Analytical Results (required for on-site closure	
Soil Backfilling and Cover Installation	
Re-vegetation Application Rates and Seeding Technique	
On-site Closure Location: Latitude	gitude NAD: 1927 1983
25. Operation Cleants Contification	
Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure belief. I also certify that the closure complies with all applicable closure require	e report is true, accurate and complete to the best of my knowledge and ements and conditions specified in the approved closure plan.
Name (Print):	Title:
Signature:	Date:
e-mail address:	Telephone:

STATE OF	NEW MEXICO ERALS DEPARTMEN		NSERVAT P. O. BOX A FE, NEW M	ION DIV 2088 MEXICO 87	ISION 501	Forent 102 Ret13 & 10-1-78
Jerome	P McHuah	•	Lease	ttla Stink	07	NUV 3.0,1982
nit Letter	Section	Township	Range	COLE SCITIK	County	DIST. 3
U Loca	L L	30 Nort	n j	12 West		San Juan
1560	feet from the S	South line	and 1850	feet	from the	East line
und Level Elev.	Producing For	rmation	Pool	ain Dalat		Dedicated Acreage;
1 Outline the		ited to the subject	t well by colo	ted pencil or	hachure	marks on the plat below.
 interest and 3. If more than dated by co XX Yes If answer is this form if No allowabl 	d royalty). n one lease of d mmunitization, u No If an s "no," list the necessary.) he will be assign	ifferent ownership unitization, force-po- nswer is "yes," typ owners and tract d ed to the well until	is dedicated t poling. etc? pe of consolida escriptions wh all interests 1	to the well, h ation <u>Co</u> nich have act	mmuniti uually become	interests of all owners been consoli- zation en consolidated. (Use reverse side of ed (by communitization, unitization,
		SF 100 Sec. 11	081239 % Jerome P.	McHugh		CERTIFICATION I hereby certify that the information con- tained herein is true and complete to the best of my knowledge and belief. Mane Jerry McHugh Position Landman Company Jerome P. McHugh Devie 10-27-82
			Fee Ac	1850'		I hereby certify that the well location shown on this plot was platted from field notes of actual surveys made by nie or under my supervision, and that the some is true and correct to the best of my knowledge and belief. <u>10-27</u> Date Surveyed Registered Professional Engineer

			Client:	XTO Energy
A Lodestar Service	s, Inc.	Pit Permit	Project:	Pit Permits
PO Box 4465, Durange	, CO 81302	Siting Criteria	Revised:	25-Sep-08
V		Information Sheet	t Prepared by:	Brooke Herb
API#:	API#: 3004525532			T30N,R12W,S11J
Name:	LIT	TLE STINKER #1	Lat/Long:	36.82375, -108.06441
Depth to groundwater:		> 100 ft	Geologic formation:	Nacimiento Formation
Distance to closest continuously flowing watercourse:	1.48 mil	es NW of the Animas River		
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	3615'	W of Barton 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		715' W of Spencerville Pit
Within 100 year flood plain	No - F	EMA Flood Zone 'X'		
Additional Natas				

LITTLE STINKER # 1 Below Ground Tank Siting Criteria and Closure Plan

Well Site Location

Legals: T30N, R12W, Section 11, Quarter Section J Latitude/Longitude: approximately 36.82375, -108.06441 County: San Juan County, NM General Description: near Glade Run

General Geology and Hydrology

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

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

The prominent soil type at the proposed site is entisols, which are defined as soils that do not show any profile development. Soils are basically unaltered from their parent rock. Miles of arroyos, washes and intermittent streams exist as part of the drainage network towards the La Plata River (www.emnrd.state.nm.us). 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 greater than 100 feet. This estimation is based on data from Stone and others, 1983 and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

Local aquifers include sandstones within the Nacimiento Formation, which ranges from 0 to 1000 feet deep in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1000-foot depth range for Nacimiento aquifers covers an area over 20 miles wide, and depth decreases towards the margin of the San Juan Basin. The site in question is more centrally located, and depth to the aquifer is expected to be closer to 1000 feet. It is well known that groundwater close to the Animas River can be shallow, as the Quaternary deposits near the river itself form shallow aquifers. However, the proposed site is situated over a mile to the north-northwest of the Animas River, and is approximately 285 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. A well 1570 feet to the east of the site has a depth to groundwater of 122 feet. This well is approximately 75 feet lower in elevation then the proposed site. A well a little further to the southeast has a depth to groundwater of 123 feet, and is approximately 120 feet lower in elevation. Wells clustered to the south and southeast of the site have varying depths to groundwater, ranging from 17 to 123 feet below ground surface. However, the wells with shallow groundwater are over 100 feet lower in elevation.





New Mexico Office of the State Engineer POD Reports and Downloads

Township: 30N Range: 12M Sections: 2,10,11,12,13,14,15

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

WATER COLUMN REPORT 09/18/2008

	quarter	s are	a T=	111	2-	RE .	2=2# 4	=3E)							
	(quarter	s are	e bi	gge	est	t to	small	lest)		Depth	Depth	Water	(in	feet)	
POD Number	Tws	Rng	Sec	P	q	P	Zone	x	Y	Well	Water	Column			
SJ 02643	30N	12W	02	3	3	2				195	140	55			
SJ 02707	30N	12W	02	3	4	3				235	135	100			
SJ 03767 POD1	30N	12W	10	2	4	2		265151	2121325	265	82	183			
SJ 02128	30N	12W	10	3	4					140	60	80			
SJ 00945	30N	12W	10	3	4					130	70	60			
SJ 00421	30N	12W	10	4	4					126	43	83			
SJ 00142	30N	12W	11	4	4	2				192	122	70			
SJ 00651	30N	12W	11	4	4	4				193	123	70			
SJ 03129	30N	12W	12	3	4	2				44	35	9			
SJ 03027	30N	12W	12	3	4	3				100					
SJ 00384	30N	12W	12	4	3	2				57	20	37			
SJ 03020	30N	12W	12	4	3	4				52	30	22			
SJ 00643	30N	12W	12	4	4					75	51	24			
SJ 03757 POD1	30N	12W	12	4	4			266123	2119278	22	12	10			
SJ 00322	30N	12W	12	4	4	1				66	40	26			
SJ 00888	30N	12W	13	1						81	50	31			
SJ 00518	30N	12W	13	1						55	15	40			
SJ 00935	30N	12W	13	1						54	10	44			
SJ 00337	30N	12W	13	1	1					43	17	26			
SJ 00316	30N	12W	13	1	1					56	30	26			
SJ 00773	30N	121	13	1	1	1				68	50	18			
SJ 00821	30N	12W	13	1	3					42	15	27			
SJ 03063	30N	1217	13	1	3	3				40	25	15			

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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.
- 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).

- 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.



²⁴SheXTO PITTANK/CAD/Typical Design/XTO PIT TANK-dwg/XTO PT TANK day

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

- 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

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.

Well Nar	ne:				API No.:			
egals	Sec:		Township:		Range:			
XTO Inspector's	Inspection	Inspection	Any visible	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	tailed Descr	intion:		1	1		
lisc:								
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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.
- 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.