District I 16251 Distric 1301 Distric 1000 District iv 1220 S. St. Francis Dr., Santa Fe, NM 87505

2009 FEB 15

## REGISTERED

State of New Mexico and Natural Resources \_partment vation Division

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

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.

Proposed Alternative Method Permit or Closure Plan Application
Type of action:    Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method   Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method   Modification to an existing permit   Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
Operator: XTO Energy, Inc. OGRID #: 5380
Address: #382 County Road 3100, Aztec, NM 87410
Facility or well name: Duff Gas Com C #1
API Number: 30-045-09134 OCD Permit Number:
U/L or Qtr/Qtr M Section 27 Township 30N Range 12W County: San Juan
Center of Proposed Design:         Latitude 36.77905         Longitude 108.09042         NAD:         □1927 ☑ 1983
Surface Owner: X Federal Tstate Private Tribal Trust or Indian Allotment
☐ Pit:       Subsection F or G of 19.15.17.11 NMAC         Temporary:       ☐ Drilling       ☐ Workover         ☐ Permanent       ☐ Emergency       ☐ Cavitation       ☐ P&A         ☐ Lined       ☐ Unlined Liner type:       Thickness
☐ Closed-loop System: Subsection H of 19.15.17.11 NMAC  Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a pennit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other
☐ Lined ☐ Unlined Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
Liner Seams:  Welded  Factory Other
4.    Below-grade tank: Subsection I of 19.15.17.11 NMAC   Volume:   120     bbl   Type of fluid:   Produced Water
5.  Alternative Method:

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

16.	
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)	
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, institution or church)	hospital,
Four foot height, four strands of barbed wire evenly spaced between one and four feet	
Alternate. Please specify Four foot height, steel mesh field fence (hogwire) with pipe top railing	
7.  Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)	
Screen Netting Other Expanded metal or solid vaulted top	
Monthly inspections (If netting or screening is not physically feasible)	
8. Signs: Subsection C of 19.15.17.11 NMAC	
12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers	
Signed in compliance with 19.15.3.103 NMAC	
Signed in compliance with 19.15.3.103 NMAC	
Administrative Approvals and Exceptions:  Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.  Please check a box if one or more of the following is requested, if not leave blank:  Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau consideration of approval.  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	office for
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying above-grade tanks associated with a closed-loop system.	priate district pproval. ng pads or
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ⊠ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to temporary, emergency, or cavitation pits and below-grade tanks)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to permanent pits)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.  - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ⊠ No
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ⊠ No
Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ⊠ No
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ⊠ No
Within a 100-year floodplain FEMA map	☐ Yes ☑ No

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
<ul> <li>☑ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>☑ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC</li> <li>and 19.15.17.13 NMAC</li> </ul>
Previously Approved Design (attach copy of design) API Number: or Permit Number:
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9  Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC  Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design)  API Number:
Previously Approved Operating and Maintenance Plan API Number:(Applies only to closed-loop system that use
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.  Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Climatological Factors Assessment  Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  Quality Control/Quality Assurance Construction and Installation Plan  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Nuisance or Hazardous Odors, including H <sub>2</sub> S, Prevention Plan  Emergency Response Plan  Oil Field Waste Stream Characterization  Monitoring and Inspection Plan  Erosion Control Plan  Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Proposed Closure: 19.15.17.13 NMAC  Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.  Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Closed-loop System
Alternative  Proposed Closure Method: Waste Excavation and Removal  Waste Removal (Closed-loop systems only)
On-site Closure Method (Only for temporary pits and closed-loop systems)  In-place Burial On-site Trench Burial
Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
15.  Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the
closure plan. Please indicate, by a check mark in the box, that the documents are attached.  Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
<ul> <li>☑ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)</li> <li>☑ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC</li> <li>☑ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC</li> <li>☑ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC</li> </ul>

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground S Instructions: Please indentify the facility or facilities for the disposal of liquids, dr		
facilities are required.		
	Disposal Facility Permit Number:	
	Disposal Facility Permit Number:	
Will any of the proposed closed-loop system operations and associated activities occ ☐ Yes (If yes, please provide the information below) ☐ No	ur on or 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 requirements of Subsection I   Site Reclamation Plan - based upon the appropriate requirements of Subsection	equirements of Subsection H of 19.15.17.13 NMAC of 19.15.17.13 NMAC	C
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the comprovided below. Requests regarding changes to certain siting criteria may require considered an exception which must be submitted to the Santa Fe Environmental demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for	administrative approval from the appropriate dist Bureau office for consideration of approval. Justi	rict office or may be
Ground water is less than 50 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data	obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data	obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data	obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other signs lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	ficant watercourse or lakebed, sinkhole, or playa	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church i  Visual inspection (certification) of the proposed site; Aerial photo; Satellite i		☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that DM Office of the State Engineer - iWATERS database; Visual inspection (co	ring, in existence at the time of initial application.	Yes No
Within incorporated municipal boundaries or within a defined municipal fresh water adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval		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 a	and Mineral Division	Yes No
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology Society; Topographic map	& Mineral Resources; USGS; NM Geological	☐ Yes ☐ No
Within a 100-year floodplain FEMA map		Yes No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the by a check mark in the box, that the documents are attached.  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of S Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of S Protocols and Procedures - based upon the appropriate requirements of 19.15.  Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of S Disposal Facility Name and Permit Number (for liquids, drilling fluids and dri Soil Cover Design - based upon the appropriate requirements of Subsection H Re-vegetation Plan - based upon the appropriate requirements of Subsection I Site Reclamation Plan - based upon the appropriate requirements of Subsection I	rements of 19.15.17.10 NMAC subsection F of 19.15.17.13 NMAC ropriate requirements of 19.15.17.11 NMAC subsed upon the appropriate requirements of 19.17.13 NMAC rements of Subsection F of 19.15.17.13 NMAC of 19.15.17.13 NMAC	15.17.11 NMAC

Operator Application Certification:		
I hereby certify that the information submitted with this application is		
	Title:	Environmental Representative
Signature: him Mamplin	Date:	01/16/2009
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:	OCD Permit Num	ber:
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 a section of the form until an approved closure plan has been obtained	plan prior to implementing any 60 days of the completion of the	closure activities and submitting the closure report. closure activities. Please do not complete this been completed.
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)
Closure Report Regarding Waste Removal Closure For Closed-loc Instructions: Please indentify the facility or facilities for where the letwo facilities were utilized.		
Disposal Facility Name:	Disposal Facility P	ermit Number:
Disposal Facility Name:	Disposal Facility P	ermit Number:
Were the closed-loop system operations and associated activities performed Yes (If yes, please demonstrate compliance to the items below)		be used for future service and operations?
Required for impacted areas which will not be used for future service.  Site Reclamation (Photo Documentation)  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique	and operations:	
24.		
Closure Report Attachment Checklist: Instructions: Each of the finance in the box, that the documents are attached.  Proof of Closure Notice (surface owner and division)  Proof of Deed Notice (required for on-site closure)  Plot Plan (for on-site closures and temporary pits)  Confirmation Sampling Analytical Results (if applicable)  Waste Material Sampling Analytical Results (required for on-site points of the proof o	te closure)	
On-site Closure Location: Latitude	Doughtude	NAD. [[1727] [1703
Operator Closure Certification:  I hereby certify that the information and attachments submitted with the belief. I also certify that the closure complies with all applicable closure.	re requirements and conditions	specified in the approved closure plan.
Name (Print):	Title:	
Signature:	Date:	
e-mail address:	Telephone:	

## ILLEGIBLE Well Location and Acreage Dedication Plan

The state of the s	the a too transmi	/			
<ol> <li>If the answer to question one is "no" agreement or otherwise? Yes</li> </ol>	No constaterage	answer is "yaq".	Been vogsoljda Type of Conso	sed by cammu hdailon.	niti
? If the allower to question two is "no",	list all the owners	and their respentive	interesta beloa	v;	
Owner		Land	Description		14
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PAN AMERICAN PETROLEUM CORP.					
F. H. Hollingsworth				to the second second second second	
Representative)				•	1
P. O. Box 480					
Address,	1				
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	950'			,	
Surface Owner	(0)	1			

This is to pertify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

Date Surveyed 22 January 1964

Requeered Professional Engineer and or Land Surveyor

From State New Merch

A			Client:	XTO Energy
Lodestar Service	s, Inc.	Pit Permit	Project:	Pit Permits
PO Box 4465, Durange	a, CO 81302	Siting Criteria	Revised:	14-Jan-09
V			Prepared by:	Brooke Herb
API#:[		30-045-09134	USPLSS:	T30N,R12W,S27M
Name:	DU	FF GAS COM C #1	Lat/Long:[	36.77905, -108.09042
Depth to groundwater:		< 50'	Geologic formation:	Nacimiento Formation
Distance to closest continuously flowing watercourse:	2400' !	S of the Animas River		
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:		Terrall Irrigation Ditch; of small drainage to the Animas River		
			Soil Type:	Entisols
Permanent residence, school, hospital, institution or church within 300'		No		
			Annual Precipitation:	8.21 inches (Farmington)
Domestic fresh water vell or spring within 500'		No	Precipitation Notes:	no significant precip events
Any other fresh water well or spring within 1000'		0' E of iWaters well SJ DD1; 715' N of SJ 03542		
Within incorporated municipal boundaries		No	Attached Documents:	Groundwater report and Data; FEMA Flood Zone Map
Vithin 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	: 1,	No		1.52 miles NE of Foutz Pit
Within 100 year flood plain	No - F	EMA Flood Zone 'X'		
Additional Notes:			· · · · · · · · · · · · · · · · · · ·	

### DUFF GAS COM C #1 Below Ground Tank Siting Criteria and Closure Plan

### 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 just south of the Animas River. The Nacimiento Formation of Tertiary Age is exposed, along with Quaternary alluvial and aeoloian sands within dry washes and arroyos.

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

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

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

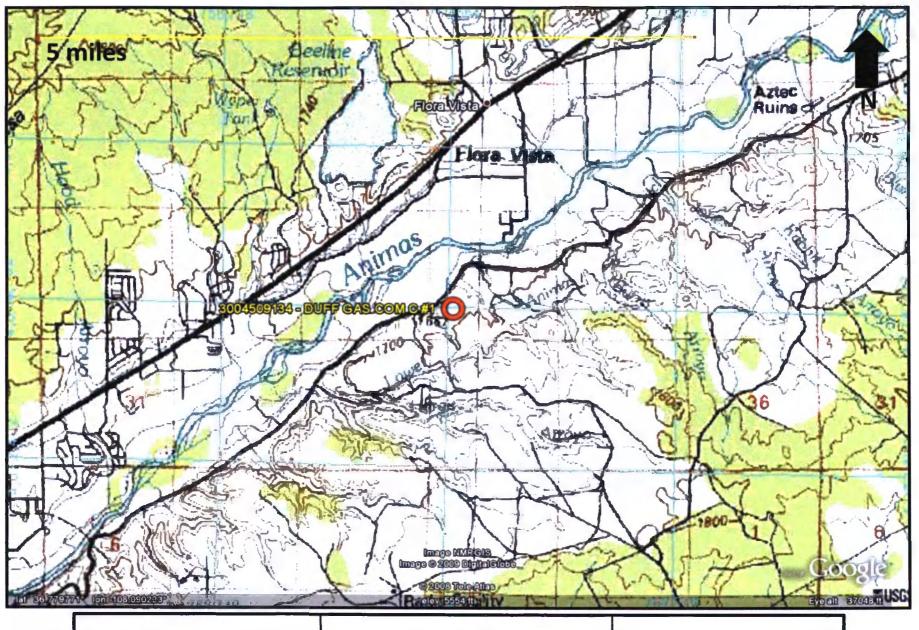
The predominant vegetation is sagebrush and grasses with a more restricted pinon-juniper association (Dick-Peddie, 1993).

### Site Specific Hydrogeology

Depth to groundwater is estimated to be less than 50 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.

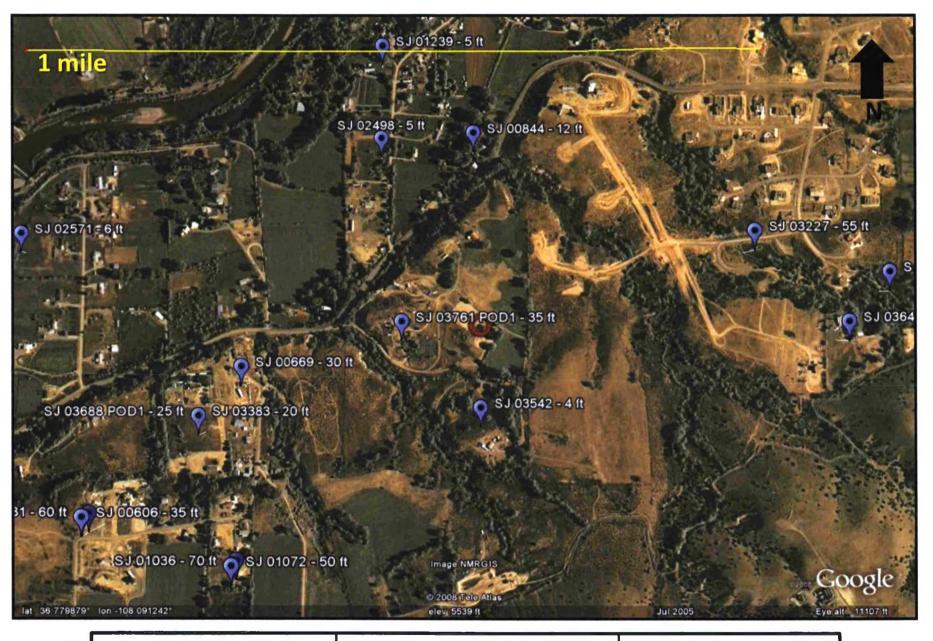
Local aquifers include sandstones within the Nacimiento Formation, which ranges from 0 to 1000 feet deep in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1000-foot depth range for Nacimiento aquifers covers an area over 20 miles wide, and depth decreases 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. The proposed site is situated 2400 feet to the south of the Animas River, and is approximately 85 feet higher in elevation (Google Earth).

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing the location of wells in reference to the proposed pit location is also included. Pinpoints show locations of wells and the labels for each pinpoint indicate depth to groundwater in feet. The closest well to the proposed site is approximately 550 feet to the west, and is approximately 15 feet lower in topographic elevation (Google Earth). Depth to groundwater within the well is 35 feet below ground surface. A well to the south is approximately 40 feet higher than the proposed site and depth to groundwater within the well is 4 feet below ground surface. The close proximity to the Animas River suggests that depth to groundwater at the proposed site is less than 50 feet.



DUFF GAS COM C #1 T30N, R12W, S27M San Juan County, NM

Topographic Map



DUFF GAS COM C #1 T30N, R12W, S27M San Juan County, NM

iWaters Groundwater Data Map

J 01148	30N	12W 23	4	140	80	60
J 03380	30N	12W 23	4 1 1	42	7	35
J 03375	30N	12W 23	4 1 1	42	7	35
J 03664	30N	12W 23	4 1 3	22	6	16
J 02653	30N	12W 23	4 1 3	21	9	12
J 03665	30N	12W 23	4 1 3	25	6	19
J 03663	30N	12W 23	4 1 4	32	8	24
01513	30N	12W 23	4 2	31	7	24
01272	30N	12W 23	4 2 1	35	12	23
03506	30N	12W 23	4 2 2	40	8	32
J 03156	30N	12W 23	4 2 2	14	8	$\epsilon$
J 00117	30N	12W 23	4 2 3	38	20	18
J 00114	30N	12W 23	4 2 3	40	20	20
7 01381	30N	12W 23	4 3	29	10	19
7 00111	30N	12W 23	4 3	28	18	10
J 00896	30N	12W 23	4 4	40	20	20
03638	30N	12W 23	4 4 1	38	10	28
02032	30N	12W 27	1 2	35	5	30
J 00127 X	30N	12W 27	1. 2	36	15	21
00127	30N	12W 27	1 2	30	5	25
01646	30N	12W 27	1 3	23	6	17
01599	30N	12W 27	1. 3	25	6	19
01617	30N	12W 27	1 3	24	4	20
01239	30N	12W 27	1 3 3	23	5	18
00963	30N	12W 27	1 4 2	106	50	56
02829	30N	12W 27	1 4 2	26	10	16
J 02700	30N	12W 27	2 1	21	7	14
J 01530	30N	12W 27	2 1	33	10	23
J 01694	30N	12W 27	2 1	32	6	26
J 01988	30N	12W 27	2 1	29	18	11
J 02620	30N	12W 27	2 1 1	30	10	20
J 03254	30N	12W 27	2 1 1	35	1.0	25
J 03243	30N	12W 27	2 1 2	35	6	29
02784	30N	12W 27	2 1 2	30		
00276	30N	12W 27	2 1 2	35	3	32
03433	30N	12W 27	2 1 2	25		
J 03496	30N	12W 27	2 1 4	50	10	40
J 03120	30N	12W 27	2 3 2	70		
J 02498	30N	12W 27	3 1 1	21	5	16

SJ 00844	30N	12W	27	3	1	2				31	12	19	
SJ 03761 POD1	30N	12W	27	3	3	1	264712	2	2103138	65	35	30	
SJ 03542	30N	12W	27	3	3	4				8	4	4	
SJ 01572	30N	12W	27	4						43	23	2:0	
SJ 03227	30N	12W	27	4	1	3				70	55	15	
SJ 03641	30 <b>N</b>	12W	27	4	3	2				60	25	35	

## New Mexico Office of the State Engineer POD Reports and Downloads

Township: 30N Range: 12V Sections: 28,29,30,31,32,33

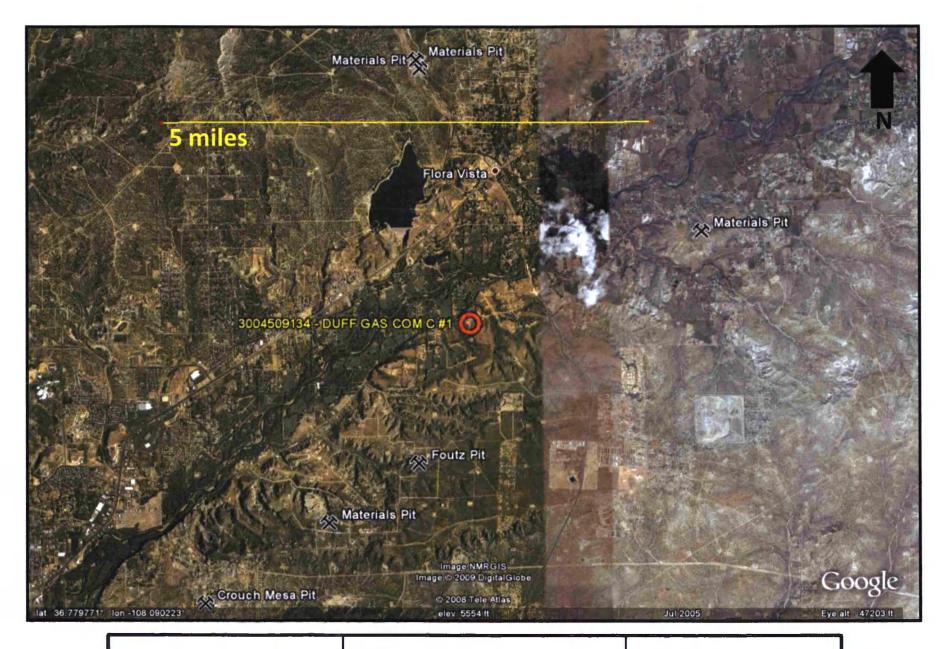
### WATER COLUMN REPORT 11/13/2008

	(quarter	s are	= 1=	NW	2=	=NE	3=SW 4	1=SE)								
	(quarter	s are	e bi	gge	est	t to	small	lest)				Depth	Depth	Water	(in	feet)
POD Number	Tws	Rng	Sec	q	q	q	Zone		X		Ÿ	Well	Water	Column		
SJ 00282	30N	12W	28									34	52	32		
SJ 00122 CLW2837	<b>28</b> 30N	12W	28	1	3							126	€1	65		
SJ 01309	30N	12W	28	1	3							55	32	23		
SJ 00122	30N	12W	28	1	3	2						80	40	4.0		
SJ 02142	30N	12W	28	1	4							55	35	20		
SJ 01275	30N	12W	28	1	4	3						30	5	25		
SJ 02016	30N	12W	28	2	1							120	5€	€4		
SJ 01129	30N	12W	28	2	1	2						40	10	30		
SJ 03702	30N	12W	28	2	2	3						3.0	5	25		
SJ 03702 POD1	30N	12W	28	2	2	3						30	5	25		
SJ 00346	30N	12W	28	2	3	4						41	15	26		
SJ 03796 POD1	30N	12W	28	3	1	2		2€42	58	210465	57	22	5	17		
SJ 02571	30N	12W	28	4	1	3						21	€	15		
SJ 03096	30N	12W	28	4	3	4						125				
SJ 00669	30N	12W	28	4	4							70	30	40		
SJ 02833	30N	12W	28	4	4	1						50				
SJ 03383	30N	12W	28	4	4	3						50	20	30		
SJ 03688	30N	12W	28	4	4	3						50	25	25		
SJ 03688 POD1	30N	12W	28	4	4	3						50	25	25		
SJ 02022	30N	12W	29	3								297	100	197		
SJ 03187	30N	12W	29	3	1	1						160	29	131		
SJ 02476	30N	12W	29	3	2	1						225	185	40		
SJ 03280	30N	12W	29	3	2	4						100				
SJ 03358	30N	12W	29	3	3	1						100	60	40		
SJ 03278	30N	12W	29	3	3	3						120	40	80		
SJ 03279	30N	12W	29	3	3	4						120	60	60		
SJ 00536	30N	12W	29	4								50	28	22		
SJ 02309	30N	12W	29	4	1	2						50	27	23		



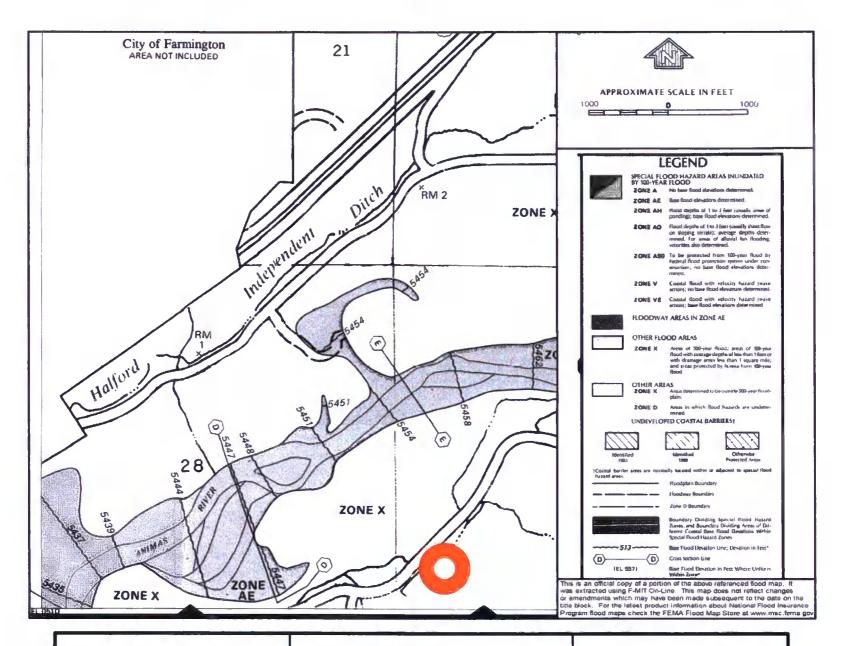
DUFF GAS COM C #1 T30N, R12W, S27M San Juan County, NM

**Aerial Photograph** 



DUFF GAS COM C #1 T30N, R12W, S27M San Juan County, NM

Mines, Mills, and Quarries Map



DUFF GAS COM C #1 T30N, R12W, S27M San Juan County, NM

FEMA Flood Zone Map

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

In accordance with Rule 19.15.17.11 NMAC the following information describes the design and construction of below-grade tanks on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all below-grade tanks. A separate plan will be submitted for any below-grade tank which does not conform to this plan.

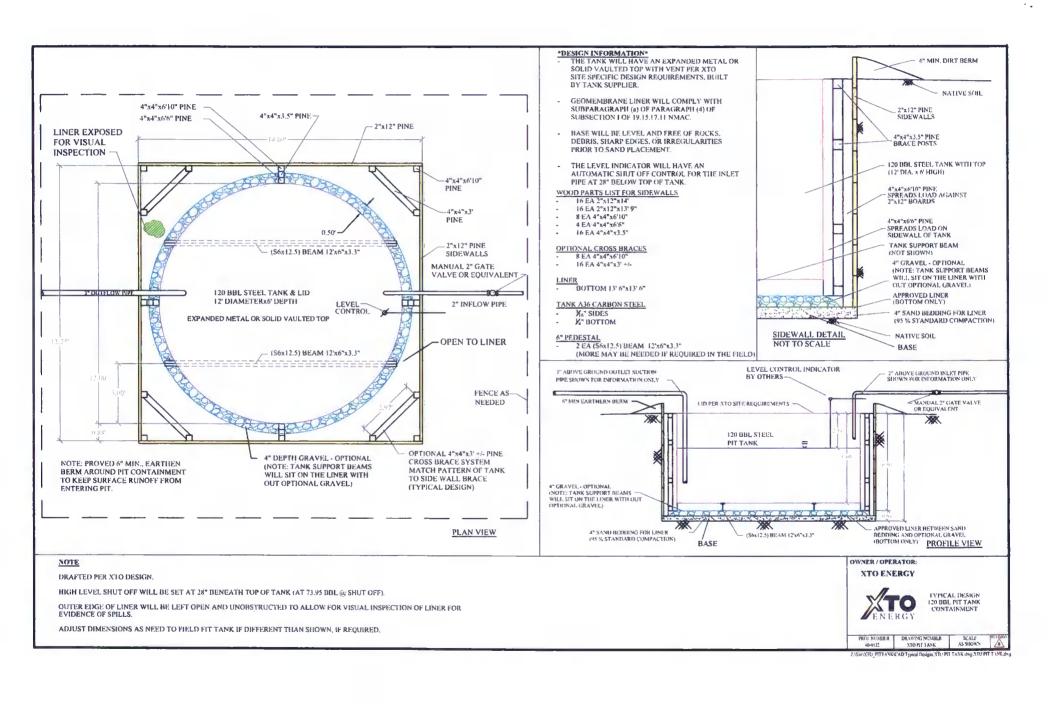
### General Plan

- 1. XTO will design and construct below-grade tanks to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
- 2. XTO will post a well sign, in compliance with 19.15.3.103 NMAC, on the existing well site operated by XTO where the existing below-grade tank is located. The sign will list the Operator on record as the operator, the location of the well site by unit letter, section, township, range, and emergency telephone numbers.
- 3. XTO is requesting approval of an alternative fencing to be used on below-grade tank locations. Below-grade tank locations will be fenced utilizing 48" steel mesh field-fence (hogwire) with pipe railing along the top. A 6' chain link fence will be utilized around the well pad if the well site is within a city limits or 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 \( \frac{1}{2} \) bottom. (See attached drawing).
- 6. The below-grade tank system will have a properly constructed foundation consisting of a level base free of rocks, debris, sharp edges or irregularities to prevent punctures, cracks or indentations of the liner or tank bottom. Sand bedding (4") will be placed on top of a level foundation to ensure prevention of punctures, cracks or indentations of the liner or tank bottom.
- 7. XTO will construct a berm and/or diversion ditch in a manner that prevents the collection of surface water run-on. Below-grade tanks will be equipped with automatic high level shut-off devices as well as manually operated shut-off valves. (See attached drawing).
- 8. XTO will construct and use below-grade tanks that do not have double walls. The below-grade tank sidewalls will be open for visual inspection for leaks. The sidewalls of the cellar will be constructed with 2" X 12" pine sidewalls and 4" X 4" pine brace posts. The below-grade tank

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

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



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

In accordance with Rule 19.15.17.12 NMAC the following information describes the operation and maintenance of below-grade tanks on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all below-grade tanks. A separate plan will be submitted for any below-grade tank which does not conform to this plan.

### General Plan

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

Well Name

API#

Sec., Twn., Rng.

XTO Inspector's name

Inspection date and time

Visible tears in liner

Visible signs of tank overflow

Collection of surface run on

Visible layer of oil

Visible signs of tank leak

Estimated freeboard

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

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

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

		MONT	HLY BELO	W GRADE TANK	INSPECTIO	N FORM		
Well Nam	ne:				API No.:			
Legals	Sec:		Township:		Range:			
XTO Inspector's Name	Inspection Date	Inspection Time	Any visible liner tears (Y/N)	Any visible signs of tank overflows (Y/N)	Collection of surface run on (Y/N)	Visible layer	Any visible signs of a tank leak (Y/N)	Freeboard Est. (ft)
Name	Date	Tarre	tears (1/14)	talik overnows (1714)	run on (1/N)	Or Oil (17N)	Of a talik leak (1/N)	Est. (It)
	_							
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

- XTO will close below-grade tanks within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the division requires because of imminent danger to fresh water, public health or the environment.
- 2. XTO will close a below-grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after June 16, 2008, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC.
- 3. XTO will close a permitted below-grade tank within 60 days of cessation of the below-grade tank's operation or as required by the transitional provisions of Subsection B of 19.15.17.17 NMAC in accordance with a closure plan that the appropriate division district office approves. The closure report will be filed on form C-144.
- 4. XTO will remove liquids and sludge from below-grade tanks prior to implementing a closure method and will dispose of the liquids and sludge in a division-approved facility. Approved facilities and waste streams include:

Envirotech Permit No. NM01-0011 and IEI Permit No. NM 01-0010B
Soil contaminated by exempt petroleum hydrocarbons
Produced sand, pit sludge and contaminated bottoms from storage of exempt

Basin Disposal Permit No. NM01-005 Produced water

- 5. XTO will remove the below-grade tank and dispose of it in a division approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office has approved prior to removal. Any associated liners will be removed, properly cleaned and disposed of per 19.15.9.712 NMAC at San Juan County Landfill. Documentation of the final disposition will be included in the closure report.
- 6. XTO will remove any on-site equipment associated with a below-grade tank unless the equipment is required for some other purpose.
- 7. XTO will test the soils beneath the below-grade tank to determine whether a release has occurred. At a minimum 5 point composite sample will be collected along with individual grab samples from any area that is wet, discolored or showing other evidence of a release. Samples will be

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analyzed for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. XTO will notify the division of its results on form C-141.

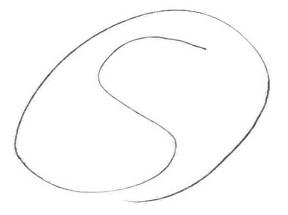
- 8. If XTO or the division determines that a release has occurred, XTO will comply with 19.15.3.116 NMAC and 19.15.1.19NMAC as appropriate.
- 9. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, XTO will backfill the excavation with compacted, non-waste containing, earthen material; construct a division prescribed soil cover; recontour and re-vegetate the site.
- 10. Notice of Closure operations will be given to the Aztec Division District III office between 72 hours and one week prior to the start of closure activities via email or verbally. The notification will include the following:
  - i. Operator's name
  - ii. Well Name and API Number
  - iii. Location by Unit Letter, Section, Township, and Range

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

- 11. Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 12. A minimum of 4 feet of cover shall be achieved and the cover shall include 1 foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater. Soil cover will be constructed to the site's existing grade and ponding of water and erosion of the cover material will be prevented with drainage control, natural drainages and silt traps where needed.
- 13. XTO will seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

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

- 14. All closure activities will include proper documentation and be available for review upon request and will be submitted in closure report form to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on form C-144 and incorporate the following:
  - i. Proof of closure notice to division and surface owner;
  - ii. Details on capping and covering, where applicable;
  - iii. Inspection reports;
  - iv. Confirmation sampling analytical results;
  - v. Disposal facility name(s) and permit number(s);
  - vi. Soil backfilling and cover installation;
  - vii. Re-vegetation application rates and seeding techniques, (or approved alternative to re-vegetation requirements if applicable);
  - viii. Photo documentation of the site reclamation.



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