District 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

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

7547 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 Breech F #133
API Number
U/L or Qtr/Qtr J Section 33 Township 27N Range 6W County Rio Arriba
Center of Proposed Design Latitude 36 52934 Longitude 107 47058 NAD ☐ 1927 ☒ 1983
Surface Owner Federal State Private Tribal Trust or Indian Allotment
N Pro C L C C C C C C C C C C C C C C C C C
X Pit: Subsection F or G of 19 15 17 11 NMAC Temporary X Drilling Workover
Permanent Emergency Cavitation P&A
☐ Lined ☐ Unlined Liner type Thickness 20 mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
✓ String-Reinforced
Liner Seams \(\begin{align*} \text{Welded} \(\begin{align*} \text{Factory} \eqracktriangle \text{Other} \\ \text{Usume} \\ \text{Volume} \\ \text{bbl} \text{Dimensions L} \\ \text{200} \ x \text{W} \\ 80 \ x \text{D} \\ 8-12 \\ \text{80} \\ SON Solutions of the line of the
3
☐ X Closed-loop System: Subsection H of 19.15.17.11 NMAC
Type of Operation P&A Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of
Intent) To be used during completion operations Drying Pad Above Ground Steel Tanks Haul-off Bins Other
Drying Pau & Above Ground Steel Tanks Haul-off Bins Other
Liner Seams

Alternative Method:

Tank Construction material

Volume

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

27

Below-grade tank: Subsection I of 19 15 17 11 NMAC

☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other

_bbl Type of fluid

Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow

• 3	
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) Four foot height, four strands of barbed wire evenly spaced between one and four feet Alternate Please specify	hospital,
7	
Netting: Subsection E of 19 15 17 11 NMAC (Applies to permanent pits and permanent open top tanks) Screen Netting Other	
Monthly inspections (If netting or screening is not physically feasible)	
Signs: Subsection C of 19 15 17 11 NMAC ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers ☐ Signed in compliance with 19 15 3 103 NMAC	
Administrative Approvals and Exceptions: Justifications and/or demonstrations of equivalency are required Please refer to 19 15 17 NMAC for guidance Please check a box if one or more of the following is requested, if not leave blank: X Administrative approval(s) Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau consideration of approval Fencing- Hogwire 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 approoffice 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.
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 - 1WATERS 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
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. Mydrogeologic 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 Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC Previously Approved Design (attach copy of design) API Number or Permit Number
12
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19 15 17 9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19 15 17 9 Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19 15 17 10 NMAC Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC
and 19 15 17 13 NMAC
Previously Approved Design (attach copy of design) API Number
Previously Approved Operating and Maintenance Plan API Number (Applies only to closed-loop system that use
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)
Permanent Pits Permit Application Checklist: Subsection B of 19 15 17 9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC Climatological Factors Assessment Certified Engineering Design Plans - based upon the appropriate requirements of 19 15 17 11 NMAC Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19 15 17 11 NMAC Leak Detection Design - based upon the appropriate requirements of 19 15 17 11 NMAC Luner 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 12 NMAC Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19 15 17 11 NMAC Nuisance or Hazardous Odors, including H ₂ S, Prevention Plan 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
Proposed Closure Method Waste Excavation and Removal Waste Removal (Closed-loop systems only)
☑ On-site Closure Method (Only for temporary pits and closed-loop systems)
☐ In-place Burial ☐ On-site Trench Burial
Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
Waste Excavation and Removal Closure Plan Checklist: (19 15 17 13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached. Protocols and Procedures - based upon the appropriate requirements of 19 15 17 13 NMAC Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Groun Instructions: Please indentify the facility or facilities for the disposal of liquid facilities are required.		
Disposal Facility Name Envirotech	Disposal Facility Permit NumberNM01-	0011
Disposal Facility Name IEI		0010B
Will any of the proposed closed-loop system operations and associated activities ☐ Yes (If yes, please provide the information below) ☒ No	· · · · · · · · · · · · · · · · · · ·	ervice and operations?
Required for impacted areas which will not be used for future service and operated Soil Backfill and Cover Design Specifications based upon the appropriate Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsections.	ate requirements of Subsection H of 19 15 17 13 NM on I of 19 15 17 13 NMAC	AC
Siting Criteria (regarding on-site closure methods only): 19 15 17 10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the provided below. Requests regarding changes to certain siting criteria may requested an exception which must be submitted to the Santa Fe Environment demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC	te closure plan. Recommendations of acceptable so vire administrative approval from the appropriate d tal Bureau office for consideration of approval. Ju	istrict 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, D	ata 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, D	ata obtained from nearby wells	X 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, D	ata obtained from nearby wells	X Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other slake (measured from the ordinary high-water mark) - Topographic map, Visual inspection (certification) of the proposed site	ignificant watercourse or lakebed, sinkhole, or playa	Yes X No
Within 300 feet from a permanent residence, school, hospital, institution, or chur - Visual inspection (certification) of the proposed site, Aerial photo, Satell		☐ Yes ☒ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that lewatering purposes, or within 1000 horizontal feet of any other fresh water well or - NM Office of the State Engineer - iWATERS database, Visual inspection	r spring, in existence at the time of initial application	☐ Yes 🏿 No
Within incorporated municipal boundaries or within a defined municipal fresh ward adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality, Written appre	•	☐ Yes 🔀 No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map, Vis	sual 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-Mini	ng and Mineral Division	☐ Yes 🛛 No
Within an unstable area - Engineering measures incorporated into the design, NM Bureau of Geold Society, Topographic map	egy & Mineral Resources, USGS, NM Geological	Yes X No
Within a 100-year floodplain - FEMA map		☐ Yes 🛛 No
On-Site Closure Plan Checklist: (19 15 17 13 NMAC) Instructions: Each of by a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements Construction/Design Plan of Burial Trench (if applicable) based upon the Construction/Design Plan of Temporary Pit (for in-place burial of a drying Protocols and Procedures - based upon the appropriate requirements of 19 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Usaste Material Sampling Plan - based upon the appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection Response in the suppropriate requirements of Subsection Response in t	equirements of 19 15 17 10 NMAC of Subsection F of 19 15 17 13 NMAC appropriate requirements of 19 15 17 11 NMAC pad) - based upon the appropriate requirements of 1 15 17 13 NMAC equirements of Subsection F of 19 15 17 13 NMAC of Subsection F of 19 15 17 13 NMAC I drill cuttings or in case on-site closure standards can H of 19 15 17 13 NMAC on I of 19 15 17 13 NMAC	9 15 17 11 NMAC

Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief
Name (Print) Malia Villers Title Permitting Tech
Signature Malia Villera Date January 7, 2011
e-mail address malia_villers@xtoenergy com Telephone (505) 333-3100
OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)
Cosure Fian (only) Cosure Fian (only)
OCD Representative Signature: Approval Date: 1/26/11 Title: OCD Permit Number:
Closure Report (required within 60 days of closure completion): Subsection K of 19 15 17 13 NMAC Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.
Closure Completion Date:
Closure Method: Waste Excavation and Removal On-Site Closure Method Alternative Closure Method Waste Removal (Closed-loop systems only) If different from approved plan, please explain
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.
Disposal Facility Name Disposal Facility Permit Number
Disposal Facility Name Disposal Facility Permit Number
Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations? Yes (If yes, please demonstrate compliance to the items below) No
Required for impacted areas which will not be used for future service and operations
☐ Site Reclamation (Photo Documentation) ☐ Soil Backfilling and Cover Installation
Re-vegetation Application Rates and Seeding Technique
Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check
mark in the box, that the documents are attached. Proof of Closure Notice (surface owner and division)
Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits) ☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number☐ Soil Backfilling and Cover Installation
Re-vegetation Application Rates and Seeding Technique
Site Reclamation (Photo Documentation) On-site Closure Location Latitude Longitude NAD 1927 1983
On-site Closure Location Latitude Longitude NAD 1927 1983
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.
Name (Print) Title
Signature Date
e-mail address Telephone



Pit Permit Siting Criteria Information Sheet

Client:	XTO Energy
Project:	Pit Permits
Revised:	11/17/2010
Prepared by:	Ashley Ager

F 970 385	5 1873	Information Sheet	Prepared by:	Ashley Ager
API#:		NA	USPLSS:	T27N, 6W, 33J
Name:	В	reech F #133	Lat/Long:	36.52934, -107.47058
Depth to groundwater:	Betwee	en 50 and 100 feet	Geologic formation:	San Jose Formation
Distance to closest continuously flowing watercourse:	26 miles	NE to San Juan River	-	
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	tributary o	orthwest of 1st order f Ice Canyon; 265 feet 2nd order tributary	•	
			Soil Type:	Entisols
Permanent residence, school, hospital, institution or church within 300'		NO	:	
			Annual Precipitation:	8.21" - Farmington, 10 41" Otis; 8 71" Bloomfield
Domestic fresh water well or spring within 500'		NO	Precipitation Notes:	no significant precipitation events on record
Any other fresh water well or spring within 1000'		NO	-	
Within incorporated municipal boundaries		NO	Attached Documents:	Hydrogeologic Report Figure 1: Topographic Map
Within defined municipal fresh water well field		NO	1	Figure 2 Aerial Photo Figure 3: Mines, Mills and Quarries Map Figure 4. Water Well and Surface Water Features Figure 5: Municipal Boundaries Map Figure 6 FEMA Flood Zone Map iWaters Data
Wetland within 500'		NO	Mining Activity:	None identified in the vicinity
Within unstable area		NO		
Within 100 year flood plain		NO		
Additional Notes:		v dan		

DISTRICT I 1625 N. Fench Dr., Hobbs, N.M. 88240

State of New Mexico Energy, Minerals & Natural Resources Department

Form C-102 Revised October 12, 2005 Instructions on back Submit to Appropriate District Office State Lease — 4 Copies Fee Lease — 3 Copies

DISTRICT II 1301 W Grand Avenue, Artesia, N.M. 88210

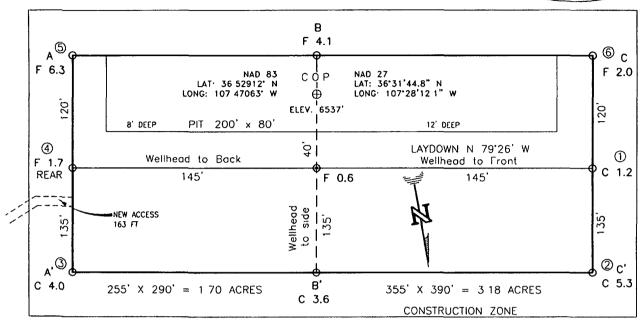
OIL CONSERVATION DIVISION 1220 South St Francis Dr Santa Fe, NM 87504-2088

DISTRICT III 1000 Rio Brazos Rd , Aztec, N.M. 87410

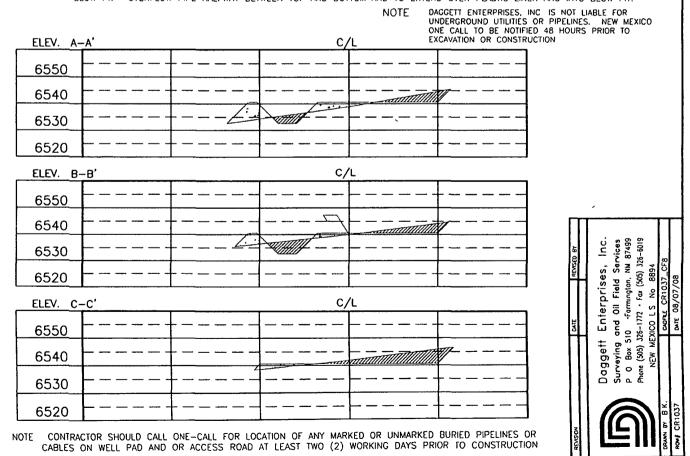
DISTRICT IV 1220 South St. Fre	oncis Dr., Sa	nta Fe, NM 8	7505	S	anta Fe, N	IM 8.	/504-2088] AMEI	NDED REPORT
¹ API	Number	V	VELL L	OCATIOI Pool Code	N AND	AC	REAGE DED	ICA.	TION PL 3 Paol Name			
*Property Co	ode		<u></u>			erty N					Vell Number	
OGRID No	,					ator N					-	Elevation
					XTO EN	IERG	Y INC					6540'
		······			10 Surfa	 эсе	Location		***			
UL or lot no	Section 33	Township 27-N	Range 6-W	Lot Idn	Feet from t 1955		North/South line SOUTH	Feet	from the 1980	East/Wes EAS		County RIO ARRIBA
			¹¹ Bott	om Hole			f Different Fr					
UL or lot no	Section	Township	Range	Lot Idn	Feet from 1	the	North/South line	Fee	from the	East/Wes	st line	County
12 Dedicated Acres	s	13 ၂	oint or Infill	1	14 Consolidat	ion Co	de	15 Or	der No	<u> </u>		
NO ALLOV	WABLE W						ON UNTIL ALL EEN APPROVE		THE DI	VISION OPERAT	OR CE	ONSOLIDATED RTIFICATION ion contained herein
			· · · · · ·	,	-				is true and belief, and interest or including th right to dri contract wi interest, or	complete to that this org unleased mile be proposed If this well a th an owner to a volunte	the best ganization neral inter- bottom ho it this local of such a ary pooling	of my knowledge and either owns a working est in the land ide location or has a lation pursuant to a mineral or working g agreement or a ore entered by the
									Signature			Date
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	36.52934	ACE LOCA ' N. (NAD ' W. (NAD	<u>.TION:</u>) 83)		Q		1980′		was plotted fro	om lield note: supervision, o	s of octua and that th	n shown on this plot I surveys made by me ne some is true and and belief
LAT	36°31'45	6" N (NA 9" W (NA	D 27)			_	:	N 00'33'22" W 2620 22' (M)	JUL Date of Surv Signature an	200	P A	U.S.
					1955'			N 00 2620	08	E ty C	BB94)	
		FD	3 1/4" BC 1955 BLM	S 26	89°55'29" 544 34' (N	w)	FD 3 1/4' 1957 E		Certificate Nu	889		

XTO ENERGY INC.
BREECH F No. 133, 1955 FSL 1980 FEL
SECTION 33, T27N, R6W, N.M.P.M., RIO ARRIBA COUNTY, N.M.
GROUND ELEVATION: 6540' DATE: JULY 11, 2008

NAD 83 LAT. = 36.52934° N LONG. = 107.47058° W NAD 27 LAT = 36'31'45.6° N LONG = 107'28'11 9° W



RESERVE PIT DIKE TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE)
BLOW PIT OVERFLOW PIPE HALFWAY BETWEEN TOP AND BOTTOM AND TO EXTEND OVER PLASTIC LINER AND INTO BLOW PIT.





2243 Main Avenue, Suite 3 Durango, Colorado 81301 T 970 385 1096 / F 970 385 1873

Breech F #133

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 the surficial geology (Dane and Bachman, 1965). The proposed pit location will be situated on the undulating surface of Ensenada Mesa near the head of Ice Canyon (Figure 1). The predominant geologic formation is the San Jose Formation, which underlies surface soils or is exposed as sandstone outcrops. The San Jose Formation occurs in both New Mexico and Colorado and its outcrop forms the land surface over much of the eastern half of the central basin.

Cretaceous and Tertiary sandstones and Quaternary alluvial deposits serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). In the proposed area, the San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and shale. Groundwater is associated with alluvial and fluvial sandstone aquifers. Porous sandstones form the principal aquifers, while relatively impermeable shales and mudstones form confining units between the aquifers (Stone et al., 1983). The aquifers are found between 0 and 2700 feet deep (Stone et al., 1983). The reported or measured discharge from numerous water wells completed in the formation range from 0.15 to 61 gallons per minute (gpm) of production, with a median of 5 gpm. Most of the wells provide water for livestock and domestic purposes.

The formation is suitable for recharge from precipitation due to the sandy nature of overlying soils, which are highly permeable and absorbent. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the formation by the San Juan River and its main tributaries all tend to reduce the effective recharge to the formation. Most recharge occurs during the winter months during snowmelt periods within the upper elevations (Western Regional Climate Center, www.wrcc.dri.edu).

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

Site-Specific Hydrology

Ensenada Mesa lies to the north of Largo Canyon. It consists of shales and sandstones of the San Jose Formation (Dane and Bachman, 1965). The site in question is located near the base of the slope of a sandstone outcrop at an elevation of approximately 6,521 feet above sea level (Figures 1 and 2). The immediate surrounding area consists of shallow washes and canyons that have eroded through the sandstone into underlying shale units. The washes drain to Ice Canyon, a major tributary of Largo Canyon.



Depth to groundwater is estimated to be between 50 and 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.

Groundwater data available from the New Mexico State Engineer's iWaters Database for wells near the proposed site are attached. The wells are more than four miles away and may not be representative of site conditions. However, the data suggest that wells located within surrounding canyons contain shallow groundwater between 10 and 25 feet beneath ground surface. Wells that exist on top of mesas at similar elevations to Ensenada Mesa contain groundwater at 100 to 450 feet depth.

More locally, standing water and wetland vegetation are present in shallow surface depressions on top of Ensenada Mesa, including a small pond identified 3,500 feet to the southeast of the proposed pit location (Figures 1 and 4). The presence of these features suggests groundwater is perched just beneath the ground surface nearby. However, the ponds are formed within the shaley units of Ensenada Mesa and their elevations are between 65 and 78 feet lower than that of the proposed pit location. Based on these observations, groundwater is estimated to be greater than 100 feet deep at the proposed site.

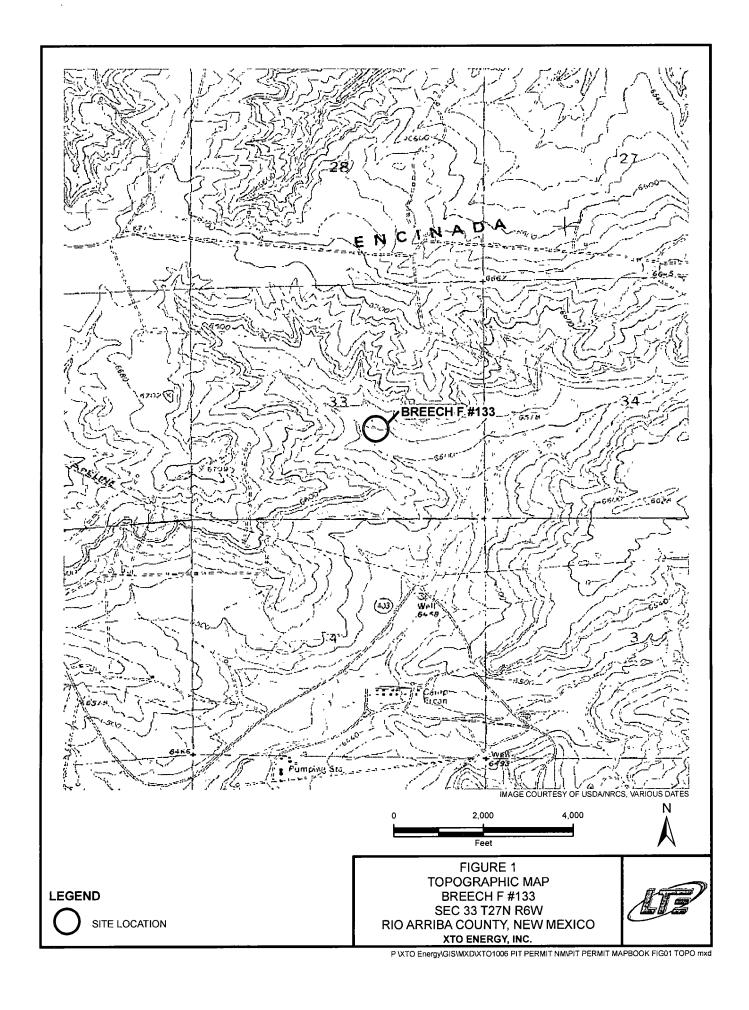
References

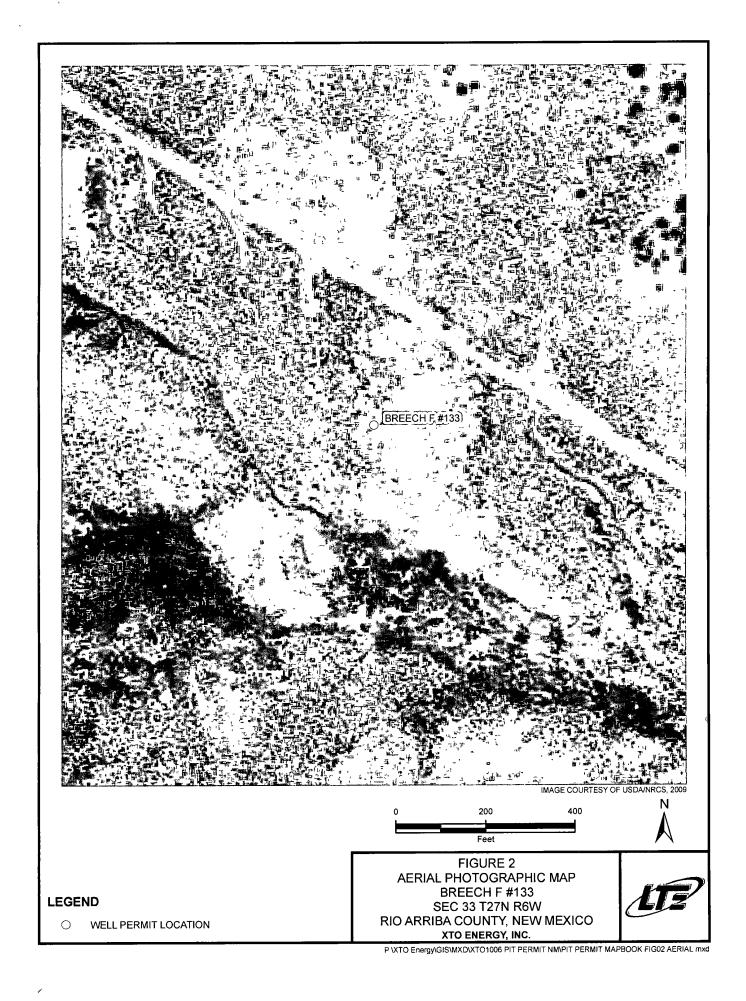
Dane, C.H. and Bachman, G. O., 1965, Geologic Map of New Mexico: U.S. Geological Survey, 1 sheet, scale 1:500,000.

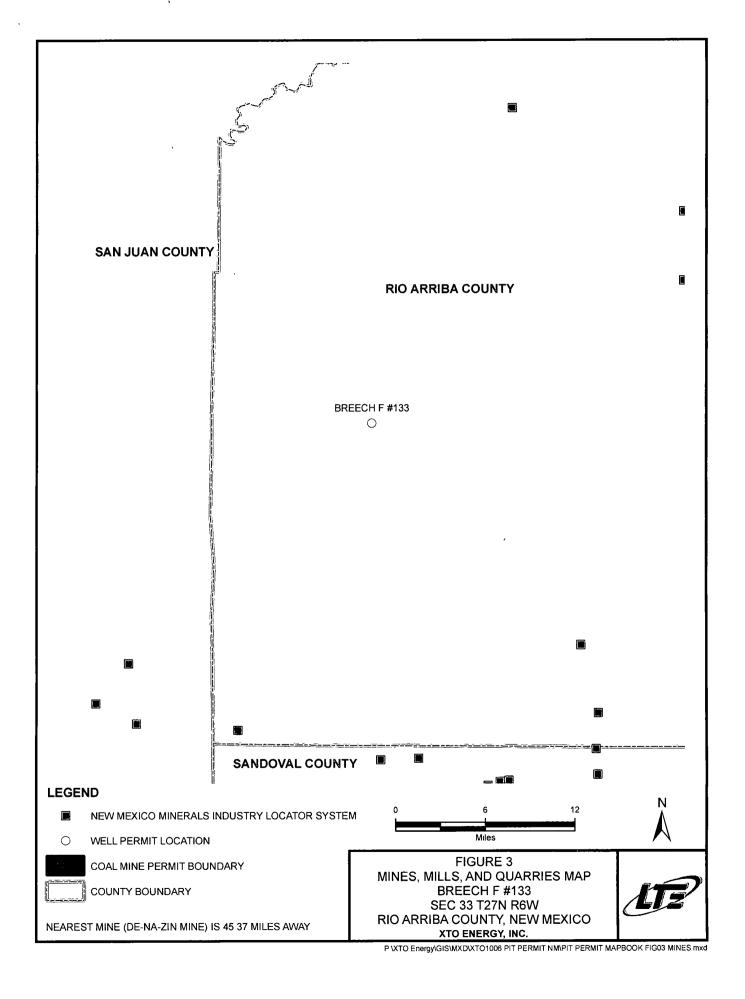
Dick-Peddie, W.A., 1993, New Mexico Vegetation – Past, Present and Future: Albuquerque, New Mexico, University of New Mexico Press, 244 p.

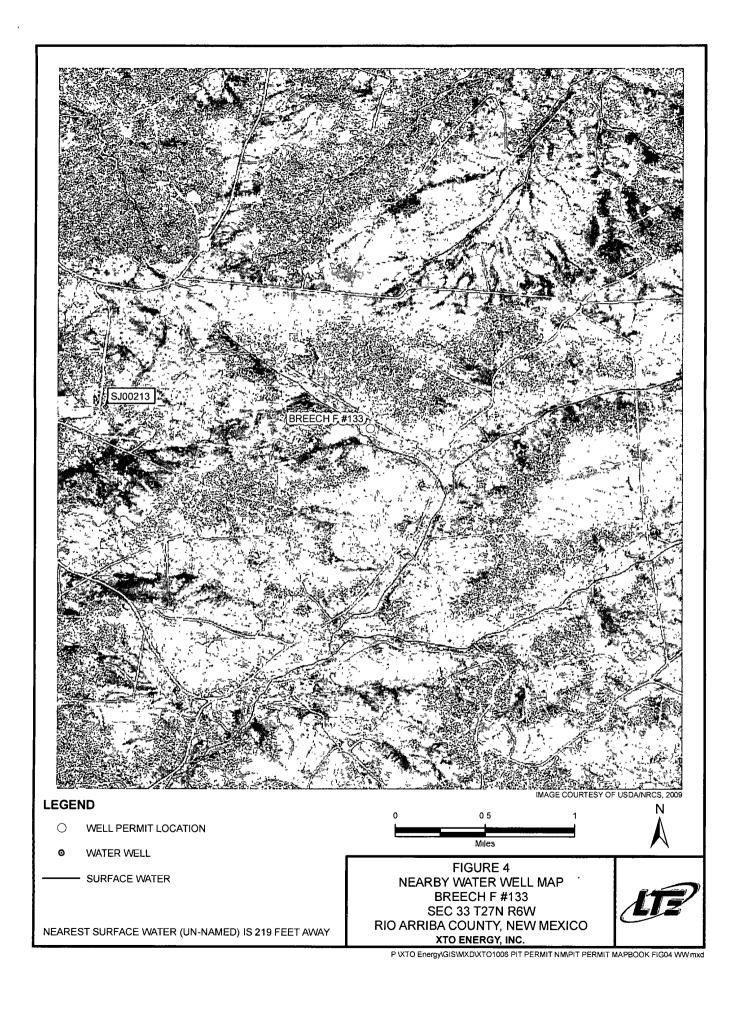
Stone, W.J., Lyford, F. P., Frenzel, P.F., Mizell, N.H. and Padgett, E.T., 1983, Hydrogeology and water resources of the San Juan Basin, New Mexico: HR-6 New Mexico Bureau of Geology and Mineral Resources Hydrology Report 6.

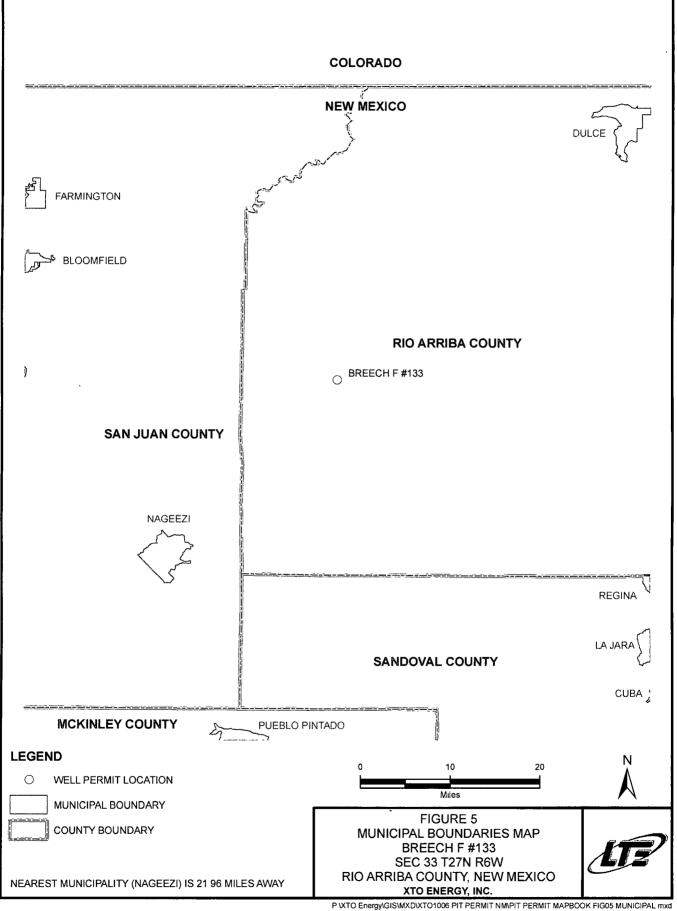
USGS, Groundwater Atlas of the United States: Arizona, Colorado, New Mexico, Utah, HA 730-C: (http://www.pubs.usgs.gov).











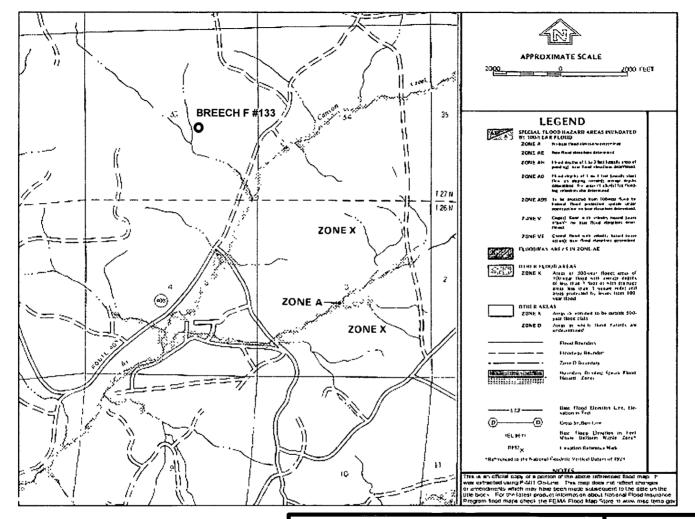


FIGURE 6
FEMA FLOOD ZONE MAP
BREECH F #133
SEC 33 T27N R6W
RIO ARRIBA COUNTY, NEW MEXICO





New Mexico Office of the State Engineer Wells with Well Log Information

			(quarte	rs are 1=1	MM:	2=NI	E 3=8	SW 4=	:SE)								
				(quarters	are	sma	llest t	o larg	est)	(NAD83 UTN	In meters)				(ın fe	et)	
•	Sub				q	q q								Log File	Depth	Depth	
POD Number	basın	Use	County	Source	64	16 4	Sec	Tws	Rng	X	Υ	Start Date	Finish Date	Date	Well	Water	
SJ 00061		DOM	RA	Shallow	3	3 3	32	27N	06W	276278	4044923*	11/01/1956	11/07/1956	02/05/1957	445	301	
SJ 00062		DOM	RA	Shallow	3	3 3	32	27N	06W	276278	4044923*	11/08/1956	11/12/1956	04/05/1957	452	301	
SJ 03001		DOM	RA	Shallow	1	2 2	07	27N	06W	276165	4052831*	06/28/2000	07/04/2000	11/27/2000	141	41	

Record Count: 3

PLSS Search:

Township: 27N Range: 06W

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data



New Mexico Office of the State Engineer

Wells with Well Log Information

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

(quarters are smallest to largest) (NAD83 UTM in meters) (in feet)

Sub q q q Log File Depth Depth basin Use County Source 6416 4 Sec Tws Rng X Y Start Date Finish Date Date Well Water

 POD Number
 basin
 Use
 County
 Source
 6416 4
 Sec
 Tws
 Rng
 X
 Y
 Start Date
 Finish Date Date
 Well
 Water

 SJ 00070
 DOM
 RA
 Shallow
 3 2 4 15 26N 07W
 270886
 4040617* 06/14/1957
 06/28/1957 05/08/1958
 335 22

SJ 00071 IND RA Shallow 2 1 4 15 26N 07W 270686 4040839* 05/13/1957 06/05/1957 05/08/1958 365 26

Record Count: 2

PLSS Search:

Township: 26N Range: 07W

*UTM location was derived from PLSS - see Help

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New Mexico Office of the State Engineer

Wells with Well Log Information

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

(quarters are smallest to largest) (NAD83 UTM in meters) (in feet)

		Sub				qq	q							Log File	Depth	Depth	
POD Number	-	basin	Use	County	Source	6416	4 S	ec	Tws Rn	g >		Y Start Date	Finish Date	e Date	Well	Water	
RG 81025		СН	STK	RA	Shallow	3 3	4 3	5	27N 07\	N 272236	4044920	0* 09/03/2003	09/11/2003	10/01/2003	560	465	
SJ 02314			STK	RA	Shallow	3	3 1	7	27N 07\	N 266864	405005	1* 07/20/1991	08/29/1991	03/20/1992	355	320	

Record Count: 2

PLSS Search:

Township: 27N Range: 07W

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data



To mark_kelly@blm.gov

CC

bcc

Subject Notice - Breech F #133 Well Site

RE. Breech F #133

Sec. 33 (J), T25N-R10W, San Juan County

Dear Mr. Kelly,

This submittal is pursuant to Rule 19 15.17.13 requiring operators to notify surface owners of on site burial of temporary pits. XTO Energy Inc. (XTO) is hereby providing written documentation of our intention to close the temporary pit associated with the aforementioned location by means of in place burial

Should you have any questions or require additional information please feel free to contact me at your earliest convenience (505) 333-3100.

Malia Villers
Permitting Tech.
XTO Energy Inc.
505-333-3100
Direct: 505-333-3698
Cell 505-787-7700
malia_villers@xtoenergy.com

XTO Energy Inc. San Juan Basin Pit Design and Construction Plan

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

General Plan

- 1. XTO will design and construct a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public heath and environment
- 2. Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration.
- 3. XTO will post a well sign, in compliance with 19.15.3.103 NMAC, on the well site prior to construction of the temporary pit. 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.
- 4. XTO shall construct all new fences utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post. Temporary pits will be fenced at all times excluding drilling or workover operations, when the front side of the fence will be temporarily removed for operational purposes.
- 5. XTO shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure.
- XTO shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot.
- 7 Pit walls will be walked down by a crawler type tractor following construction.
- 8 All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
- Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided
- All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep.
- 11. XTO will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used when possible. XTO will ensure all field seams are welded by qualified personnel Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. XTO will minimize the number of field seams in corners and irregularly shaped areas.
- 12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
- 13. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some areas.
- 14. The volume of the pit shall not exceed 10 acre-feet, including freeboard.

XTO Energy Inc. San Juan Basin Maintenance and Operating Plan

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

General Plan

- 1. XTO will operate and maintain a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment
- XTO will conserve drilling fluids by transmitting liquids to pits ahead of the rigs whenever possible. All drilling fluids will be disposed at Basin Disposal Inc, Permit # NM-01-005.
- 3. XTO will not discharge or store any hazardous waste in any temporary pit.
- If any pit liner integrity is compromised, or if any penetration of the liner occurs above the liquid surface, then XTO shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner.
- 5. If a leak develops below the liquid level, XTO shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner XTO shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks less than 25 barrels. XTO shall notify the Aztec Division office as required pursuant to Subsection B of 19.15 3.116 NMAC within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), and Subparagraph (d) of 19 15 3 116 NMAC shall be reported to the division's Environmental Bureau Chief.
- 6. The liner shall be protected from any fluid force or mechanical damage through the use of mud pits slides, or a manifold system.
- 7. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
- 8. XTO shall immediately remove any visible layer of oil from the surface of the temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from pits surface. An oil absorbent boom will be stored on-site until closure of pit
- 9. Only fluids generated during the drilling or workover process will be discharged into a temporary pit
- 10. XTO will maintain the temporary pit free of miscellaneous solid waste or debris
- During drilling or workover operations, XTO will inspect the temporary pit at least once daily to ensure compliance with this plan Inspections will be logged and logs maintained for review.

 XTO will file this log with the Aztec Division office upon closure of the pit.
- 12. After drilling or workover operations, XTO will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at XTO's office electronically and will be filed with the Aztec Division office upon closure of the pit.
- 13. XTO shall maintain at least two feet of freeboard for a temporary pit
- 14. XTO shall remove all free liquids from a temporary pit within 30 days from the date the operator releases the drilling or workover rig.

XTO Energy Inc. San Juan Basin Closure Plan

In accordance with Rule 19.15.17 13 NMAC the following information describes the closure requirements of temporary pits on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of pit closure. Closure report will be filed on C-144 and incorporate the following:

- Details on Capping and Covering, where applicable.
- Plot Plan (Pit Diagram)
- Inspection Reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

General Plan:

- 1. All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycled, reused, or reclaimed in a manner that the Aztec Division office approves.
- 2. The preferred method of closure for all temporary pits will be on-site, in-place burial, assuming that all criteria listed in sub-section (B) of 19.15.17 13 are met.
- 3. The surface owner shall be notified of XTO proposed closure plan using a means that provides proof of notice i.e., Certified mail, return receipt requested.
- Within 6 months of the Rig Off status occurring XTO will ensure that temporary pits are closed, re-contoured, and reseeded
- 5. Notice of Closure will be given to the Aztec Division office between 72 hours and one week of closure via email, or verbally. The notification of closure will include the following:
 - i Operators Name
 - ii. Location by Unit Letter, Section, Township, and Range Well name and API number.
- 6. Liner of temporary pit shall be removed above "mud level" after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove "ALL" of the liner i.e, edges of liner entrenched or buried. All excessive liver will be disposed of at a licensed disposal facility.
- 7. Pit contents shall be mixed with non-waste containing, earthen material in order to achieve appropriate solidification. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.
- A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul Disposal facility to be utilized should this method be required will be Envirotech, Permit No. NM01-0011 or IEI, Permit No. NM01-0010B.

Components	Test Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	, 0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418 1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	500 or background

- Upon completion of solidification and testing, the pit area will be backfield with compacted, nonwaste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater
- Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, ponding prevention, and erosion prevention. 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.
- 11. Notification will be sent to OCD when the reclaimed area is seeded
- 12. XTO shall 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 of 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.
- 13. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time all wells on the pad are abandoned. The operator's information will include the following: Operators Name, Lease Name, Well Name and Number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

XTO Energy Inc. San Juan Basin Closed-Loop System Design and Construction Plan

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

General Plan

Our closed-loop system will not entail a drying pad, temporary pit, below grade tank or sump. It will entail an above ground tank suitable for holding the cuttings and fluids for rig operations. The tank will be of sufficient volume to maintain a safe free board between disposal of the liquids and solids from rig operations.

- 1. Fencing is not required for an above ground closed-loop system.
- 2. It will be signed in compliance with 19.15.3.103 NMAC.

XTO Energy Inc. San Juan Basin Closed-Loop Systems Maintenance and Operating Plan

In accordance with Rule 19.15.17 11 NMAC the following information describes the operation and maintenance of closed-loop systems on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all closed-loop systems A separate plan will be submitted for any closed-loop system which does not conform to this plan.

General Plan

The closed-loop tank will be operated and maintained; to contain liquids and solids, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. To attain the goal the following steps will be followed:

- The liquids will be vacuumed out and disposed of at the Basın Disposal, Inc. facility (Permit Number NM01-005). An alternative if available for liquids disposal, will be to move the liquids forward to a XTO temporary pit constructed in accordance with all specifications in NMAC Rule 19.15 17 for a well yet to be drilled All specifications, limitations, and rules within the New Mexico Administrative Code regulating this transfer of liquids will be strictly adhered to. As a third alternative, if Basin Disposal turns away the fluids because of capacity reasons, and the second transfer option is not available, XTO may elect to haul fluids to IEI (Permit Number NM01-0010B) for final disposition.
- 2. Solids in the closed-loop tank will be vacuumed out and disposed of at Envirotech (Permit Number NM01-0011) or IEI (Permit Number NM01-0010B) on a periodic basis to prevent over topping
- 3. No hazardous waste, miscellaneous solids, waste, or debris will be discharged into, or stored in the tank. Only fluids or cutting used or generated by rig operations will be placed or stored in the tank.
- 4. The division district office will be notified within 48 hours of the discovery of compromised integrity of the closed-loop tank. Upon discovery of the compromised tank, repairs will be enacted immediately.
- 5. All of the above operations will inspected and a log will be signed and dated daily during rig operations.

XTO Energy Inc. San Juan Basin Closed-Loop System Closure Plan

In accordance with Rule 19.15.17.11 NMAC the following information describes the closure requirements of closed-loop systems on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all closed-loop systems. A separate plan will be submitted for any closed-loop system which does not conform to this plan.

General Plan

XTO will close a drying pad used for a closed-loop system within six months from the date that XTO released the drilling or workover rig. XTO will not the date of the drilling or workover rig's release on form C-105 or C-103, riled with the division, upon the well's or workover's completion.

The closed-loop tank will be closed in accordance with 19.15.17.13 NMAC. This will be done by transporting cuttings and all remaining sludges to Envirotech (Permit Number NM01-0011) or IEI (Permit Number NM01-0010B) immediately following rig operations.

All remaining liquids will be transported and disposed of at the Basin Disposal, Inc facility (Permit Number NM 01-005). As an alternative (in the event Basin Disposal refused liquids because of capacity considerations, and if proper inventory space is available for liquids transfer while meeting free board requirements), the liquids will be moved forward to a XTO temporary pit constructed in accordance with all specifications in NMAC Rule 19.15.17 for a well yet to be drilled. All specifications, limitations, and rules within the New Mexico Administrative Codes regulating this transfer of liquids will be strictly adhered to. As a third alternative, if Basin Disposal turns away the fluids because of capacity reasons, and the second transfer option is not available, XTO may elect to haul the fluids to IEI (Permit Number 01-0010B) for final disposition.

The tanks will be removed from the location as part of the rig move. At the time of well abandonment the site will be reclaimed and re-vegetated to pre-existing conditions when possible.