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.

Pit, Closed-Loop System, Below	y-Grade Tank, or								
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 ope environment. Nor does approval relieve the operator of its responsibility to comply with any other	erations result in pollution of surface water, ground water or the								
Operator: XTO Energy, Inc.	OGRID #: 5380								
Address: #382 County Road 3100, Aztec, NM 87410	· · · · · · · · · · · · · · · · · · ·								
E- We will have a blood and blood 1944									
API Number: 30-045-35041 OCD Permit Nu									
U/L or Qtr/Qtr G Section 15 Township 25N Range									
Center of Proposed Design: Latitude 36.40193 Longitude									
Surface Owner: X Federal State Private Tribal Trust or Indian Allotment	107.77400								
Z.   ☐ 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	PVC Other								
String-Reinforced	1 ve Guiei								
Liner Seams: Welded X Factory Other Volume:	hhl Dimonaiona I 200 v W 80 v D 8-12								
Liner Seams: Wedded & Factory Other	DOI DIMENSIONS. L ZOO X W GO X D G-12								
3.   X Closed-loop System: Subsection H of 19.15.17.11 NMAC									
Type of Operation: P&A \(\times\) Drilling a new well \(\times\) Workover or Drilling (Applies to	s catualities which require prior approval of a permit or notice of								
intent) To be used during completion operations	activities which require prior approvar or a permit or notice or								
☐ Drying Pad ☑ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other									
☐ Lined ☐ Unlined Liner type: Thicknessmil ☐ LLDPE ☐ HDPE	E □ PVC □ Other								
Liner Seams: Welded Factory Other									
4	A MECENER S								
Below-grade tank: Subsection I of 19.15.17.11 NMAC	8 JUL 20:0								
Volume: bbl Type of fluid:	Cons OIL CONS								
Tank Construction material:	\cusperson \cup \int \int \int \int \int \int \int \int								
4.    Below-grade tank: Subsection I of 19.15.17.11 NMAC   Volume:	d automatic overflow shut-off								
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other	25521202								
Liner type: Thicknessmil									
5. Alternative Method:									
Submittal of an exception request is required. Exceptions must be submitted to the Santa I	Fe Environmental Bureau office for consideration of approval.								

6.							
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)							
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)							
☑ Four foot height, four strands of barbed wire evenly spaced between one and four feet							
Alternate. Please specify							
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)							
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							
M signed in compliance with 15.15.5.165 Number							
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. 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 acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.							
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No						
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	Yes No						
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to temporary, emergency, or cavitation pits and below-grade tanks)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA						
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to permanent pits)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	Yes No						
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							
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							
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No						
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	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.
<ul> <li>☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC</li> <li>☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC</li> <li>☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC</li> </ul>
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
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC ☐ Quality Control/Quality Assurance Construction and Installation Plan
Usanty Control/Quanty Assurance Construction and Installation Flan  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
14. 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: M Drilling Morkover 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 Burnal ☐ On-site Trench Burnal
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
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 I of 19.15.17.13 NMAC
Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

		oove Ground Steel Tanks or Haul-off Bin cal of liquids, drilling fluids and drill cuttin						
•	nvirotech	Disposal Facility Permit Nui	mber: NM0	01-0011				
Disposal Facility Name: IE		Disposal Facility Permit Nur		01-0010B				
Will any of the proposed closed-lo	Its posar Facility Fermit Number							
Re-vegetation Plan - based	sign Specifications based upon upon the appropriate requirements	e and operations: he appropriate requirements of Subsection of Subsection I of 19.15.17.13 NMAC ints of Subsection G of 19.15.17.13 NMAC		IMAC				
provided below. Requests regard	requires a demonstration of coming changes to certain siting crite ust be submitted to the Santa Fe	oliance in the closure plan.  Recommenda ria may require administrative approval fr Environmental Bureau office for considera	om the appropriate	district office or may be				
Ground water is less than 50 feet by NM Office of the State Er		te. h; USGS; Data obtained from nearby wells		☐ Yes ☒ No ☐ NA				
Ground water is between 50 and 1 - NM Office of the State Er		ried waste h; USGS; Data obtained from nearby wells		Yes 🕅 No				
Ground water is more than 100 fee - NM Office of the State Er		vaste. h; USGS; Data obtained from nearby wells		Yes No				
lake (measured from the ordinary		f any other significant watercourse or lakeb oposed site	ed, sinkhole, or pla	ya ☐ Yes ☒ No				
	residence, school, hospital, instituation) of the proposed site, Aerial	tion, or church in existence at the time of in photo; Satellite image	ntial application.	☐ Yes ☑ No				
watering purposes, or within 1000	horizontal feet of any other fresh	spring that less than five households use for water well or spring, in existence at the time ial inspection (certification) of the proposed	e of initial applicat					
adopted pursuant to NMSA 1978,	Section 3-27-3, as amended.	ipal fresh water well field covered under a selection water well field covered under a selection was selected as the municipal from the municipal selection was selected as the selected as the selection was selected as the selected as	-	Yes X No				
Within 500 feet of a wetland US Fish and Wildlife Wet	land Identification map; Topograp	hic map; Visual inspection (certification) of	f the proposed site	☐ Yes ☒ No				
Within the area overlying a subsur - Written confirmation or v		MNRD-Mining and Mineral Division		☐ Yes 🛛 No				
Within an unstable area.  - Engineering measures inc Society; Topographic map		eau of Geology & Mineral Resources; USG	SS; NM Geological	☐ Yes 🏻 No				
Within a 100-year floodplain FEMA map				☐ Yes 🏻 No				
by a check mark in the box, that it is siting Criteria Compliance Proof of Surface Owner Not Construction/Design Plan of Construction/Design Plan of Protocols and Procedures - Confirmation Sampling Plan Waste Material Sampling Plan is Disposal Facility Name and Soil Cover Design - based Re-vegetation Plan - based	The documents are attached.  Demonstrations - based upon the attice - based upon the appropriate of Burial Trench (if applicable) based upon the appropriate requires (if applicable) - based upon the appropriate requires (if applicable) - based upon the alan - based upon the appropriate requirements upon the appropriate requirements upon the appropriate requirements	ppropriate requirements of 19.15.17.10 NN equirements of Subsection F of 19.15.17.13 sed upon the appropriate requirements of 19.15.17.13 nd of a drying pad) - based upon the appropriments of 19.15.17.13 NMAC appropriate requirements of Subsection F of equirements of Subsection F of 19.15.17.13 nd fluids and drill cuttings or in case on-site of Subsection I of 19.15.17.13 NMAC onts of Subsection G of 19.15.17.13 NMAC	MAC  NMAC  D.15.17.11 NMAC  iate requirements of  19.15.17.13 NMA  NMAC  e closure standards	of 19.15.17.11 NMAC C				

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: Date: July 2, 2010
e-mail address: malia_villers@xtoenergy.com Telephone:(505) 333-3100
20.  OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)
OCD Representative Signature 2/9/1/
$\mathcal{O}_{\mathcal{M}}$
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:
22.  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.
23.  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
24.  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
Ste Reclamation (Photo Documentation) 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:	6/30/2010			
Prepared by:	Brooke Herb			

T 970-385		Siting Criteria	Revised:	6/30/2010					
F 970.388	5 1873	Information Sheet	Prepared by:	Brooke Herb					
API#:	NA		USPLSS:	T25N, R09W, S15G					
Name:	Huerfano Unit #318		Lat/Long:	36.40193, -107.77435					
Depth to groundwater:	>100'		Geologic formation:	Nacimiento Formation					
Distance to closest continuously flowing watercourse:	20.95 miles	south of the San Juan River							
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	1st order	north-northwest of a tributary to Blanco miles west of Blanco Wash							
	******		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:	Site Visit Survey Hydrogeologic Report Topographic Map					
Within defined municipal fresh water well field		NO		Aerial Photo Mines, Mills and Quarries Map FEMA Flood Zone Map					
Wetland within 500'		NO	Mining Activity:	None identified in the vicinity					
Within unstable area		NO							
Within 100 year flood plain		NO							
Additional Notes:									

Page 1 of 1

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

State of New Mexico Energy, Minerals & Natural Resources Department

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

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT III 1000 Rio Brazos Rd., Aztec, N.M. 87410 DISTRICT IV 1220 South St. Francis Dr., Santo Fe, NM 87505

☐ AMENDED REPORT

		١	VELL L	OCATIO	N AND	ACF	REAGE DEDI	CATION P	LAT		
¹ API	Number	-		<sup>2</sup> Pool Code <sup>3</sup> Pool Name							
<sup>4</sup> Property Co	ode		<sup>5</sup> Property Name <sup>6</sup> Well Number								Yell Number
					HUERF	ANO	UNIT		ĺ		318
OGRID No	).				<sup>6</sup> Oper	ator Na	me				<sup>9</sup> Elevation
			XTO ENERGY INC. 6586'						6586'		
					<sup>10</sup> Surfo	ice l	Location				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from ti	he	North/South line	Feet from the	East/West	t line	County
G	15	25-N	9-W 2344 NORTH 1983 EAS						T	SAN JUAN	
			<sup>11</sup> Bott	om Hole	Location	on If	Different Fr	om Surface			
UL or lot no.	Section	Township	Range	Lot Idn	feet from t	he	North/South line	Feet from the	Eost/Wes	it line	County
<sup>22</sup> Dedicated Acre	s	1	<sup>13</sup> Joint or I	nfili	3 Consolidat	ion Cod	de	19 Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OR A NON-STAN	DARD UNIT HAS E	BEEN APPROVED BY	
LONG: 107.77	SURFACE: 0193° N. (NAD 83) 0435° W. (NAD 83) 0.92622" N. (NAD 27) 0.44533" W. (NAD 27)	S 89'47'52" W 2663.54' (M)	S 00.05,17" E 2623.81' (M)	OPERATOR CERTIFICATION  I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased minered interest in the land including the proposed bottom hote location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofare entered by the division.  Signature  Oate
LONG: 107'46'25	1.44533" W. (NAD 27)	5 —	1983'  FD. 2 1/2" BC. 1947 G.L.O.	Printed Name  18 SURVEYOR CERTIFICATION  I hereby certify that the well location shown on this plat was plotted from field nates of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge & belief.  Date of survey  Signedyre and Sacti of The plessional surveyor.  Certificate Number

NAD 83 XTO ENERGY INC. LAT. = 36.40193° N LONG. = 107.77435° W HUERFANO UNIT No. 318, 2344 FNL 1983 FEL SECTION 15, T25N, R9W, N.M.P.M., SAN JUAN COUNTY, N.M. NAD 27 LAT. = 36.24'06.92622" N DATE: APRIL 2, 2009 **GROUND ELEVATION: 6586'** LONG. = 107'46'25.44533" ® c <sub>A</sub>(5) В 50' CONSTRUCTION ZONE F 1.5 F 2.2 C 1.0 PIT: NAD 83 LAT: 36.40192° N LONG: 107.77408° W NAD 27 LAT: 36'24'06.86007" N LONG: 107'46'24.47086" W 200' x 80' C.O.P. 80. . 8 Ф PIPELINE 120 8' DEEP 12' DEEP ļ 4 1 LAYDOWN S 4'49' W 61 F 1.6 C 2.8 Wellhead to Back Wellhead to Front REAR 145 C 0.0 145 اع 35 Wellheod **NEW ACCESS** 4409 FT. P/L R.O.W. (2 TRACK) ر. ۵ @ c' C 0.3 В' 255' X 290'  $(355' \times 390') = 3.18 \text{ ACRES}$ F 0.2 C 1.6 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. DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION. NOTE: ELEV. A-A C/L 6590 6580 6570 6560 C/L ELEV. B-B 6590 6580 Surveying and Oil Field Sarvices P. O. Box 510 Farmington, NW 87499 Phone (565) 126-1772 · Fax (505) 126-6019 6570 CASTLE: CR621\_CF8 6560 ELEV. C-C C/L 6 (505) 326-1 NEW MEXICO 6590 Daggett 6580 6570 6560 NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

# Huerfano Unit #318 Hydrogeologic Report for Siting Criteria

#### General Geology and Hydrology

The San Juan Basin is a typical Rocky Mountain basin with a gently dipping southern flank and a steeply dipping northern flank. Asymmetrically layered Tertiary sandstones and shales, along with Quaternary alluvial deposits, dominate surficial geology (Dane and Bachman, 1965). The proposed pit location will be located just west of Blanco Wash. The predominant geologic formation is the Nacimiento Formation of Tertiary age, which underlies surface soils and is often exposed (Dane and Bachman, 1965). Deposits of Quaternary alluvial and aeolian sands occur prominently near the surface of the area, especially near streams and washes.

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

The prominent soil type at the proposed site are entisols and aridisols, which are defined as soils that exhibit little to no any profile development (www.emnrd.state.nm.us). Soils are basically unaltered from their parent rock. Miles of arroyos, washes and intermittent streams exist as part of the drainage network towards the San Juan River. These features often cut into soil and other unconsolidated materials, contributing to sedimentation downstream. The sudden influx of water from storm events easily erodes the soils that cover the area.

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

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

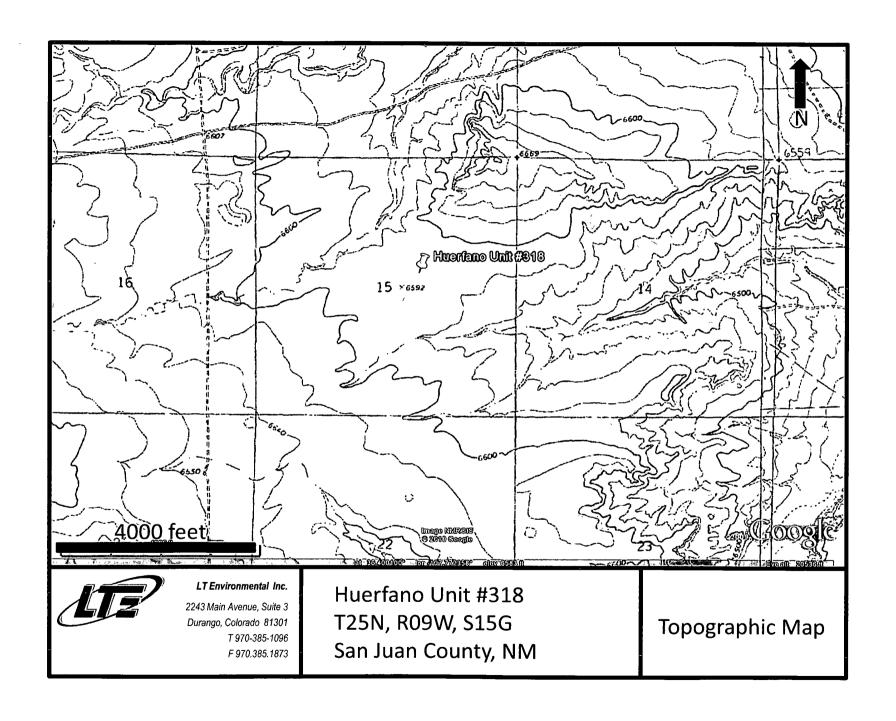
#### Site Specific Hydrogeology

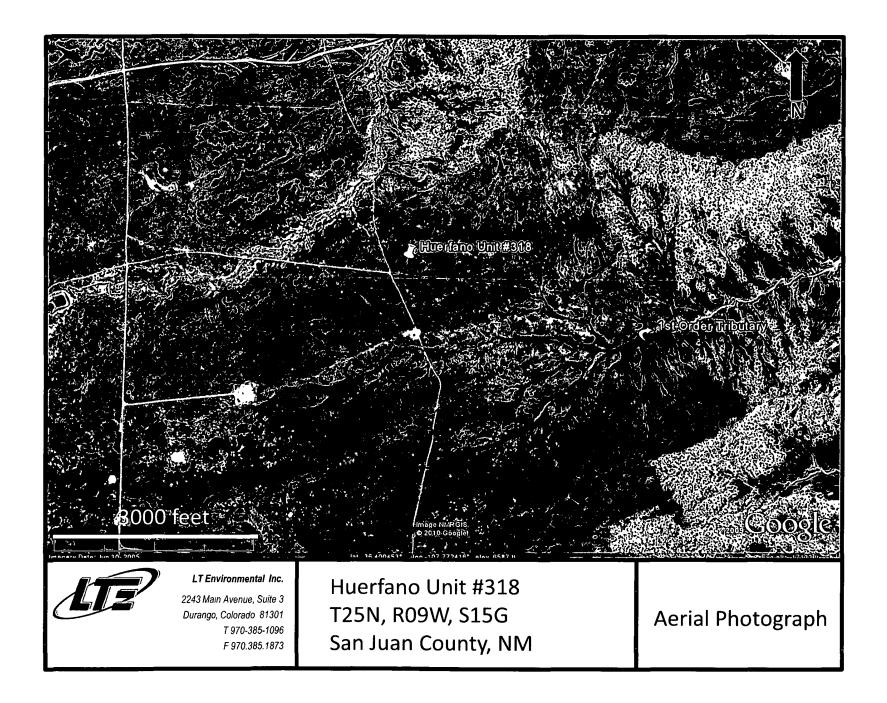
Depth to groundwater is estimated to be greater than 100 feet. This estimation is based on data from Stone and others (1983), the USGS Groundwater Atlas of the United States

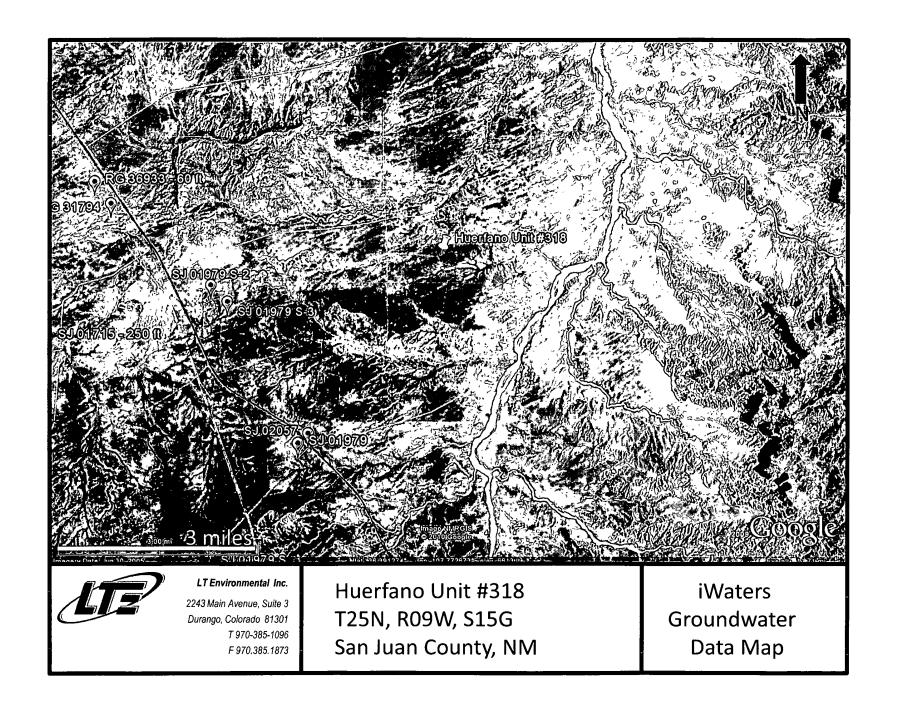
and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

Beds of water-yielding sandstone are present in the Nacimiento Formation, which are fluvial in origin and are interbedded with siltstone, shale and coal. Porous sandstones form the principal aquifers, while relatively impermeable shales form confining units between the aquifers (Stone et al., 1983). Local aquifers exist within the Nacimiento Formation at depth s greater than 100 feet and thicknesses of the aquifer can be up to 3500 feet (USGS, Groundwater Atlas of the US).

The site in question is located on the relatively flat mesa top at an elevation of approximately 6592 feet and approximately 1.75 miles west of Blanco Wash. Broad shalely hills are interspersed with occasional sandstone outcrops, and systems of dry washes and their tributaries are evident on the attached aerial image. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest wells are greater than 3 miles away and not characteristic of the site. A map showing the location of wells in reference to the proposed pit location is attached. Depth to groundwater is estimated based on the site's proximity to Blanco Wash. Groundwater is expected to be shallow within Blanco Wash, but the significant distance between the wash and the site, as well as an elevation difference of approximately 150 feet suggest groundwater is greater than 100 feet at the proposed site.









# New Mexico Office of the State Engineer Water Column/Average Depth to Water

(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
 Depth Depth Water

 POD Number
 basin Use County 64 16 4 Sec Tws Rng
 X
 Y Well Water Column

 SJ 01979
 EXP
 SJ
 3 2 32 25N 09W
 247840 4027498\* 1180 628 552

Average Depth to Water: 628 feet

Minimum Depth: 628 feet

Maximum Depth: 628 fee

Record Count: 1

**Basin/County Search:** 

Basin: San Juan County: San Juan

PLSS Search:

Township: 25N Range: 09W



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

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

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

(in feet)

			,,,,,,,,,,,					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,			
	Sub			QQ	Q						Depth E	epth	Water
POD Number	basin	Use	County	64 16	4	Sec	Tws	Rng	X	Y	Well	Vater (	Column
SJ 01715		STK	SJ	4	4	22	25N	10W	241895	4030074*	637	250	387
									Aver	age Depth to	Water:	250	feet
										Minimum	Depth:	250	feet
										Maximum	Depth:	250	feet

**Record Count: 1** 

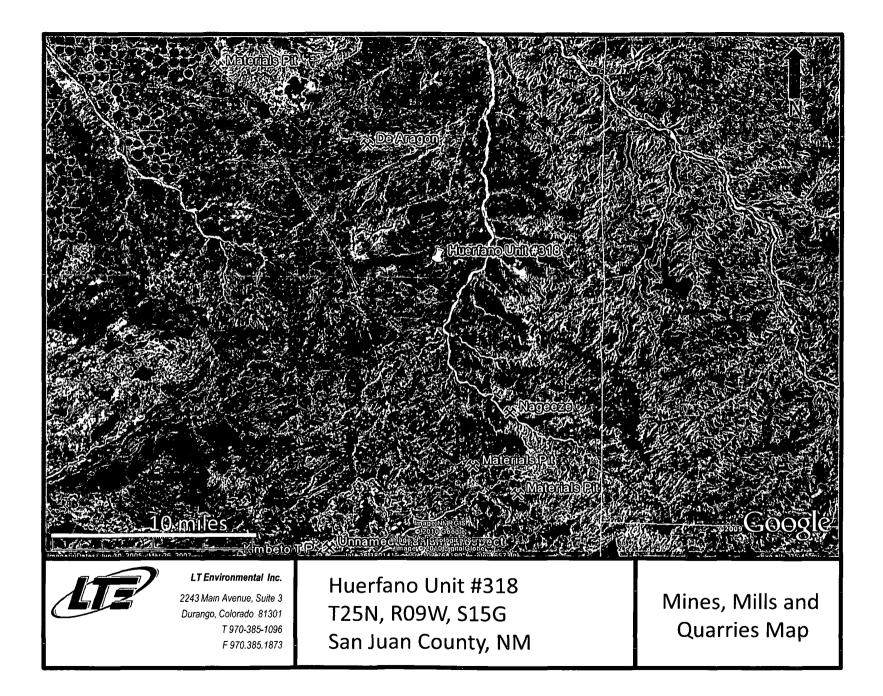
Basin/County Search:

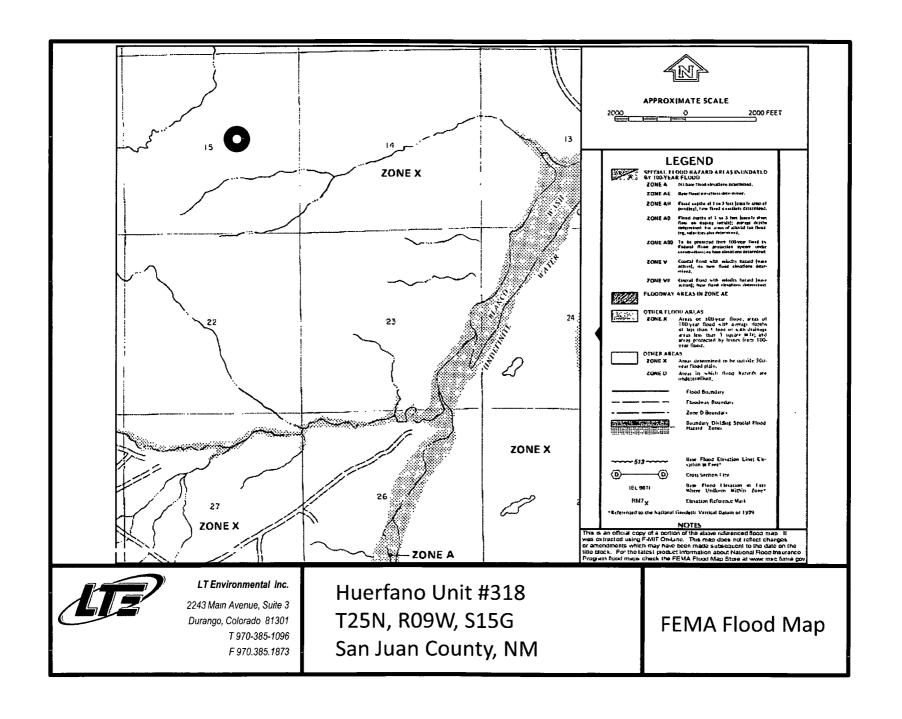
Basin: San Juan

County: San Juan

PLSS Search:

Township: 25N Range: 10W







### Malia Villers /FAR/CTOC 07/02/2010 11:19 AM

To mark\_kelly@blm.gov

CC

bcc

Subject Notice - Huerfano Unit #318 Well Site

RE:

Huerfano Unit #318 Well API# 30-045-35041 Sec. 15G- T25N- R09W, 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 proposal to close the temporary pit associated with the aforementioned location by means of in place on site 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
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.
- 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.
- 6. 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.
- 2. 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.
- 4. 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.
- 4. 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.
- 8. 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

- 9. Upon completion of solidification and testing, the pit area will be backfield with compacted, non-waste 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.
- 10. 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:

- 1. The liquids will be vacuumed out and disposed of at the Basin 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.
- 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.
- 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.