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-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 operations result in pollution of surfacenvironment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority.									
Operator Lucerne Corp c/o XTO Energy Inc Address #382 County Road 3100, Aztec, NM 87410 Facility or well name OH Randell #1									
API Number 30-045-05959 OCD Permit Number U/L or Qtr/Qtr A Section 10 Township 26N Range 11W County Sai	n Juan								
Center of Proposed Design Latitude 36 50696 Longitude 107 98546 Surface Owner Federal State Private Tribal Trust or Indian Allotment									
Pit: Subsection F or G of 19 15 17 11 NMAC Temporary Drilling Workover Permanent Emergency Cavitation P&A (as per Justin Neder hoser) Lined Unlined Liner type Thickness 20 mil LLDPE HDPE PVC Other String-Reinforced									
Liner Seams Welded Factory Other Volume bbl Dimensions L	100 x W 50 x D 8-12								
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 againtent) To be used during completion operations Drying Pad Above Ground Steel Tanks Haul-off Bins Other Lined Unlined Liner type Thickness mil LLDPE HDPE PVC Other Liner Seams Welded Factory Other	•								
Below-grade tank: Subsection I of 19 15 17 11 NMAC	RCVD AUG 2'11								
Volumebbl Type of fluid Tank Construction material	OIL CONS. DIV. DIST. 3								
Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off									
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other									

27

Liner type Thickness

Alternative Method:

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

mil HDPE PVC Other

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

472	
-----	--

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application of action: Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method

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 ordinance:

environment Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances
Operator Lucerne Corp c/o XTO Energy Inc OGRID #
Address #382 County Road 3100, Aztec, NM 87410
Facility or well name OH Randell #1
API Number 30-045-05959 OCD Permit Number
U/L or Qtr/Qtr A Section 10 Township 26N Range 11W County San Juan
Center of Proposed Design Latitude 36 50696 Longitude 107 98546 NAD ☐ 1927 ☒ 1983
Surface Owner K Federal State Private Tribal Trust or Indian Allotment
2
∑ Pit: Subsection F or G of 19 15 17 11 NMAC
Temporary Drilling Workover
Permanent Emergency Cavitation P&A
☐ Unlined Liner type Thickness 20 mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
String-Reinforced
Liner Seams Welded Factory Other Volume bbl Dimensions L 75 x W 75 x D 8-12
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 ☐ Lined ☐ Unlined Liner type Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
Liner Seams Welded Factory Other RECEIVED Welded Factory Other RECEIVED Welded Received Received
1 N AAA
Below-grade tank: Subsection I of 19 15 17 11 NMAC
Volumebbl Type of fluid \gamma UIL CONS. DIV. DIST 3
Below-grade tank: Subsection I of 19 15 17 11 NMAC Volume
Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other
Liner type Thicknessmil
5
Alternative Method:
Submittal of an exception request is required Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

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)	
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	
9	
Administrative Approvals and Exceptions: Justifications and/or demonstrations of equivalency are required Please refer to 19 15 17 NMAC for guidance	
Please check a box if one or more of the following is requested, if not leave blank: Administrative approval(s) Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau	office for
consideration of approval Fencing- Hogwire	office for
Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval	
Siting Criteria (regarding permitting): 19 15 17 10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of 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 dry 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 - 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
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (Applies to permanent pits) - Visual inspection (certification) of the proposed site, Aerial photo, Satellite image	☐ Yes ☐ No ☐ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality, Written approval obtained from the municipality	Yes No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area - Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources; USGS, NM Geological Society, Topographic map	☐ Yes ☐ No
Within a 100-year floodplain - FEMA map	☐ Yes ☐ No

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19 15 17 9 NMAC											
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.											
 ☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19 15 17 9 NMAC ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19 15 17 9 NMAC ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC ☒ Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC ☒ 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 Indianal Subsection C of 19 15 17 13 NMAC 											
Previously Approved Design (attach copy of design) API Number or Permit Number											
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19 15 17 9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19 15 17 9 Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19 15 17 10 NMAC Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC Operating and Maintenance Plan - based upon the appropriate requirements of 19.15 17 12 NMAC Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC											
Previously Approved Design (attach copy of design) API Number											
Previously Approved Operating and Maintenance Plan API Number(Applies only to closed-loop system that use											
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)											
Permanent Pits Permit Application Checklist: Subsection B of 19 15 17 9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15 17 10 NMAC Climatological Factors Assessment Certified Engineering Design Plans - based upon the appropriate requirements of 19 15 17 11 NMAC Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19 15 17 11 NMAC Leak Detection Design - based upon the appropriate requirements of 19 15 17 11 NMAC Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19 15 17 11 NMAC Quality Control/Quality Assurance Construction and Installation Plan Operating and Maintenance Plan - based upon the appropriate requirements of 19 15.17.12 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 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											
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 liquids facilities are required.										
Disposal Facility Name Envirotech Disposal Facility Permit Number NM01-00										
Disposal Facility Name IEI	-	NM01-0010B								
Will any of the proposed closed-loop system operations and associated activities Yes (If yes, please provide the information below) X No	occur on or in areas that will not be used for f	uture service 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 on I of 19 15 17 13 NMAC	13 NMAC								
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 required an exception which must be submitted to the Santa Fe Environment demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC	e'closure plan. Recommendations of acceptive administrative approval from the approptal Bureau office for consideration of appro	riate district 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, Database search, USGS, Database search, USGS, Database search, USGS, Database search	ata obtained from nearby wells	Yes No								
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Database search,	ata obtained from nearby wells	☐ Yes ☒ No ☐ NA								
Ground water is more than 100 feet below the bottom of the buried waste NM Office of the State Engineer - iWATERS database search, USGS, Database search, USG	ata obtained from nearby wells	∑ Yes No NA								
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other s lake (measured from the ordinary high-water mark) - Topographic map, Visual inspection (certification) of the proposed site	ignificant watercourse or lakebed, sinkhole, o	or playa Yes No								
Within 300 feet from a permanent residence, school, hospital, institution, or churchy Visual inspection (certification) of the proposed site, Aerial photo, Satell		on ☐ Yes ☒ No								
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application - NM Office of the State Engineer - iWATERS database, Visual inspection (certification) of the proposed site										
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										
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										
Within an unstable area - Engineering measures incorporated into the design, NM Bureau of Geolo Society, Topographic map	ogy & Mineral Resources, USGS, NM Geolog	gical Yes 🛛 No								
Within a 100-year floodplain - FEMA map		☐ Yes 🏻 No								
On-Site Closure Plan Checklist: (19 15 17 13 NMAC) Instructions: Each of the state	equirements of 19 15 17 10 NMAC of Subsection F of 19 15 17 13 NMAC appropriate requirements of 19 15 17 11 NM. pad) - based upon the appropriate requirements 15 17 13 NMAC equirements of Subsection F of 19.15.17.13 Not Subsection F of 19 15 17 13 NMAC I drill cuttings or in case on-site closure standin H of 19 15 17 13 NMAC on I of 19 15 17 13 NMAC	AC nts of 19 15 17 11 NMAC IMAC								

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 Villero Date 7/2/6/2011
e-mail address malia_villers@xtoenergy com Telephone (505) 333-3100
OCD Approval: Permit Application (including closure plan) Closure Plan (only) COD Conditions (see attachment)
OCD Representative Signature: Stock Signature: Approval Date: 8/02/2011
Title: Compliance Office 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) \(\subseteq \text{No} \)
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 Site 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:	7/11/2011
repared by:	Brooke Herb

E 070 206							
F 970 303	Information	Sheet Prepared by:	Brooke Herb				
API#:[3004505918	USPLSS:[T26N, R11W, S10A				
Name:	OH RANDEL #1	Lat/Long:[36.50696, -107.98546				
Depth to groundwater:	> 100 feet	Geologic formation:	Nacimiento Formation				
Distance to closest continuously flowing watercourse:	13.12 miles N to San Juan Riv	ver					
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	2,876 feet north to 2nd ord tributary of Cedar Canyon, 4,9 feet S to 2nd order tributary Gallegos Canyon	955					
		Soil Type:	Entisols				
Permanent residence, school, hospital, institution or church within 300'	NO	1					
		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		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						

Lease O. H. Randel	Well No. 1
Sec. 10 T. 26	N. , R 11 W., N.M.P.M.
Location 990 from th	North line and 990! from
the East lin	l e .
San Juan County	New Mexico
) N
	8
	990'
	10
	N
	
	37.0
Scale—4 inches equals 1 m	ille.
	ove plat was prepared from field notes or under my supervision and that the
	the best of my knowledge and belief.
	2/1, Q=1, 1/2
	Registered Professional Charles J. Finkles
Seal:	Engineer and Land Surveyor. N. Mex. Reg. No. 1302
Surveyed May 20	, 19.52
- ·	-
	11

Company Lucerne & Niloco

PROPOSED PIT PLACEMENT

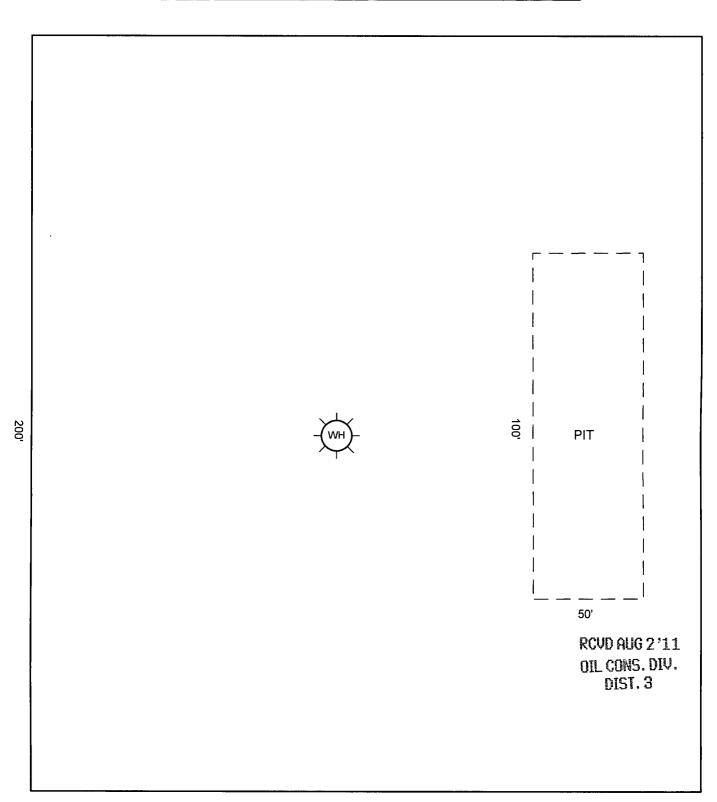
Well Name Field

OH Randell #1 - Lucerne Corp

Section API#

San Juan NENE Sec 10 (A), T26N, R11W 30-045-05959







T 970 385 1096 / F 970 385 1873



OH Randel #1

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 in the Bisti region of the San Juan Basin (Figure 1). The predominant geologic formation is the Nacimiento Formation, which underlies surface soils or is often exposed (Dane and Bachman, 1965). Deposits of Quaternary alluvial and aeolian sands also occur near the surface of the area, especially near streams and washes.

Cretaceous and Tertiary sandstones and 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 feet deep in this section of the basin (Stone et al., 1983). Groundwater within these aquifers flows regionally to the southwest, toward the San Juan River

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

The climate 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. 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

Depth to groundwater at the site 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, proximity to adjacent channels and springs 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 depths greater than 100 feet and thicknesses of the aquifer can be up to 3,500 feet (USGS, Groundwater Atlas of the US).

The site in question is located at an elevation of approximately 6,412 feet and is approximately 3.72 miles northeast of Gallegos Canyon. The proposed well site is 350 feet higher in elevation than Gallegos Canyon. Broad shalely hills are interspersed with occasional sandstone outcrops, and systems of dry washes and their tributaries are evident on the attached aerial image.

Lined channels associated with the Navajo Irrigation Project supply water for the fields southwest of the proposed site, which are characterized by center-pivot irrigation patterns. During spring and summer, irrigation practices often produces shallow perched aquifers that are not defined in published literature. These shallow zones of water are limited to areas immediately adjacent to the irrigated fields, are often not continuous, and are not saturated year round.

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The closest well (SJ 01626) to the site is located 2.05 miles to the southwest and is 141 feet lower in elevation. Depth to groundwater within the well is 200 feet below ground surface. A map showing the location of wells in reference to the proposed pit location is attached. Data from existing groundwater wells and nearby surface water features suggest groundwater is greater than 100 feet.

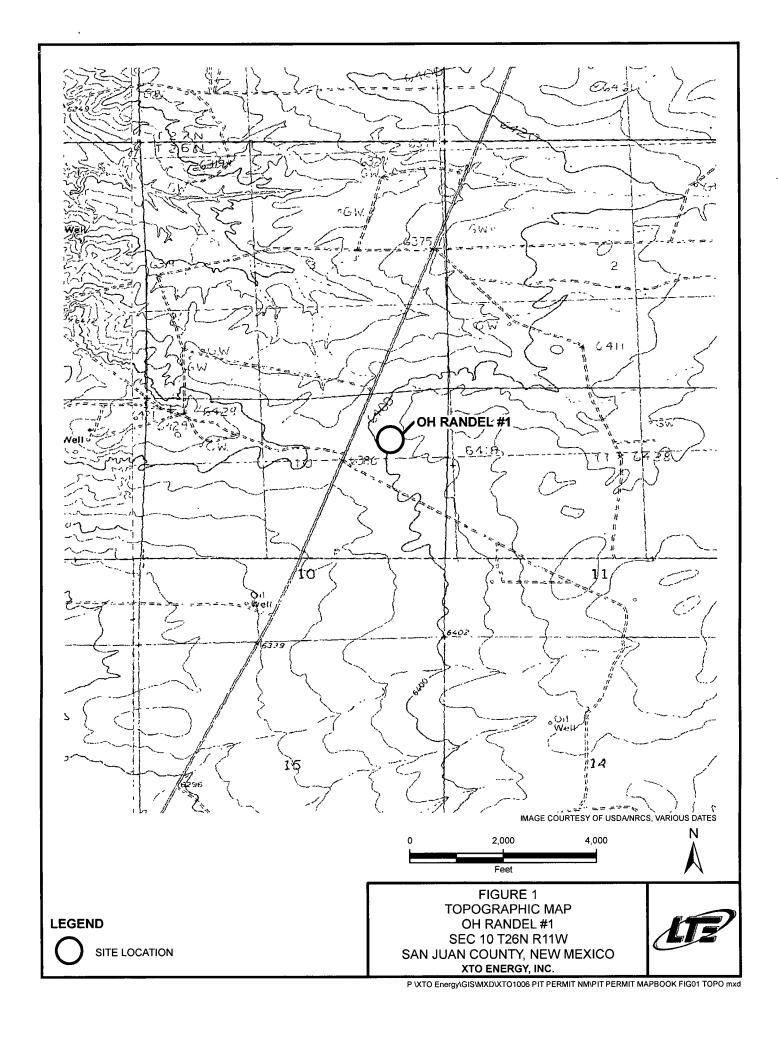
References

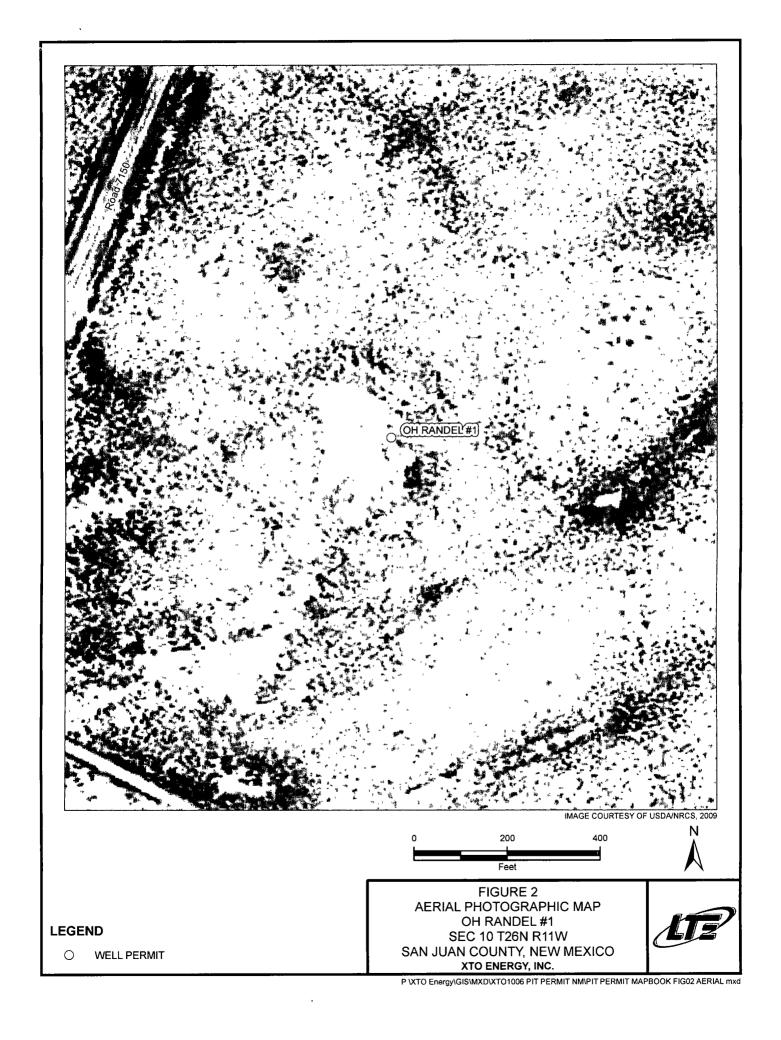
Dane, C.H. and Bachman, G. O., 1965, Geologic Map of New Mexico: U.S. Geological Survey, 1 sheet, scale 1:500,000.

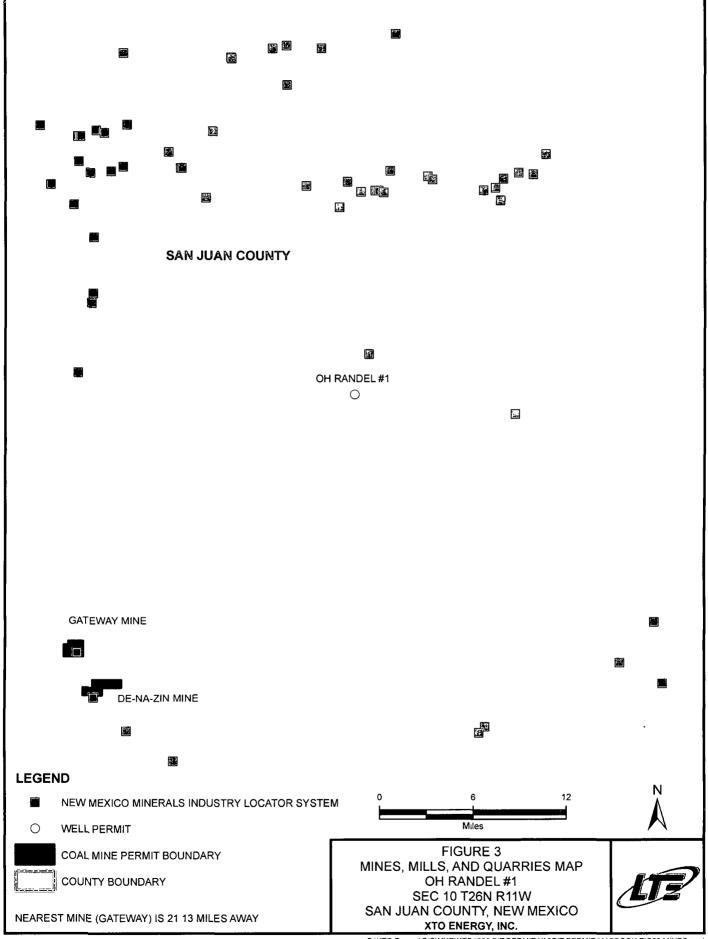
Dick-Peddie, W.A., 1993, New Mexico Vegetation – Past, Present and Future: Albuquerque, New Mexico, University of New Mexico Press, 244 p.

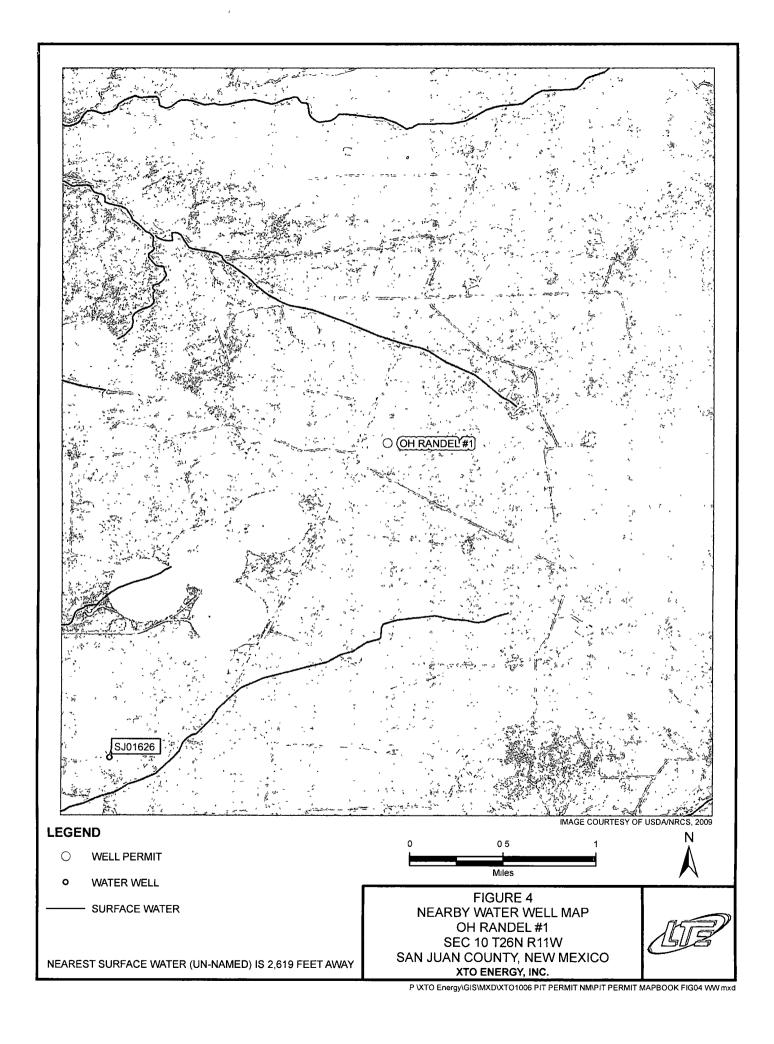
Stone, W.J., Lyford, F. P., Frenzel, P.F., Mizell, N.H. and Padgett, E.T., 1983, Hydrogeology and water resources of the San Juan Basin, New Mexico: HR-6 New Mexico Bureau of Geology and Mineral Resources Hydrology Report 6.

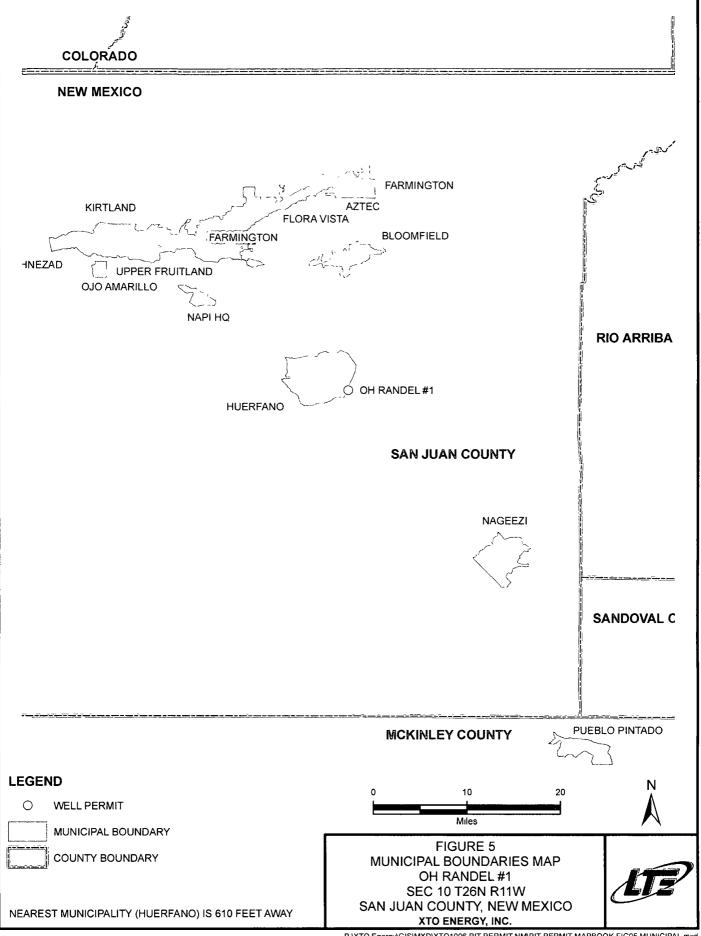
USGS, Groundwater Atlas of the United States: Arizona, Colorado, New Mexico, Utah, HA 730-C: (http://www.pubs.usgs.gov).











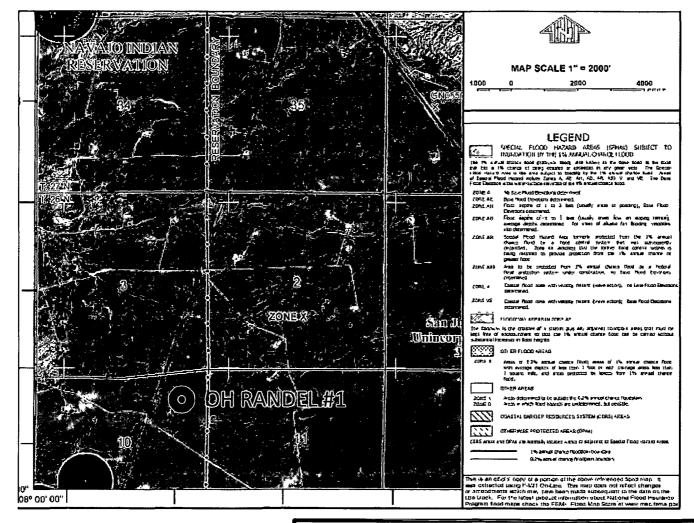


FIGURE 6 FEMA FLOOD ZONE MAP OH RANDEL #1 **SEC 10 T26N R11W** SAN JUAN COUNTY, NEW MEXICO

XTO ENERGY, INC





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

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

pre-residence			(quarte	rs a	re :	sma	allest	to larg	est)	(NAD83 UTN	In meters)		(In feet)		
	Sub	Sub Q Q Q									Depth Depth Water			Vater	
POD Number	basin	Use	County	64	16	4	Sec	Tws	Rng	X	ΥΥ	-	NaterCo		
SJ 01626		DOM	SJ		3	4	16	26N	11W	230607	4041673*	255	200	55	
SJ 02734		SAN	SJ	2	3	4	35	26N	11W	233750	4036858*	275	165	110	
										Aver	Average Depth to Water		182 feet		
	M		Mınımum	Depth	165 fe	et									
							,				Maximum	Depth	200 fe	et	

Record Count: 2

PLSS Search:

Township: 26N Ra

Range: 11W



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

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

			(quarte	(quarters are smallest to largest) ((NAD83 UTN	(In feet)					
	Sub			Q	Q	Q					1	Depth !	Depth \	Nater
POD Number	basin	Use	County	64	16	4	Sec	Tws	Rng	X	Y	Well	WaterC	olumn
SJ 00077		IND	SJ	3	1	2	26	27N	11W	233964	4049155*	1102	550	552
SJ 01787		OIL	SJ		2	2	07	27N	11W	228180	4054262*	650		
										Aver	age Depth to) Water	550 fe	eet
											Mınımum	ı Depth	550 fe	eet
											Maxımum	ı Depth	550 fe	eet

Record Count: 2

PLSS Search:

Township: 27N Range: 11W



To Mark Kelly

CC

bcc

Subject OH Randell #1

RE: Randell #1

Sec. 10 (A), T26N-R11W, 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 XTO Energy a subsidiary of ExxonMobil Office. 505-333-3698

Office. 505-333-3698 Cell. 505-787-7700 Fax: 505-333-3284

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
- 6 XTO shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot
- Pit walls will be walked down by a crawler type tractor following construction
- 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 deen.
- 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.
- 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.
- 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
- 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.
- The liner shall be protected from any fluid force or mechanical damage through the use of mud pits slides, or a manifold system
- 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.
- 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.
- 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
- 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
- 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
- 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
- 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.
- 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 1 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 I	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.
- 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.
- 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.
- 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 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.