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.

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

Santa Fe, NM 87505

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 Existing BGT Modification to an existing permit								
Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system,								
below-grade tank, or proposed alternative method								
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request								
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.								
I.								
Operator: ATO Energy, Inc. OGRID #: 5380								
Address: 382 Road 3100 Aztee, NM 87410								
Facility or well name: _FULLERTON FEDERAL #2J								
API Number: 3004506569 OCD Permit Number: 1								
U/L or Qtr/Qtr								
Center of Proposed Design: Latitude <u>36.58060</u> Longitude <u>107.98839</u> NAD: ☐1927 ☐ 1983								
Surface Owner: 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								
☐ Lined ☐ Unlined Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other								
☐ String-Reinforced								
Liner Seams: Welded Factory Other Volume: bbl Dimensions: L x W x D								
3.								
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)								
intent)								
intent)								
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Drying Pad								
Drying Pad								

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								
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 of	office for							
consideration of approval. 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 appropriate or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying above-grade tanks associated with a closed-loop system.	priate district pproval.							
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - 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								
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 helow-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image								
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							
 Visual inspection (certification) of the proposed site; Aerial photo; Satellite image 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	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 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 Sitting 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 Climer Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC Quality Control/Quality Assurance Construction and Installation Plan Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Nuisance or Hazardous Odors, including H ₂ S, Prevention Plan Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Proposed Closure: 19.15.17.13 NMAC Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan. Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Closed-loop System Alternative Proposed Closure Method: Waste Excavation and Removal Waste Removal (Closed-loop systems only) On-site Closure Method (Only for temporary pits and closed-loop systems) In-place Burial On-site Trench Burial Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
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 Ground Steel Tanks or Haul-off Bins Constructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings facilities are required.	Only: (19.15.17.13.D NMAC) s. Use attachment if more than two							
•	oer:							
Disposal Facility Name: Disposal Facility Permit Number:								
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations? Yes (If yes, please provide the information below) No								
Required for impacted areas which will not be used for future service and operations: Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 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	of 19.15.17.13 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 closure plan. Recommendation provided below. Requests regarding changes to certain siting criteria may require administrative approval from considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	n the appropriate district office or may be	e						
Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No							
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No							
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA	!						
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	I, sinkhole, or playa Yes No							
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	al application. 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	☐ Yes ☐ No							
 Within an unstable area. Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; Society; Topographic map 	; NM Geological Yes No							
Within a 100-year floodplain FEMA map	☐ Yes ☐ No							
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attack by a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 N Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15 Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate 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 NM Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site of Soil Cover Design - 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	NAC NMAC 5.17.11 NMAC te requirements of 19.15.17.11 NMAC 9.15.17.13 NMAC MAC	е,						

19. Operator Application Certification:									
I hereby certify that the information submitted with this application is true, acc	urate and complete to the	he best of my knowledge and belief.							
Name (Print): Kim Champlin	Title:	Environmental Representative							
Signature: Kim Champlin	Date:	9-8-08							
e-mail address: kim_champlin@xtoenergy.com		(505) 333-3100							
20.									
OCD Approval: Permit Application (including closure plan) Closure	• •	•							
OCD Representative Signature: But Will		Approval Date: 10-10-08							
Title: Enviro/spec	OCD Permit Num	ber:							
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 Alter If different from approved plan, please explain.	native Closure Method	☐ Waste Removal (Closed-loop systems only)							
Closure Report Regarding Waste Removal Closure For Closed-loop System Instructions: Please indentify the facility or facilities for where the liquids, di two facilities were utilized. Dispecel Facility Names	rilling fluids and drill c								
Disposal Facility Name: Disposal Facility Name:		ermit Number:							
Were the closed-loop system operations and associated activities performed on									
Yes (If yes, please demonstrate compliance to the items below)									
Required for impacted areas which will not be used for future service and opera Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	ations:								
24.									
Closure Report Attachment Checklist: Instructions: Each of the following 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)								
25. Operator Closure Certification:									
I hereby certify that the information and attachments submitted with this closur belief. I also certify that the closure complies with all applicable closure requir	re report is true, accurate rements and conditions	e and complete to the best of my knowledge and specified in the approved closure plan.							
Name (Print):	Title:								
Signature:	Date:								
a mail addresses	Talanhona:								

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

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OIL CONSERVATION DIVISION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

Form C-104 Revised 10-01-78

REQUEST FOR ALLOWABLE AND

and address of previous owner
P. O. Box 599, Denver, CO 80201 Recison(s) for filing (Check proper box) New Well Change in Transporter of: Dry Gas Fed #5
Change in Ownership Casinghead Gas Condensate If change of ownership give name and address of previous owner
Change in Ownership Casinghead Gas Condensate If change of ownership give name and address of previous owner
Change in Ownership Casinghead Gas Condensate If change of ownership give name and address of previous owner
Change in Ownership Casinghead Gas Condensate If change of ownership give name and address of previous owner
If change of ownership give name and address of previous owner
and address of previous owner
IL DESCRIPTION OF WELL AND LEASE
Lease Name Well No. Pool Name, Including Formation Kind of Lease Lease N
Fullerton Federal St. West Kutz Pictured Cliffs State, Federal SF0780
Location
Unit Letter B : 660 Feet From The North Line and 1980 Feet From The East
Unit Letter B: 660 Feet From The North Line and 1980 Feet From The East
Line of Section 15 Township 27N Ronge 11W , NMPM, San Juan Coun
, <u>XXXX</u>
III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS
Name of Authorized Transporter of Oil or Condensate Address (Give address to which approved copy of this form is to be sent)
Name of Authorized Transporter of Casinghead Gas or Dry Gas Address (Give address to which approved copy of this form is to be sent)
Gas Company of New Mexico Box 1899, Bloomfield, NM, 87413
If well produces all or liquids, Unit , Sec. Twp. Rge. Is gas actually connected? , When
give location of tanks.
territorial del de la constantial might that from any other bases de peal aire de montre de la constantial del constantial de la constantial de la constantial de la constanti
If this production is commingled with that from any other lease or pool, give commingling order number:
NOTE: Complete Parts IV and V on reverse side if necessary.
OIL CONSERVATION DIVERTAL LE 1000
VI. CERTIFICATE OF COMPLIANCE OIL CONSERVATION DIVERBY U 5 1988
I hereby certify that the rules and regulations of the Oil Conservation Division have APPROVED
been complied with and that the information given is true and complete to the best of
my knowledge and belief. BY Straight.
TITLE SUPERVISOR DISTRICT % a
This form is to be filed in compliance with RULE 1104,
If this is a request for allowable for a newly drilled or deepe well, this form must be accompanied by a tabulation of the devia
V. V. January and Company of the Com
All posters of this few must be filled out completely for all
able on new and recompleted wells.
January 14, 1988 Fill out only Sections I. II. III, and VI for changes of own

Separate Forms C-104 must be filed for each pool in multiply completed wells.

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088 SANTA FE, NEW MEXICO 37501

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Form C-102 Revised 10-1-78

All distances must be from the outer boundaries of the Section.

Operator ·					Luase		,	•		Well No.	
Chevron U.S.	Α.	Inc.			Fu	llerton	Federal				
Unit Letter	Sect		Township		Ron	gø	Count	y			
В	15	j	27N			11W	Sa	n Juan			
Actual Footage Loc	ation	oi Well:									
660	lee	t from the No	orth	line and	1980		feet from t	he Eas	t /	line	
Ground Level Elev.		Producing For	nation		Pool				7	Dedicated Acreage:	
6321 63301	KB	Picture	d Cliff	s	Kutz	West Pi	ctured	Cliffs		80 160	Acres
1. Outline the								/	s on th		
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).											
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?											
Yes		No If an	swer is '	'yes!' type o	f consol	idation	~	·			
							•				
If answer i	s "r	o," list the o	wners ar	id tract desc	riptions	which have	actually	been co.	nsolida	ted. (Use reverse	side of
this form if	nec	essary.)									
No allowab	le w	ill be assigne	d to the v	vell until all	interest	s have bee	n consoli	dated (b	y com	nunitization, unit	ization.
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Client: XTO Energy **Pit Permit** Lodestar Services, Inc. Project: Pit Permits Siting Criteria Revised: 4-Sep-08 PO Box 4465, Durango, CO 81302 Prepared by: Information Sheet Devin Hencmann API#: **USPLSS:** 3004506569 27N, 11W, 15B Name: Lat/Long: **FULLERTON FEDERAL #2J** 36.5806/-107.98839 Geologic >100' Naciemento Depth to groundwater: formation: Distance to closest 8.2 miles N to the 'San Juan continuously flowing River' watercourse: Distance to closest significant 2.3 miles E to Kutz Canyon wash watercourse, lakebed, playa lake, or sinkhole: Soil Type: Entisols Permanent residence, school, hospital, No institution or church within 300' Annuai Bloomfield: 8.71", Farmington: 8.21", Otis: Precipitation: 10.41" Domestic fresh water Precipitation well or spring within No Historical daily max: Bloomfield (4.19") **Notes** 500' Any other fresh water well or spring within No 1000 Within incorporated **Attached** No 27N 11W i-Waters pdf,27N 12W i-Waters pdf municipal boundaries Documents: Within defined Topo map pdf, Aerial pdf, Mines and Quarries municipal fresh water No Map pdf,i-Waters Ground Water Data Map well field pdf, FEMA flood zone map pdf No Mining Activity: None Wetland within 500' Within unstable area No Within 100 year flood No-FEMA Zone 'X' plain

Additional Notes:

FULLERTON FEDERAL #2J Below Ground Tank 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 in the southernmost Kutz Canyon region of the San Juan Basin. 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 sudden influx of water from storm events easily erodes the soils that cover the area and prohibits effective recharge to the underlying aquifers.

Dry and arid weather further prohibit active recharge. The climate of the region is arid, averaging 8 to 12 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). However, vegetation is very sparse and discontinuous.

Site Specific Hydrogeology

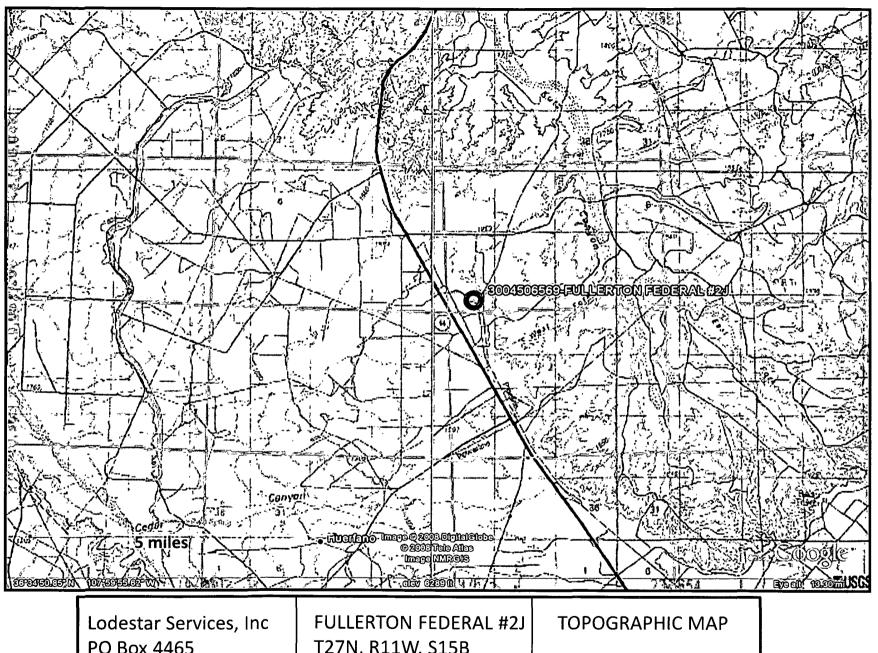
Depth to groundwater is estimated to be greater than 100°. This estimation is based on data from Stone and others (1983), the USGS Groundwater Atlas of the United States and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity 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).

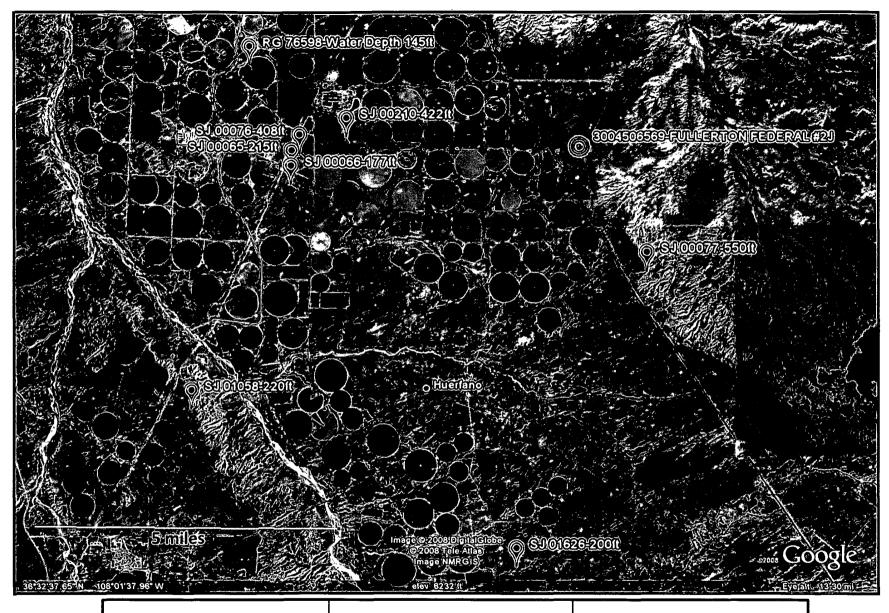
The site in question is located near the edge of Kutz Canyon, where deeply eroded sandstone-capped mesas and slope-forming mudstones occur in a sparsely vegetated and arid badlands-type setting. Broad shalely hills are interspersed with occasional sandstone outcrops, and systems of dry washes and their tributaries are evident on the attached aerial image.

The pit will be located on a relatively flat mesa top at an elevation of approximately 6329 feet near the head of Kutz Wash. It will be approximately 2,000 feet from the Kutz Canyon tributary system and 2.4 miles southwest of Kutz Wash. Groundwater is expected to be shallow within Kutz Wash. But the significant distance between the Canyon and the site, as well as an elevation difference of over 500 feet suggest groundwater is greater than 100 feet at the proposed site.

State iWaters data points are sparsely distributed in this region, but there is an iWaters data point approximately 2.1 miles to the southeast of the site. Depth to groundwater at the site is 550 feet. A map showing the location of wells in reference to the proposed pit location is attached (SJ00077).



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Lodestar Services, Inc PO Box 4465 Durango, CO 81302 FULLERTON FEDERAL #2J T27N, R11W, S15B San Juan county, NM i-Waters Ground Water Data Map

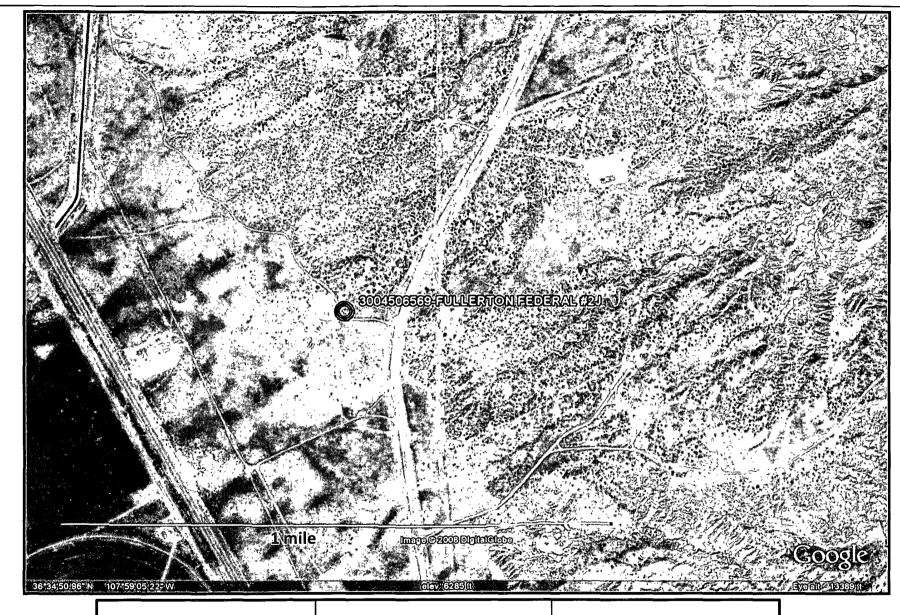
New Mexico Office of the State Engineer POD Reports and Downloads

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

WATER COLUMN REPORT 03/22/2008

(quarters are l=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest)					Depth	Depth	Water	(in feet)			
POD Number	Tws	Rng Sec	वव	a 2	one	x	<u>v</u>	Well	Water	Column	
SJ 01787	27n	11W 07	2 2					650			
SJ 0007?	27N	11W 26	2 1	3				1102	550	552	

Record Count: 2

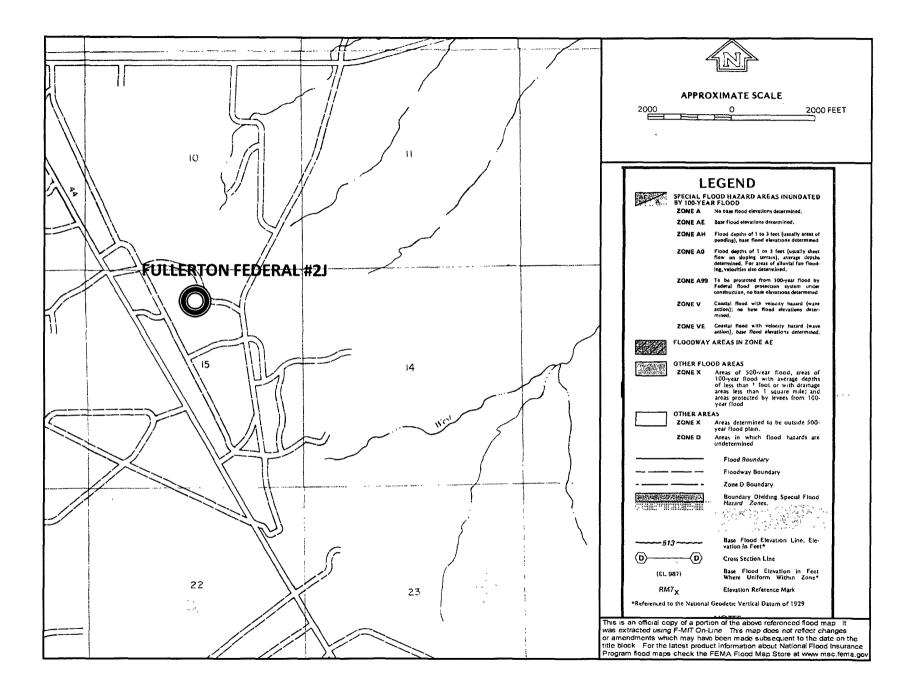


Lodestar Services, Inc PO Box 4465 Durango, CO 81302 FULLERTON FEDERAL #2J T27N, R11W, S15B San Juan county, NM AERIAL PHOTOGRAPH



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Mines and Quarries Map



XTO Energy Inc. San Juan Basin Below Grade Tank Design and Construction Plan

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

General Plan

- 1. XTO will design and construct a BGT to contain liquids and solids and prevent contamination of fresh water and protect public heath and environment.
- 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 BGT. 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 two strands of barbed wire on top, or with a pipe top rail. A 6' chain link fence topped with three stands of barbed wire will be used if the well location is within 1000' of a permanent residence, school, hospital, institution or church.
- 5. XTO shall construct an expanded metal covering on top of the BGT.
- 6. XTO will ensure that a BGT is constructed of materials resistant to the BGT's particular contents and resistant to damage from sunlight.
- The BGT system will have a properly constructed foundation consisting of a level base free of
 rocks, debris, sharp edges or irregularities to prevent punctures, cracks or indentations of the liner
 or tank bottom.
- 8. XTO will construct a berm and/or diversion ditch in a manner that prevents the collection of surface water run-on.
- 9. XTO will construct and use BGT that does not have double walls. The BGT sidewalls will be open for visual inspection for leaks, the BGT bottom will be elevated a minimum of 6" above the underlying ground surface and the BGT will be underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected.
- 10. XTO will equip BGT's designed in this manner with a properly functioning automatic high-level shut-off control device and manual controls to prevent overflows.
- 11. The geomembrane liner shall consist of 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner material that the appropriate division district office approves. The geomembrane liner shall have a hydraulic conductivity greater that 1 x 10-9 cm/sec. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A.
- 12. The general specifications for design and construction are attached.

XTO Energy Inc. San Juan Basin Below Grade Tank Maintenance and Operating Plan

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

General Plan

- 1. XTO will operate and maintain a BGT to contain liquids and solids and prevent contamination of fresh water and protect public health and the environment.
- 2. XTO will not allow a BGT to overflow and will use berms and/or diversion ditch to prevent surface run on to enter the BGT.
- 3. XTO will continuously remove any visible or measurable layer of oil from the fluid surface of a BGT in order to prevent significant accumulation of oil.
- 4. XTO will inspect the BGT monthly and maintain written records for five years.
- 5. XTO will maintain adequate freeboard to prevent over topping of the BGT.

XTO Energy Inc. San Juan Basin Below Grade Tank Closure Plan

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

General Plan

- XTO will close a BGT within the time periods provided in 19.15.17.13 NMAC, or by an earlier
 date that the division requires because of imminent danger to fresh water, public health or the
 environment.
- 2. XTO will close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after June 16, 2008, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC.
- 3. XTO will close a permitted BGT within 60 days of cessation of the BGT's operation or as required by the transitional provisions of Subsection B of 19.15.17.17 NMAC in accordance with a closure plan that the appropriate division district office approves. The closure report will be filed on form C-144.
- 4. XTO will remove liquids and sludge from a BGT prior to implementing a closure method and will dispose of the liquids and sludge in a division-approved facility.
- 5. XTO will remove the BGT and dispose of it in a division approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves.
- 6. XTO will remove any on-site equipment associated with a BGT unless the equipment is required for some other purpose.
- 7. XTO will test the solids beneath the BGT to determine whether a release has occurred. At a minimum 5 point composite sample will be collected along with individual grab samples from any area that is wet, discolored or showing other evidence of a release. Samples will be analyzed for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. XTO will notify the division of its results on form C-141.
- 8. If XTO or the division determines that a release has occurred, XTO will comply with 19.15.3.116 NMAC and 19.15.1.19NMAC as appropriate.
- 9. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, XTO will backfill the excavation with compacted, non-waste containing, earthen material; construct a division prescribed soil cover; recontour and re-vegetate the site.
- 10. Notice of Closure will be given to the Aztec Division District III office between 72 hours and one week of closure via email or verbally. The notification will include the following:
 - i. Operator's name
 - Location by Unit Letter, Section, Township, and Range. Well name and API number.

- 11. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the BGT. Closure report will be filed on form C-144 and incorporate the following:
 - i. Details on capping and covering, where applicable
 - ii. Inspection reports
 - iii. Sampling results
- 12. Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 13. XTO will seed the disturbed areas the first growing season after the operator closes the pit.

 Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.
- 14. A minimum of 4' of cover shall be achieved and the cover shall include 1' of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
- 15. The surface owner shall be notified of XTO's proposal to close the BGT as per the approved closure plan using certified mail, return receipt requested.