District 1 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

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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: X Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method Modification to an existing permit Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
Operator:XTO Energy, Inc OGRID #:5380
Address:#382 County Road 3100, Aztec, NM 87410
Facility or well name: Fogleson Gas Com #1F NMSF-079962
API Number: 30-045-34897 OCD Permit Number:
U/L or Qtr/Qtr L Section 26 Township 30N Range 11W County: San Juan
Center of Proposed Design: Latitude 36.78133 Longitude 107.96714 NAD: 1927 X 1983
Surface Owner: X Federal State Private Tribal Trust or Indian Allotment
Image: Subsection For G of 19.15.17.11 NMAC Temporary: Drilling Workover Permanent Emergency Cavitation P&A Image: Lined Unlined Liner type: Thickness 20 mil Image: LLDPE HDPE PVC Other Image: String-Reinforced Image: String-Reinforced Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Type of Operation: P&A Image: Subsection H of 19.15.17.11 NMAC Type of Operation: P&A Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Type of Operation: P&A Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Type of Operation: P&A Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Type of Operation: P&A Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Type of Operation: P&A Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Type of Operation: P&A Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Image: Subsection H of 19.15.17.11 NMAC Image: Subsectimage: Subsection H of 19.15.17.11 NMAC
Image: Subsection I of 19.15.17.11 NMAC Volume: 120 bbl Type of fluid: Produced Water Tank Construction material: Steel 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: Thickness 60 mil
 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____

Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)

Screen Netting Other

10

Monthly inspections (If netting or screening is not physically feasible)

Signs: Subsection C of 19.15.17.11 NMAC.

12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

Signed in compliance with 19.15.3.103 NMAC

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

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

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 appro office 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.	ptable source opriate district opproval. ring pads or
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes 🗶 No
 Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). Topographic map; Visual inspection (certification) of the proposed site 	TYes 🕅 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 X 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
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

 mporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC structions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are tached. 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 19.15.17.10 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 Previously Approved Design (attach copy of design) API Number: or Permit Number:
Iosed-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 tached. Image: Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9 Image: Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC Image: Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Image: Design Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Image: Design Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC Image: Design Plan Plan Plane Plane Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC
Previously Approved Design (ettach conv. of design) API Number
Previously Approved Design (attach copy of design) API Number:
ermanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC istructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are tached. Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Climatological Factors Assessment Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC Quality Control/Quality Assurance Construction and Installation Plan Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Muisance 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 19.15.17.13 NMAC
roposed Closure: 19.15.17.13 NMAC istructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan. ype: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Closed-loop System Alternative Number of the 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) Image: Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
/aste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the losure 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

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16. Y Waste Removal Closure For Closed-loop Systems That Utilize Above Groun Instructions: Plana industify the facility of California for the dimensional of the state	nd Steel Tanks or Haul-off Bins Only: (19.13	5.17.13.D NMAC)										
facilities are required.	s, arming junus and arm cunings. Use anach	iment if more than two										
Disposal Facility Name: Envirotech	Disposal Facility Permit Number:	NM01-0011										
Disposal Facility Name: IEI	Disposal Facility Permit Number:N	NM01-0010B										
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that <i>will not</i> 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 opera Soil Backfill and Cover Design Specifications based upon the appropri Re-vegetation Plan - based upon the appropriate requirements of Subsecti Site Reclamation Plan - based upon the appropriate requirements of Subsecti	<i>tions:</i> ate requirements of Subsection H of 19.15.17.1 on I of 19.15.17.13 NMAC ection G of 19.15.17.13 NMAC	13 NMAC										
^{17.} 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. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.												
Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; E	Data obtained from nearby wells	☐ Yes X No ☐ NA										
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; E	Data obtained from nearby wells	Yes X 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; E	Data obtained from nearby wells	X Yes No										
 Within 300 feet of a continuously flowing watercourse, or 200 feet of any other lake (measured from the ordinary high-water mark). Topographic map; Visual inspection (certification) of the proposed site 	significant watercourse or lakebed, sinkhole, or	r playa 🔲 Yes 🕅 No										
Within 300 feet from a permanent residence, school, hospital, institution, or chu - Visual inspection (certification) of the proposed site; Aerial photo; Satel	rch in existence at the time of initial application lite image	n. 🗌 Yes 🗶 No										
Within 500 horizontal feet of a private, domestic fresh water well or spring that watering purposes, or within 1000 horizontal feet of any other fresh water well o - NM Office of the State Engineer - iWATERS database; Visual inspection	less than five households use for domestic or st or spring, in existence at the time of initial appli on (certification) of the proposed site	tock 🗌 🗌 Yes 🔀 No lication.										
Within incorporated municipal boundaries or within a defined municipal fresh w adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written appr	vater well field covered under a municipal ordir	nance 🔲 Yes 🛛 No										
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Vi	isual inspection (certification) of the proposed s	site										
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Min	ing and Mineral Division	🗌 Yes 🗶 No										
 Within an unstable area. Engineering measures incorporated into the design; NM Bureau of Geol Society; Topographic map 	ogy & Mineral Resources; USGS; NM Geolog	gical 🔲 Yes 🗶 No										
Within a 100-year floodplain. - FEMA map		🗌 Yes 🔀 No										
18. On-Site 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. X Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC X Proof of Surface Owner Notice - based upon the appropriate requirements of 19.15.17.10 NMAC X Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC X Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC X Confirmation Sampling Plan (if applicable). X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC X Confirmation Sampling Plan (if applicable). X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC												

Waste Material Sampling Plan - 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 or in case on-site closure standards cannot be achieved)

Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC I 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

19. Coperator Application Certification:	
I hereby certify that the information submitted with this application is true, acc	curate and complete to the best of my knowledge and belief.
Name (Print): Kim Champlin	Title: Environmental Representative
Signature: Kim Wamplin	Date: 1/23/09
e-mail address:kim_champlin@xtoenergy.com	Telephone: (505) 333-3100
20. <u>OCD Approva</u> l: Permit Application (including closure plan) Closure	e Plan (only) OCD Conditions (see attachment)
OCD Representative Signature: Branchon Found	Approval Date: <u>2-10-0 9</u>
Title:Euriro/spec	OCD Permit Number:
^{21.} Closure Report (required within 60 days of closure completion): Subsections: Operators are required to obtain an approved closure plan prior The closure report is required to be submitted to the division within 60 days of section of the form until an approved closure plan has been obtained and the	on K of 19.15.17.13 NMAC or to implementing any closure activities and submitting the closure report. of the completion of the closure activities. Please do not complete this e closure activities have been completed.
	Closure Completion Date:
 22. Closure Method: Waste Excavation and Removal On-Site Closure Method Alte If different from approved plan, please explain. 	rnative Closure Method 🔲 Waste Removal (Closed-loop systems only)
^{23.} Closure Report Regarding Waste Removal Closure For Closed-loop Syste Instructions: Please indentify the facility or facilities for where the liquids, a two facilities were utilized.	ms That Utilize Above Ground Steel Tanks or Haul-off Bins Only: Irilling fluids and drill cuttings were disposed. Use attachment if more than
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 Yes (If yes, please demonstrate compliance to the items below) No	or in areas that will not be used for future service and operations?
Required for impacted areas which will not be used for future service and oper Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	ations:
^{24.} <u>Closure Report Attachment Checklist</u> : <i>Instructions: Each of the following mark in the box, that the documents are attached.</i>	; items must be attached to the closure report. Please indicate, by a check
 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) 	e)
On-site Closure Location: Latitude Lon	gitude NAD: U1927 U 1983
 25. Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure belief. I also certify that the closure complies with all applicable closure required. 	re report is true, accurate and complete to the best of my knowledge and rements and conditions specified in the approved closure plan.
Name (Print):	Title:
Signature:	Date:
e-mail address:	Telephone:

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

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

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

State of New Mexico Energy, Minerals & Natural Resources Department

OLL CONSERVATION DIVISION 1220 South St. Francis Dr. Santo Fe, NM 87505 Form C-102 Revised October 12, 2005 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

AMENDED REPORT

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	¹ Pool Name
*Property Code	عەر ¢ر	roperty Name * Well Number
	FOGLES	SON GAS COM 1F
'OGRID Na.	iO ₈	perator Name Elevation
	XTO I	ENERGY INC. 5949'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot idn	Feet from the	North/South line	Feet from the	East/West line	County
L	26	30-N	11-W		1995	SOUTH	665	WEST	SAN JUAN

"Bottom Hole Location If Different From Surface

	Section	rownsnip	Konge		reet from the	North/South Rne	Feel from the	LOST/West line	County		
² Dedicated Acres			¹³ Joint or in	fill	¹⁴ Consolidation Co	de	¹⁹ Order No.				

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

16			LOT 1 39.78 AC.	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this arganization either owns a working interest or unleased mineral interest in the land including the proposed bottom hale location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsary pooling order heretofore entered by the division.
FD. 3 1/4" BC. 1969 B.L.M.		e .	LOT 2 39.75 AC.	Signature Date
665' LOT 3 39.85 AC. 39.85 AC.	SURFACE: LAT: 36.78133* LONG: 107.9671 LAT: 36'46'52.8" LONG: 107'57'59.5	N. (NAD 83) 4" W. (NAD 83) N. (NAD 27) " W. (NAD 27)		18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plot was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge & belief. NOVEMBER A6, 2007 Date of Survey
1	LOT 5 39.55 AC. N 89-38-19 E 2601.15' (M)	LOT 6 39.57 AC. FD. 3 1/4" BC. 1969 B.L.M.	LOT 7 39.72 AC.	Signature and Seal of Cartificate Number

.



Α	_	n' , n	Client:	XTO Energy
A Lodestar Servic	es, Inc.	Pit Permit	Project:	Pit Permits
PO Box 4465, Durans	zo, CO 81302	Siting Criteria	Revised:	23-Oct-08
		Information Shee	t Prepared by:	Brooke Herb
API#:		NA	USPLSS:	T30N, R11W, S26L
Nome:			1 (1	26 79122 407 06714
Name:	F		Lat/Long:	30.78133, -107.96714
Depth to groundwater:		> 100'	Geologic formation:	Nacimiento Formation
Distance to closest continuously flowing watercourse:	3.4 mi	les S-SE of the Animas River		!
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:	3968' NV	V of Bloomfield Canyon Wash		
· · · · ·			Soil Type:	Entisols
Permanent residence, school, hospital, institution or church within 300'		Νο		
· · ·			Annual Precipitation:	9.77 inches (Aztec)
Domestic fresh water well or spring within 500'		No	Precipitation Notes:	no significant precip events
Any other fresh water well or spring within 1000'		No		
Within incorporated municipal boundaries	-	No	Attached Documents:	Groundwater report and Data; FEMA Flood Zone Map
Within defined municipal fresh water well field		No		Aerial Photo, Topo Map, Mines Mills and Quarries Map
Wetland within 500'		No	Mining Activity:	4.45 miles SE of Airport Dit
Within unstable area		No		4.45 miles SE OF Airport Pit
Within 100 year flood plain	No- F	EMA Flood Zone 'X'		
Additional Notes:				

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FOGELSON GAS COM #1F Below Ground Tank Siting Criteria and Closure Plan

Well Site Location

Legals: T30N, R11W, Section 26, Quarter Section L Latitude/Longitude: approximately 36.78133, -107.96714 County: San Juan County, NM General Description: south of Aztec, NM

General Geology and Hydrology

The San Juan Basin is a typical Rocky Mountain basin with a gently dipping southern flank and a steeply dipping northern flank. Asymmetrically layered Tertiary sandstones and shales, along with Quaternary alluvial deposits dominate surficial geology (Dane and Bachman, 1965). The proposed below ground tank location will be located near Aztec between the Animas and San Juan rivers. The Nacimiento Formation of Tertiary Age is exposed, along with Quaternary alluvial and aeoloian sands within dry washes and arroyos.

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

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

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

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

Site Specific Hydrogeology

Depth to groundwater is estimated to be greater than 100 feet. This estimation is based on data from Stone and others, 1983 and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

Local aquifers include sandstones within the Nacimiento Formation, which ranges from 0 to 1000 feet deep in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1000-foot depth range for Nacimiento aquifers covers an area over 20 miles wide, and depth decreases towards the margin of the San Juan Basin. The site in question is more centrally located, and depth to the aquifer is expected to be closer to 1000 feet. It is well known that groundwater close to the Animas River can be shallow, as the Quaternary deposits near the river itself form shallow aquifers. However, the proposed site is situated over three miles to the south-southeast of the Animas River, and is approximately 350 feet higher in elevation (Google Earth).

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing the location of wells in reference to the proposed pit location is also included. Pinpoints show locations of wells and the labels for each pinpoint indicate depth to groundwater in feet. The closest well to the proposed site is located approximately 3900 feet to the northwest, and is approximately 20 feet higher in topographic elevation (Google Earth). Depth to groundwater within the well is 310 feet below ground surface. A well to the southwest is approximately 190 feet lower in elevation then the proposed site, and has a depth to groundwater of 77 feet below ground surface.





New Mexico Office of the State Engineer POD Reports and Downloads

Township: 30N Range: 11W Sections:

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

WATER COLUMN REPORT 09/29/2008

	(quarter	s are	biq	gge:	st t	co small	lest)		Depth	Depth	Water	(in feet)
POD Number	Tws	Rng	Sec	q i	qq	Zone	X	Y	Well	Water	Column	
RG 50669	30N	11Ŵ	27						360	310	50	
SJ 02765	30N	11%	02	1	3				54	20	34	
SJ 00975	3097	11W	02	1 :	3				$\in 0$	20	4.0	
SJ 01217	30N	11W	02	1 :	3				60	30	30	
SJ 02837	30N	110	02	3	4 1				150			
SJ 01437	30%	11W	03	1					40	28	12	
SJ 03121	3097	11W	03	1 :	24				86	12	24	
SJ 02049	30N	11W	03	1 :	3				26	8	18	
SJ 01339	30N	11W	03	1	31				40	15	28	
<u>SJ 02814</u>	30N	11W	03	1 :	3 2				31	8	23	
SJ 00350	30N	11W	03	1 :	32				46	12	34	
SJ 01441	30N	110	03	1	32				49	20	28	
SJ 02835	30%	11W	03	1	32				26	8	18	
SJ 01387	30%	110	03	1	4				4.0	19	22	
SJ 03698 POD1		110	03	1	4 1				40	5	35	
SJ 02785	30%	11W	03	1	42				31	5	26	
SJ 01313	30N	11W	03	2					70	58	12	
SJ 01805	30N	11W	03	2					38	2.0	15	
SJ 01807	300	11W (03	2	1				50	30	20	
SJ 01202	30N	11W (03	2	12				38	e	27	
SJ 02781	302	11W (03	2	12				48	23	25	
SJ 03758 POD1	30N	31W (03	2	12		288188	2127473	4 5	21	26	
ST 03765 POD1	RON	1100	<u>оз</u>	2	1 2		226123	2127605	42	20	22	

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

SJ 03756 POD1	30N	11W	03	2	1 2		288179	2327870	43	20	21	
SJ 02786	30N	11W	03	2	31				51	24	27	
SJ 01901	30%	11W	03	2	3 2				60	26	34	
SJ 00698	30N	21W	03	2	3-3				44	14	30	
SJ 01261	SON	11W	03	2	34					20		
SJ 02930	30%	<u>1</u> 197	03	2	44				81	€4	17	
SJ 02798	30%	11%	03	2	44				8.0	61	19	
SJ 00402	30N	11W	03	S					32	18	14	
SJ 01734	30%	11%	03	з	2				33	5	28	
SJ 00762	308	<u>11</u> 7	03	3	2				47	22	25	
SJ 01440	30N	11W	03	3	2 3				41	21	20	
SJ 01020	30%	11W	03	3	3				27	5	22	
SJ 03242	30%	11W	03	3	3-1				23	Э	14	·
SJ 03732 POD1	30N	11W	03	3	3-1				38	э	29	
SJ 03239	30W	119	03	S	3 3				33	12	21	
SJ 01238	30%	110	03	4	1				98	38	57	
SJ 02245	3000	11W	03	4	1 3				66	30	36	
SJ 01043	30%	11W	03	4	14				50			
SJ 01249	30%	110	03	4	2				52	22	30	
SJ 02563	30%	11W	03	4	2 ± 1				96	60	36	
SJ 02824	308	119	03	4	2.1				7.0	50	20	
SJ 03153	30%	110	03	4	2 1				$\odot 0$	60	20	
SJ 03454	30%	111	03	4	24				166			
SJ 03291	30N	11M	03	4	3 2				38	18	20	
SJ 00366	308	11%	03	4	44				33	16	15	
SJ 01364	30%	11W	04	2					115	86	29	
SJ 03076	30%	11W	04	2	2 3				44	10	34	
SJ 02903	30%	11W	04	2	3-2				49	31	18	
SJ 03039	30%	11%	04	4	1 2				53	4 🕅	13	
SJ 01450	3627	11W	04	4	3				48	20	28	
SJ 02941	30%	110	64	4	3 2				38	37	21	
SJ 01367	30N	11%	04	4	4 1				48	20	28	
SJ 03407	30₩	110	04	4	44	W	453700	2124100	80	5	25	
SJ 03267	30N	11W	05	2	1 3				83	80	23	
SJ 03245	30N	117	06	4	44				80	65	15	
SJ 02194	30%	11W	07						55	22	37	
SJ 02140	30%	110	07	1	1 1				70	60	10	
SJ 00689	302	11W	07	1	4 3				78	63	13	
SJ 00690	30N	11W	07	1	43				€0			
SJ 00882	30N	119	07	1	4 3				€0	50	10	

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	S.T. 0.0889	203	1120 07	٦	4.3						
•	ST 00806	308	1192 07	î	4 3			200 28	26	16	
	ST 00739	3002	1102.07	ī	4 3			20	3.9	12	
	SJ 00389	SON	117 07	ī	4 3			53	v.		
•	SJ 00688	3005	1197.07	ĩ	4 3			70	36	12	
	ST 00358	3005	119 07	5	4 3			63	22	23	
	SJ 00397	303	119 07	ī	4 3			56	33		
	SJ 00415	BON	119 07	1	4 3			53	4.0	1.5	
	SJ 00387	30N	110 07	1	43				••		
	SJ 00748	3027	11W 07	1	43			60	41	19	
	SJ 03271	308	110 07	2	3 2						
	SJ 01475	3097	110 07	2	3 3			49	27	22	
5	SJ 03465	30%	110/07	2	34			8.0			
	SJ 00259	30N	110 07	2	4			2 8	12	13	
	SJ 01492	30N	110 07	3				60	22	38	
	SJ 03794 POD1	30N	110 07	3	1 3	286272	2119820	44	27	17	
	SJ 01172	30%	119/07	3	2			50	30	20	
	SJ 01310	30N	110 07	S	З			80	50	30	
	SJ 01484	30N	119 07	3	3			61	10	51	
	SJ 03630	30%	119/07	3	3-3			68	24	44	
9	SJ 01425	30N	110 07	3	4			58	23	30	
	SJ 01468	30%	110 07	3	4			60	25	35	
	SJ 02006	30N	119 07	3	42			50 [°]	24	26	
1	SJ 03484	30%	117 07	3	43			78			
	SJ 02005	30N	110 07	3	44			58	20	35	
	SJ 02715	30N	110 07	3	44			68	20	48	
2	SJ 00135	3.035	219/07	4	1			180	23	157	
	SJ 00769	30N	110 07	4	1			50	14	36	
	5J 01406	3008	119 07	4	1			48	12	38	
	SJ 02936	30N	119 07	4	11			38	30	8	
-	SJ 00679	30%	11W 07	4	13			48	22	26	
-	SJ 00620	30N	110 07	4	13			52	33	17	
	SJ 00329	SON	119 07	4	13			63	20	43	
	SJ 00162	SON	119 07	4	13			58	23	35	
	SJ 02906	SON	110 07	4	14			45	24	21	
	50 00893	3020	118 07	4	2 •			80	-20 -20	40	
	SJ 01667	30N	119 07	4	త -			41	21	20	
	5J U1404	308	117 07	4 :	3			40	15	28	
	53 00919	SUN	119 07		3 Z .			35	12	23	
<u>-</u>	<u>5J 00604</u>	3U M	71M 65	4	5 Z			38	22	Lė	

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SJ	00601	30N	110(07	4 3	2	40	22
SJ	00918	30N	110 (07	4 3	2	85	14
SJ	00920	30N	11W (07	4 3	2	38	12
SJ	01567	30M	11W (07	4 4	2	38	14
SJ	00183	30%	117 (98	1 1		360	300
SJ	03154	3097	11W (98	1 1	. 4	4.0	
SJ	03431	SOM	117 (D8.	14		50	
SJ	00332	302	11W (D8	2 2		52	34
SJ	01451	30N	-11W (98 .	2 2		64	34
SJ	01968	300	11W (98 (2 2	2	40	23
SJ	01999	30N	11W (38 3	2 2		61	48
SJ	01814	309	11W (38. 30	2 2		52	10
SJ	03398	30%	11W (98° (2 2	1	$\in \Theta$	20
SJ	03210	SON	11W (36. SC	2 2	2	60	30
SJ	03098	3007	11W (D8: 0	2 2	2	63	23
ŜJ	03381	SON	11W (38 3	2 2	2	30	
SJ	03240	300	119 0	DS (2 2	2	50	
SJ	00220	SON	110 (98.	2 2	3	$\in 0$	36
SJ	03639	30%	11W (38 (2 2	4	€0	24
SJ	01115	30N	219/0	98 - S	2 2	4	38	26
SJ	03653	SON	11W (DE :	2 2	4	62	26
SJ	03646	30%	21W (98. 3	2 2	4	61	24
SJ	00228	30N	11W (28 3	2 2	4	67	38
SJ	03202	308	11W (98 3	2 4	2	48	
SJ	03030	30N	11W (95 - E	2 4	2	36	40
SJ	03305	30%	71M (96 (2 4	2	50	
SJ	03378	30%	11W (98 - 30	2 4	2	50	
SJ	02331	30N	11W C)8 (2 4	2	83	35
SJ	03303	30%	11W C	DS 30	2 4	2	55	30
SJ	02293	30N	11W C	DS 13	2 4	2	50	35
SJ	00249	30N	11W (DS (2 4	2	46	30
SJ	01368	30N	110 0	Э.С :	5 2		35	39
SJ	03089	30%	119 (18	5 2	4	4.8	36
SJ	03480	30N	119 0	38 3	8 2	4	50	
SJ	03199	30N	11W C)8 (3 4	1	40	2.0
SJ	02413	30N	11W C	DE :	- 4	<u>ħ</u>	4.0	31
SJ	02915	30N	11W C	98 3	4	ì	48	
SJ	03367	30%	11W C)E :	4	4	25	5
SJ	01570	30N	11W ()E	1 1		85	37
SJ	00925	30N	11W C	98 -	1 1	2	32	20

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SJ	03642	30%	110	QΘ	4	1	2	58
SJ	01520	30%	11%	08	4	1	2	38
SJ	03313	30N	110	08	4	1	4	58
SJ	02485	30%	119	QS.	4	1	4	49
SJ	02261	$\odot 0 N$	11%	ФS	4	з	2	
SJ	03419	30N	110	08	4	4	2	41
SJ	02241	$\odot 0 \Sigma$	11%	<u>0</u> Э	1			39
SJ	01560	30%	11%	09	1	i		36
SJ	01585	30N	11W	ŨЭ	1	1		4.0
SJ	03499	30N	11W	09	1	1	1	53
SJ	02236	30N	11W	09	1	1	ł	33
SJ	03304	$\odot0N$	117	09	1	1	2	33
SJ	03209	30N	11%	ŨЭ	1	1	3	49
SJ	03726 POD1	30N	11%	09	1	1	3	47
SJ	03342	30N	11M	0Э	1	1	3	50
SJ	03225	SON	110	ŌЭ	1	1	4	50
SJ	03229	30%	11W	09	1	1	4	50
SJ	00924	30N	110	09	1	2	2	46
SJ	00438	30N	110	QЭ	1	2	3	29
SJ	01169	30N	11W	09	1	З		36
SJ	01574	SON	110	Q9	1	3	_	46
SJ	02237	$30 \mathrm{N}$	117	05	1	З	2	48
SJ	03019	30X	110	09	1	3	1	50
SJ	02493	30X	219	09	1	3	4	45
<u>SJ</u>	03724 POD1	30N	119	09	1	3	1	47
SJ	03031	308	11W	09	1	3	-	00
SJ	01465	SON	119	09	1	3	4	47
SJ	02336	308	11W	09	+	3	4	46
55	03482	308	119	0.2	1	्ड -	ź	50
<u>SJ</u>	03423	308	2.1W	07	+	ۍ ۱	చ	30 20
33	00/50	308	1177	03	-		÷	25
50	02975	308	119	09	ź	+	2	<u>৩</u> । বন
50	00268	308	11W 5370	09	4	4	4	e 1 2 0
30	00304	SON	218	00 00		د ہ	÷	50 20
20	03120 00364 CTW263541	308 268	119	199 199	2	0	2	
20	01955	2002	1157	09 09	2	2	-	
3	02520	2002	114	09 09	2	- -		40 66
5J S.T	02290	308 308	119	09 09	2	7	2	45
50	00347	202	110	09	4	-	-	22
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58	32	26	
38	18	40	
58	20	38	
49	30	19	
41	Э	32	
39	27	12	
36	26	10	
40	28	12	
53	12	41	
38	17	18	
38	30	28	
49	32	17	
47	30	17	
50	31	19	
50			
50			
46	16	30	
29	19	10	
36	33	23	
48	25	14	
48	ŝć.	20	
20	20	20	
20	30 36	20	
47	20	11	
		20	
47	99	÷.	
47		0-	
40 10	11	30	
50		0.5	
50 36	20	30	
25		20	
37	12	25	
61	10	51	
59	20	30	
50		~ ~	
33	11	22	
40	11	29	
60	28	32	
45	15	30	
3€	19	17	

SJ 01436	SON	110 03	5 4	1			210	50	160		
SJ 03471	30N	11W 03	54	11			20	5	15		
SJ 03223	30N	11W 03	5 4	2.2			39	25	34		
SJ 03263	30%	119 03	9 4	2 2			63	38	28		
SJ 03374	30N	110 03	9 4	3-1			44	29	15		
<u>SJ 02796</u>	308	2292-03	7	32			100				
SJ 03214	30%	11W 09	2 4	42			93	63	30		
SJ 03213	30N	110 09	9 4	42			100				
SJ 02176	SON	110 10	1	3			57	37	20		
SJ 03356	30N	A1W 10	1	31			55	30	28		
SJ 03258	30N	21W 10	: 1	33			58	10	45		
SJ 03444	30%	11W 10	1	33			$\in 0$				
SJ 03248	30N	11W 10	<u>i</u> 1	33			90	30	εů		
SJ 03354	30%	11W 10	<u>)</u>	33			8.0	30	50		
SJ 00348	308	11W 10	× 1	34			72	24	48		
SJ 03032	30N	11W 10	1	4 1			80	30	80		
SJ 02819	30N	11W 10	2	З З			140	40	100		
SJ 03282	30%	11W 10	2	34			70	30	40		
SJ 03281	30%	21W 10	1 2	34			62	32	30		
SJ 03572	30%	11W 10	) S	12			79				
SJ 03218	SON	11W 10	) S	33			50	30	2.0		
<u>SJ 01720</u>	30%	11W 13	3				225	90	135		
<u>SJ 03745 POD1</u>	30N	11W 13	5 1	12			325	150	175		
SJ 01693	_ 30M	11W 13	5 1	3			223	89	136		
SJ 01672	30N	110 13	5 1	З			180	80	100		
SJ 01294	SON	11W 13	5 1	33			52	52	40		
SJ 02773	30%	110 16	5 1	13			46	25	21		
SJ 00410	30N	11W 16	: 1	2			61	43	16		
SJ 03010	30%	11W 16	: 1	31			80	40	4.0		
SJ 03257	30N	11W 16	5 1	3 3			80	40	4.0		
SJ 02923	_ 30N	11W 16	: 1	33			78	4.0	35		
SJ 03265	30N	11W 16	: 1	Э З			90	70	20	•	
SJ 03310	30N	11W 14	5 1	33			55	20	35		
SJ 01082	30N	11W 16	2	21			80	34	46		
SJ 01722	SON	11W 17	1				20	ŧ	12		
SJ 01528	30%	11W 17	1	1			26	10	16		
SJ 03373	308	11W 17	i 1	13			50	35	15		
SJ 01948	3028	11W 17	1	2			21	3	18		
SJ 02817	SON	11W 17	; 1	22			18				
SJ 01722 POD2	308	11W 17	i 1	24	266367	2116417	17	8	14		

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SJ 01899	302	11W 17	132			27	7	20
SJ 03771 POD1	SON	11W 17	133	286811	211517	2.0	6	14
SJ 03750 POD1	30N	11W 17	133	286811	211817	20	e	14
SJ 03319	SON	11W 17	134			55	31	24
SJ 03266	30%	110 17	143			30	10	20
SJ 03436	30%	11W 17	143			20		
SJ 00745	30N	11W 17	2			84	30	24
SJ 00665	30%	11W 17	2 1			28	14	14
SJ 01342	30N	11W 17	211			28	5	21
SJ 00166	308	11W 17	23			48	11	37
SJ 01057	30N	119 17	2 3			63	28	35
SJ 01060	30%	119 17	2 3			58	23	35
SJ 03241	30N	310 17	2 3 3			78	20	55
SJ 03269	30N	11W 17	234			80	10	70
SJ 01200	30%	11W 17	24			50	20	30
SJ 03219	30%	11W 17	242			68	38	30
SJ 00159	30N	11W 17	3 1			38	£	27
SJ 03276	309	11W 17	314			60	20	40
SJ 01296	3027	110 17	32			50	10	40
SJ 03249	30N	11W 17	322			55	12	43
SJ 01810	30N	31W 17	34			29	э	20
SJ 00411	302	11W 17	4 1			€0	28	33
SJ 00234	30%	11W 17	4 1			54	23	31
SJ 01847	30%	11W 17	41			30	e	24
SJ 00457	30N	11W 17	412			52	18	34
SJ 00650	30%	11W 17	413			49	18	31
SJ 02018	30%	11W 17	4 2			100	40	60
SJ 00136	30N	110 17	4 2			65	35	34
SJ 03718 POD1	308	11W 17	422			68	41	27
SJ_03261	30N	110 17	422			88	50	38
SJ 03215	30%	11W 18	1 1 3			52	Э	43
SJ 01316	30N	11W 18	1 1 3			46	12	34
<u>SJ 03152</u>	30%	11W 18	1 1 3			52	22	30
SJ 02805	30%	11W 18	121			60		
<u>SJ 03463</u>	30N	119 18	121			70	20	<u>80</u>
SJ 02996	308	11W 18	121			50	23	25
SJ 00932	30N	110 18	124			32	15	17
<u>SJ 01738</u>	30%	110 18	13			33	6	27
<u>SJ 01</u> 733	30N	11W 18	13			25	Э	20
SJ 01786	30N	119 18	13			38	10	23

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SJ 01401	30M	11W 18	1	з			44	12	32
SJ 03526	30%	11W 18	1	3-1			4.0		
SJ 03176	30N	11W 18	1	4 1			48	20	28
SJ 03177	30N	110 18	1	4 2			37	15	22
SJ 03344	30N	11W 18	1	4 2			100	e	92
SJ 03801 POD1	30%	110 18	2	2	266702	2116449	21	e	13
SJ 03800 POD1	30N	110 18	2	2	266718	2116651	21	6	15
SJ 01639	302	110 18	2	22			40	18	22
SJ 02098	30M	110 19	2	4			21	7	14
SJ 02109	30N	110 18	2	4			15	4	15
SJ 02123	30N	110 18	2	4			22	e	14
SJ 03290	30N	11W 18	2	44			40	10	30
SJ 02045	SON	11W 18	4				48.0	200	280
SJ 03322	30%	11W 18	4	4 3			40	10	30
SJ_03320	308	110 18	4	43			80		
SJ 03321	30N	110 18	4	43			60		
SJ 02193	308	110 19						105	
SJ 03403	36%	11W 19	1	2 2			400		
SJ 00638	3.000	110 19	2	1	/		130	70	60
SJ 01073	SON	11W 19	2	1			100	38	€2
SJ 03615	368	110 19	2	1 1			108	35	70
SJ 03434	30N	11W 19	2	14			140		
SJ 03088	30N	11W 19	2	1 4			120	80	$4 \odot$
SJ 01636	30N	11W 19	2	2			70	23	45
SJ 02862	30M	11W 19	2	2-3			20		
SJ 00284	3094	11W 19	2	4			200	35	165
SJ 03645	30N	11W 19	3	1 1			60	20	4.0
SJ 03533	30%	11W 19	3	1 3			20		
SJ 01621	SON	31W 19	3	2			4.0	38	2
SJ 02692	30%	110 19	3	2 2			52	12	40
SJ 02968	30N	110 19	3	22			78	5	70
SJ 02812	308	11W 19	3	22			30		
SJ 01123	30N	11W 19	4	1			40	13	28
SJ 03437	SON	11W 19	4	12			30		
SJ_03315	30%	11W 19	4	12			60	54	6
SJ 00284 CLW222415	30 M	11W 19	4	4			200	35	163
SJ 03224	308	11W 30	1	24			8.0	30	50
SJ 03077	30N	21% 30	2	1 1			78	70	5
SJ 03668	30N	11W 30	2	1 2			380	280	100
SJ 03251	$\odot 028$	11W 32	S	44			150	77	73

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Kim Champlin/FAR/CTOC 11/10/2008 09:10 AM

To mark_kelly@blm.gov

CC

bcc

Subject Notice- Fogleson GC #1F Well Site

RE: Fogleson Gas Com #1F Gas Well Lease #NMSF-079962 Sec. 26L- T30N- 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 on site burial.

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

Kim Champlin Environmental Representative XTO Energy San Juan Division (505) 333-3207 Office (505)330-8357 Cell (505) 333-3280 Fax

### 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.
- 7. Pit walls will be walked down by a crawler type tractor following construction.
- 8. All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
- 9. Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided.
- 10. All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep.
- 11. XTO will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used when possible. XTO will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. XTO will minimize the number of field seams in corners and irregularly shaped areas.
- 12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
- 13. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some areas.
- 14. The volume of the pit shall not exceed 10 acre-feet, including freeboard.

### XTO Energy Inc. San Juan Basin Maintenance and Operating Plan

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

#### **General Plan**

- 1. XTO will operate and maintain a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
- 2. XTO will conserve drilling fluids by transmitting liquids to pits ahead of the rigs whenever possible. All drilling fluids will be disposed at Basin Disposal Inc, Permit # NM-01-005.
- 3. XTO will not discharge or store any hazardous waste in any temporary pit.
- 4. If any pit liner integrity is compromised, or if any penetration of the liner occurs above the liquid surface, then XTO shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner.
- 5. If a leak develops below the liquid level, XTO shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. XTO shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks less than 25 barrels. XTO shall notify the Aztec Division office as required pursuant to Subsection B of 19.15.3.116 NMAC within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), and Subparagraph (d) of 19.15.3.116 NMAC shall be reported to the division's Environmental Bureau Chief.
- 6. The liner shall be protected from any fluid force or mechanical damage through the use of mud pits slides, or a manifold system.
- 7. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
- 8. XTO shall immediately remove any visible layer of oil from the surface of the temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from pits surface. An oil absorbent boom will be stored on-site until closure of pit.
- 9. Only fluids generated during the drilling or workover process will be discharged into a temporary pit.
- 10. XTO will maintain the temporary pit free of miscellaneous solid waste or debris.
- 11. During drilling or workover operations, XTO will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged and logs maintained for review. XTO will file this log with the Aztec Division office upon closure of the pit.
- 12. After drilling or workover operations, XTO will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at XTO's office electronically and will be filed with the Aztec Division office upon closure of the pit.
- 13. XTO shall maintain at least two feet of freeboard for a temporary pit.
- 14. XTO shall remove all free liquids from a temporary pit within 30 days from the date the operator releases the drilling or workover rig.

# XTO Energy Inc. San Juan Basin Closure Plan

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure requirements of temporary pits on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

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

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

#### **General Plan:**

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

Components	Test Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
ТРН	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	500 or background

- 9. Upon completion of solidification and testing, the pit area will be backfield with compacted, 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.
- 12. XTO shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other divisionapproved methods. BLM of Forest Service stipulated seed mixes will be used on Federal Lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.
- 13. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time all wells on the pad are abandoned. The operator's information will include the following: Operators Name, Lease Name, Well Name and Number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

# XTO Energy Inc. San Juan Basin 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.
- 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 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.
- 7. 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.

### <u>General Plan</u>

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- 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

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- 1. 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.
- 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
  - ii. 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 divisionapproved 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.

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

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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 IE1 (Permit Number NM01-0010B) for final disposition.
- 2. Solids in the closed-loop tank will be vacuumed out and disposed of at Envirotech (Permit Number NM01-0011) or IEI (Permit Number NM01-0010B) on a periodic basis to prevent over topping.
- 3. No hazardous waste, miscellaneous solids, waste, or debris will be discharged into, or stored in the tank. Only fluids or cutting used or generated by rig operations will be placed or stored in the tank.
- 4. The division district office will be notified within 48 hours of the discovery of compromised integrity of the closed-loop tank. Upon discovery of the compromised tank, repairs will be enacted immediately.
- 5. All of the above operations will inspected and a log will be signed and dated daily during rig operations.

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

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

### **General Plan**

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

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

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

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