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 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

## State of New Mexico **Energy Minerals and Natural Resources** Department Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Closed-Loop System, Below-Grade Tank, of NOV 25	PM	1	12
Proposed Alternative Method Permit or Closure Plan Application			

	cin, Delow-Grade Tank, of
Proposed Alternative Method	Permit or Closure Plan Application
Existing BGT  Closure of a pit, closed-loop  Modification to an existing p	system, below-grade tank, or proposed alternative method system, below-grade tank, or proposed alternative method ermit 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 in	dividual pit, closed-loop system, below-grade tank or alternative request
Please be advised that approval of this request does not relieve the operator of lia	bility should operations result in pollution of surface water, ground water or the
	oly with any other applicable governmental authority's rules, regulations or ordinance
1 2	OGRID #:5380
Address: #382 County Road 3100, Aztec, NM 87410	
Facility or well name:WF FEDERAL 11 # 1	
API Number: <u>30-045-32268</u> OC	D Permit Number:
U/L or Qtr/Qtr H Section 11 Township 30N	Range14WCounty:San Juan
Center of Proposed Design: Latitude <u>36.8308806</u> Longitude <u>16.8308806</u> Longitude	<u>18.225075</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 ☐ LLDP	E 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	
	ling (Applies to activities which require prior approval of a permit or notice of
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Ot	ner
Lined Unlined Liner type: Thicknessmil LI	
Liner Seams:  Welded Factory Other	
4. Below-grade tank: Subsection I of 19.15.17.11 NMAC	
Volume: 120 bbl Type of fluid: Produced V	lotor
	aici
Tank Construction material: Steel  Secondary containment with leak detection  Visible sidewalls, line	r, 6-inch lift and automatic overflow shut-off sible sidewalls, vaulted, automatic high-level shut off, no liner
<del>_</del>	r, o-inch fift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☒ Other _Vi	Sible sidewalls, valued, automatic nign-level shut off, no liner
Liner type: Thicknessmil  HDPE PVC [	
5. Alternative Method:	Other
Alternative Method:	
Submittal of an exception request is required. Exceptions must be submitt	ed to the Santa Fe Environmental Bureau office for consideration of approval
Form C-144 Oil Conso	rvation Division Page 1 of 5
1 page 1	The state of the s
ceiv	Sto
Re	2

6.		
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)		
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school institution or church)	l, hospital,	
Four foot height, four strands of barbed wire evenly spaced between one and four feet		
Alternate. Please specify Four foot height, steel mesh field fence (hogwire) with pipe top railing		
Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)		
☐ Screen ☐ Netting ☒ Other Expanded metal or solid vaulted top		
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		
9.  Administrative Approvals and Exceptions:  Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.  Please check a box if one or more of the following is requested, if not leave blank:  Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau consideration of approval.  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	u office for	
10.		_
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 accumaterial are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the application of the solution of the 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 drabove-grade tanks associated with a closed-loop system.	ropriate district approval. ying pads or	t
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 ⊠	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ⊠	No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to temporary, emergency, or cavitation pits and below-grade tanks)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ ☐ NA	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 ☐ ☑ NA	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 ⊠	
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ⊠	9/20/2022 2:22:4
	☐ Yes 🏻	/2000
	1	ing: 9
Within a 100-year floodplain FEMA map  Form C-144  Oil Conservation Division  Page 2 of	5	Released to Imaging:
		ased
		Rele

11. 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 NMA 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)
13.   Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC   Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.   Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC   Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC   Climatological Factors Assessment   Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC   Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC   Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC   Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC   Quality Control/Quality Assurance Construction and Installation Plan   Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC   Preboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC   Nuisance or Hazardous Odors, including H <sub>3</sub> S, Prevention Plan   Emergency Response Plan   Oil Field Waste Stream Characterization   Monitoring and Inspection Plan   Erosion Control Plan   Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC   Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.   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  Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC
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Page 4 of	Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13. Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if facilities are required.	
	Disposal Facility Name: Disposal Facility Permit Number:	
	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 set    Yes (If yes, please provide the information below)  No	rvice and operations?
	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 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	AC
	Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC  Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable sou provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate dis considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Just demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	trict office or may b
	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, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
	Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - 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; 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
	<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	Yes No
	Within a 100-year floodplain FEMA map	☐ Yes ☐ No
Received by OCD: 9/15/2022 12:10:17 PM	On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure p 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 NMAC Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - 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 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 cand 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 G of 19.15.17.13 NMAC	.15.17.11 NMAC 17:25:
v OCD: 9/15	Form C-144 Oil Conservation Division Page 4 of	of 2 maging: 9
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		•
Operator Application Certification:	<del></del>	
I hereby certify that the information submitted with this appli	cation is true, accurate and complete to	the best of my knowledge and belief.
Name (Print): Kim Champlin	Title:	Environmental Representative
Signature: Kim Champler	Date:	11/21/08
e-mail address: kim_champlin@xtoenergy.com		(505) 333-3100
20. OCD Approval: X Permit Application (including closure p	olan) 🗌 Closure Plan (only) 📋 OG	CD Conditions (see attachment)
OCD Representative Signature: Jaclyn Burdine		Approval Date: 09/20/2022
Title: _Environmental Specialist-A		
21. Closure Report (required within 60 days of closure comple Instructions: Operators are required to obtain an approved The closure report is required to be submitted to the division section of the form until an approved closure plan has been	closure plan prior to implementing at within 60 days of the completion of to obtained and the closure activities ha	ny closure activitles and submitting the closure report he closure activities. Please do not complete this
22.		
Closure Method:  ☐ Waste Excavation and Removal ☐ On-Site Closure M ☐ If different from approved plan, please explain.	ethod	od Waste Removal (Closed-loop systems only)
23.  Closure Report Regarding Waste Removal Closure For Cl Instructions: Please indentify the facility or facilities for wh two facilities were utilized.	osed-loop Systems That Utilize Aborere the liquids, drilling fluids and dri	ve Ground Steel Tanks or Haul-off Bins Only: Il cuttings were disposed. Use attachment if more tha
Disposal Facility Name:	Disposal Facility	Permit Number:
Disposal Facility Name:	Disposal Facility	Permit Number:
Were the closed-loop system operations and associated activit  Yes (If yes, please demonstrate compliance to the items		tot be used for future service and operations?
Required for impacted areas which will not be used for future  Site Reclamation (Photo Documentation)  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique		
24.  Closure Report Attachment Checklist: Instructions: Each 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 to Disposal Facility Name and Permit Number  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Techniques  Site Reclamation (Photo Documentation)  On-site Closure Location: Latitude	e) for on-site closure)	
25. Operator Closure Certification:		
I hereby certify that the information and attachments submitte		the state of the s
belief. I also certify that the closure complies with all applications of the complication of the complica	-	s specified in the approved closure plan.
Name (Print):		s specified in the approved closure plan.
Signature:	Date:	
e-mail address:	Telephone:	
Form C-144	Oil Conservation Division	Page 5 of 5
Name (Print):  Signature:  e-mail address:  Form C-144		Page 5 of 5
		*

## State of New Mexico

Energy. Minerals & Mining Resources Department OL CONSERVĂTION DIVISION

2040 South Pacheco Santa Fe. NM 87505

2011 APR -4 AM 6: 32 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

				D F
APA Num	per / O	Pool Code	Pool Name	TOVE
30-045-3	2268	78160	(Gas)	
Property Code		Prope	erty None	Well Namber
34000		WF F	ederal II	1
OGRO No.		Opero	stor None	Elevation
19219		ERATING COMPANY	5942°	
•				<del></del>

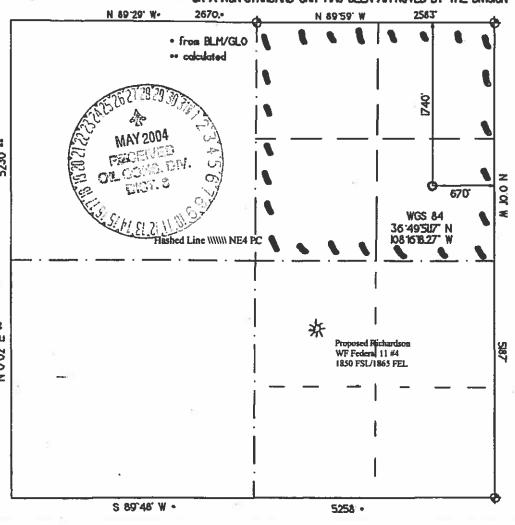
Surface Location

UL or Lot	Sec.	Tsp.	Rga.	Let ldn,	Feet from>	North/South	Feet from>	East/West	County
Н	I I	30 N.	14 W.		1740	NORTH	670	EAST	SAN JUAN

Battom Hole Location If Different From Surface

UL or Lot	Sec	Тэр.	Rga.	Let Idn	Feet froms	North/South	Feet from>	Ext/West	County
Dedication NE/4 I55.03	Jo	int ?	Consolidat	ion	· <u>-</u>	*	Orde	r Na.	

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



OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signatur

Printed /Name Paul Lehrman

Landman

Date 4-1-04

## SURVEYOR CERTIFICATION

I hereby certify that the well location on this plat 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 half. of my belief. Date of Survey



Received by OCD: 9/15/2022 12:10:17 PM

A	-	Pit Permit		Client:	711 - 111 - 111
Lodestar Services	, Inc.			Project:	
PO Bez 4465, Durange,	CO 81302	Siting Criteria		Revised:	
		Information She	et	Prepared by:	Daniel Newman
API#:		3004532268		USPLSS:	T30N,R14W,11H
N-	144			1 -40	00.000000 / 400.055075
Name:	WE	FEDERAL 11 #1		Lat/Long:	36.8308806 / -108.255075
Depth to groundwater:		>100'		Geologic formation:	
Distance to closest continuously flowing watercourse:	1.85 mìl	es west of the La Plata River			
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:		south of Coyne Arroyo		H	
				Soil Type:	Entisols
Permanent residence, school, hospital, institution or church within 300'		No			
				Annual Precipitation:	
Domestic fresh water well or spring within 500'		No		Precipitation Notes:	i na ciantirant procinatation events i
Any other fresh water well or spring within 1000'		No			
Within incorporated municipal boundaries		No		Attached Documents:	
Within defined municipal fresh water well field		No			Topo map, ground water data map, ariel photo, mines and quarries map, FEMA map
Wetland within 500'		No	Н	Mining Activity:	No
Within unstable area		No			
Within 100 year flood plain		Zопе X			
Additional Notes:					

## WF FEDERAL 11#1 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 on Pinon Mesa, west of the La Plata River.

The predominant geologic formation is the Ojo Alamo Sandstone of Tertiary Age, which underlies surface soils and is exposed as sandstone outcrops (Dane and Bachman, 1965). Deposits of Quaternary alluvial sands also occur prominently near the surface of the area, especially near washes. The Ojo Alamo Sandstone consists of sandstone and conglomeritic sandstone and overlies the Kirtland Shale. The thickness of the Ojo Alamo ranges from 72 to 313 feet (Stone et al., 1983).

Cretaceous and Tertiary sandstones, as well as Quaternary alluvial deposits serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). The predominant aquifer within the Ojo Alamo Sandstone occurs from very near the surface to over 200 feet in depth. The aquifer is widely used as a domestic and stock water source.

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

Dry and arid weather further prohibit active recharge. 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

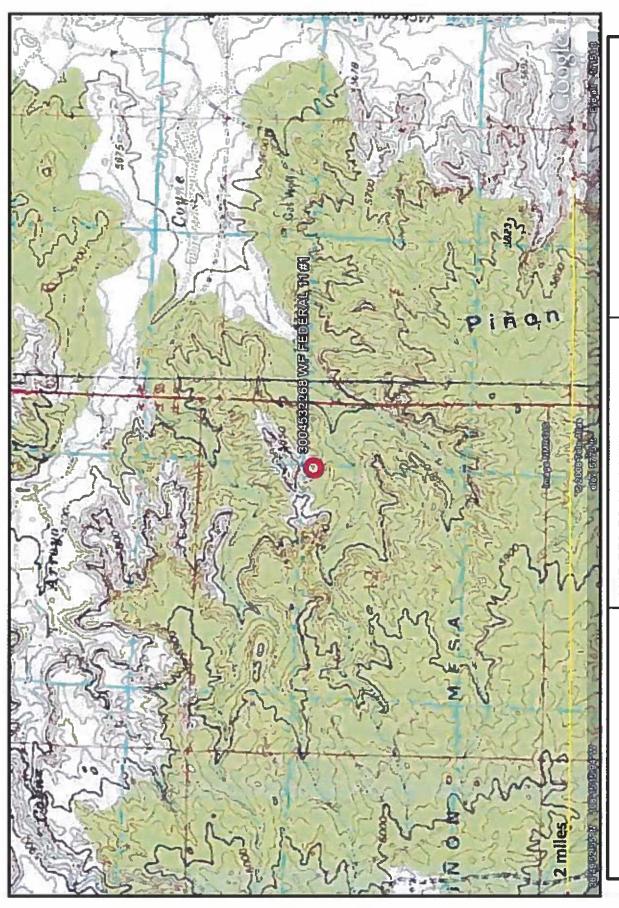
Depth to groundwater is estimated to greater than 100 feet. This estimation is based on data from Stone and others (1983), the USGS Groundwater Atlas of the United States and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity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

Beds of water-yielding sandstone are primarily confined to the Farmington Sandstone Member of the Fruitland Formation, which is 20-480 feet thick (Stone et al., 1983). The site is located in a shalely unit of the Fruitland Formation, as evidenced by the relatively flat topography that is easily eroded by arroyos. The eroded surfaces of the arroyos do not expose thick sequences of sandstone outcrops, the presence of which might indicate a water-bearing unit within the immediate subsurface.

Beds of water-yielding sandstone are present within the Ojo Alamo Sandstone, which are fluvial in origin. The primary aquifer occurs near 5700 feet in elevation in this region (Stone et al., 1983). The site in question is located at an elevation of approximately 5760 feet.

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. Wells located within the area contain groundwater at depths ranging from 9 to 140 feet. The closest well to the proposed site sits at an elevation of approximately 5648 feet, at a distance if approximately 1.06 miles to the east. This site puts groundwater at a distance of 30 feet below the ground surface.

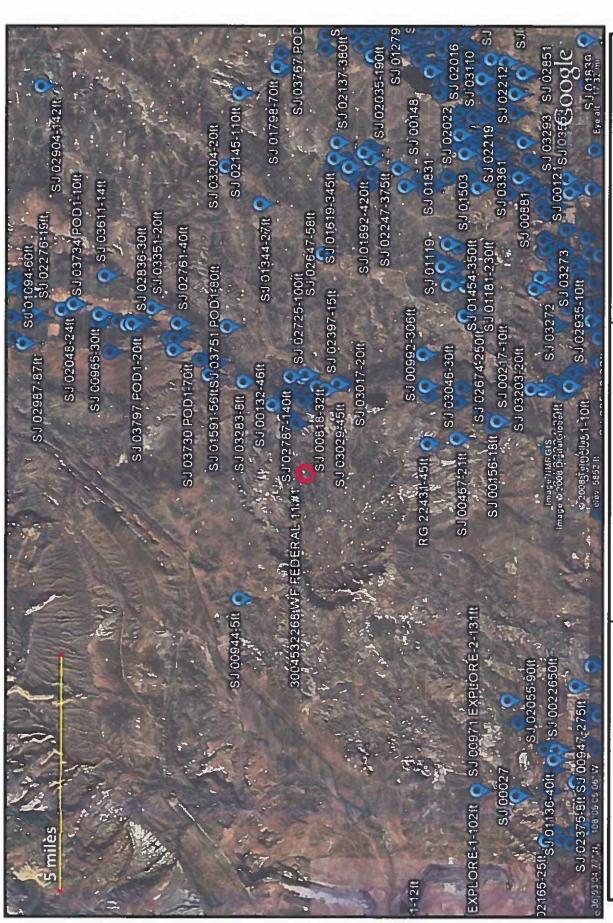
Exposures of shale at the surface and within channel cuts of arroyos suggest groundwater is restricted to deeper sandstone units. Groundwater data recorded from wells drilled with the immediate vicinity of the proposed site put groundwater depth at less than 50 feet. However there is an elevation difference of approximately 100 feet between these wells and the proposed site. Therefore, depth to groundwater is estimated to be greater than 100 feet.



Lodestar Services, Inc
PO Box 4465
Durango, CO 81302

WF FEDERAL 11 #1 T30N,R14W,11H SAN JUAN COUNTY, NM

**TOPOGRAPHIC MAP** 



Мар SAN JUAN COUNTY, NM WF FEDERAL 11 #1 T30N,R14W,11H Lodestar Services, Inc **Durango, CO 81302** PO Box 4465

i-Waters Ground Water Data Map

New Mexico Office of the State Engineer POD Reports and Downloads

Feet)	Avg	en en	70	103	120	212	4,	덕! (대	117	03	175	60	90	18	10	183	19 1	11	16	CI CI	11	~?* <del> </del>	21	10	C1	œ	w	43	C1	17	
Water in	Max	40	40	105	120	310	i) i)	118	180	03	175	60	up m	07	10	182	ເກ	11	40	70	11	14	44. 40.	10	() ()	17	ന	50	C-I	0:0	40
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## AVERAGE DEPTH OF WATER REPORT 10/21/2008

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AVERAGE DEPTH OF WATER REPORT 10/21/2008 (Depth Water in Feet)

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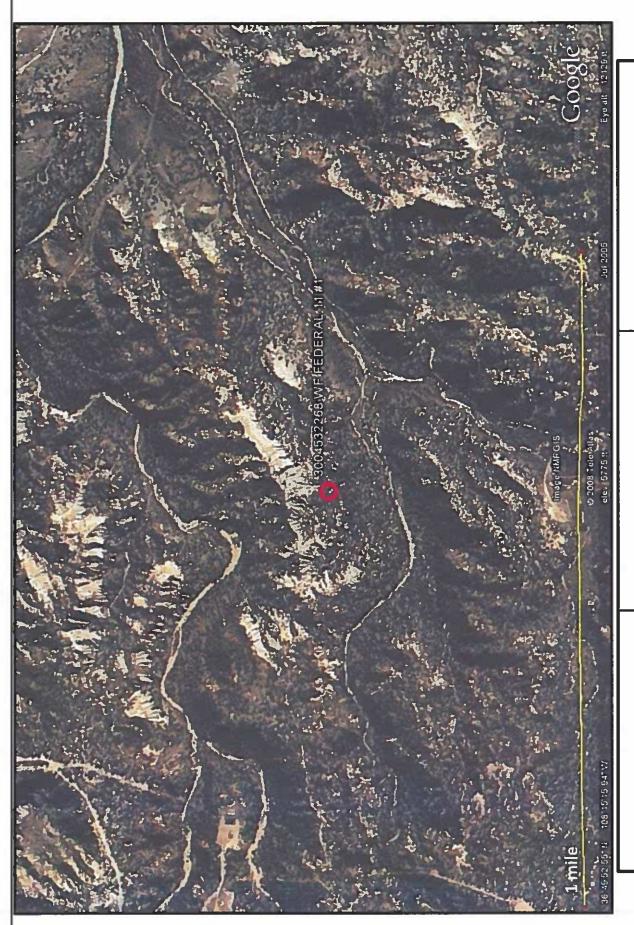
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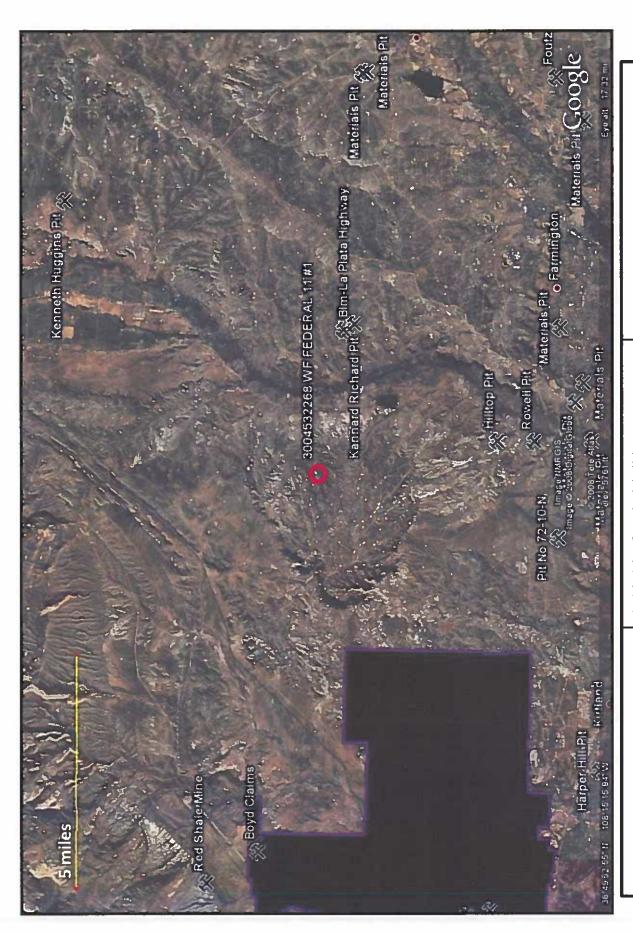
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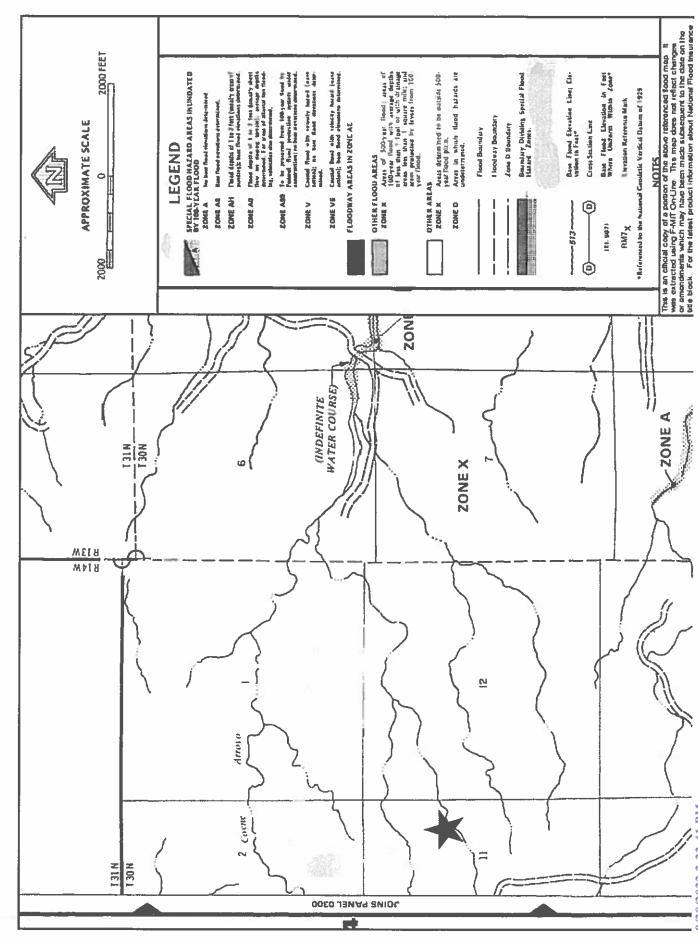
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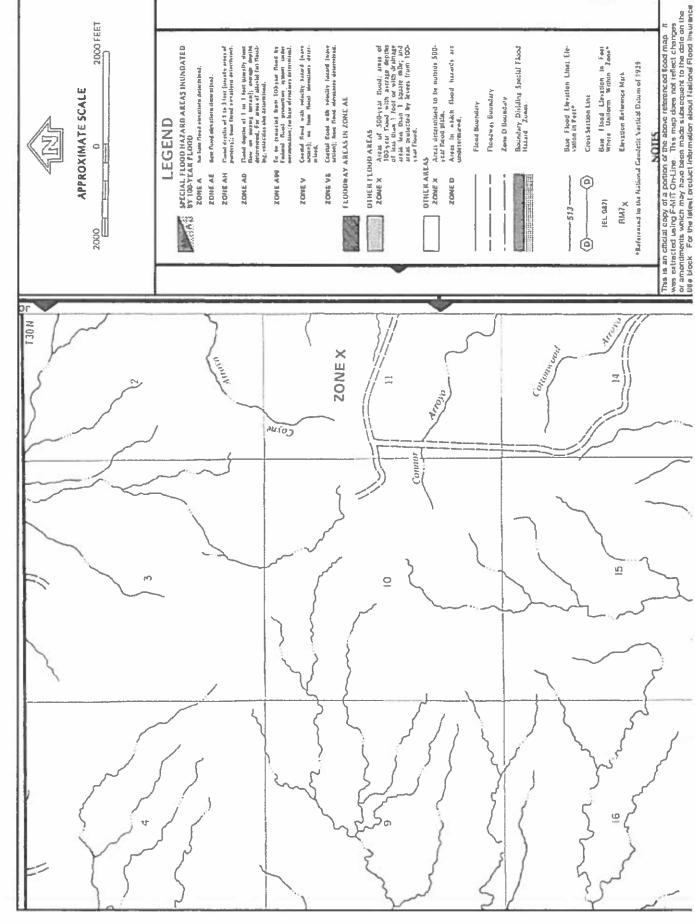
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Mines and Quarries Map



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## XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Design and Construction Plan For Below-Grade Tanks

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 which does not conform to this plan.

## General Plan

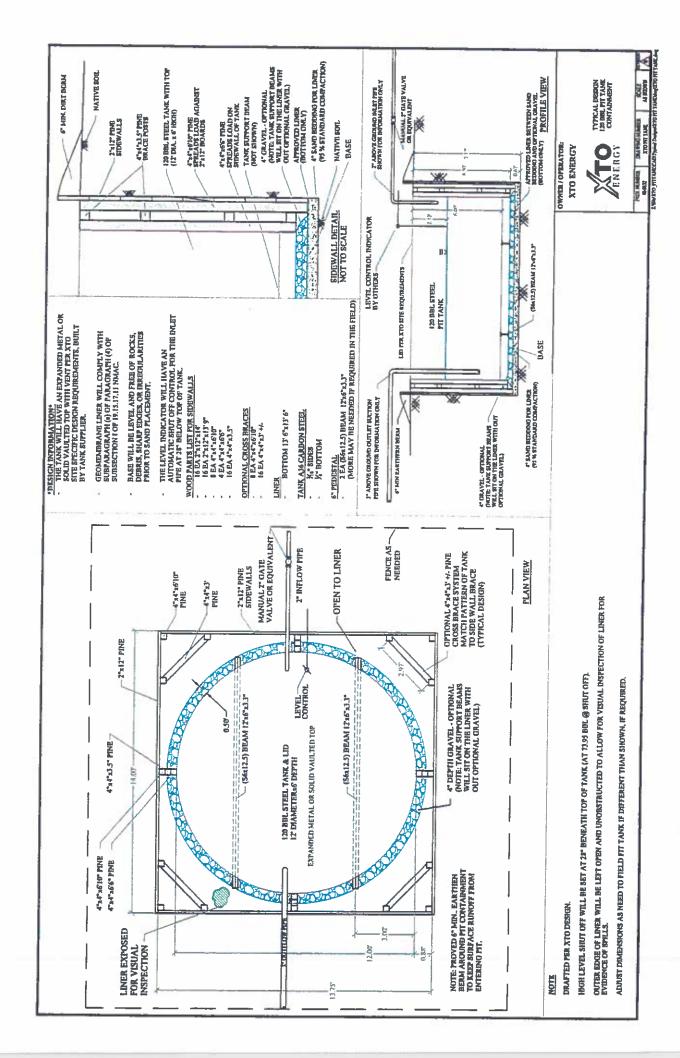
- XTO will design and construct below-grade tanks to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
- XTO will post a well sign, in compliance with 19.15.3.103 NMAC, on the existing well site
  operated by XTO where the existing below-grade tank is located. 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.
- 3. XTO is requesting approval of an alternative fencing to be used on below-grade tank locations. Below-grade tank locations will be fenced utilizing 48" steel mesh field-fence (hogwire) with pipe railing along the top. A 6' chain link fence will be utilized around the well pad if the well site is within a city limits or ½ mile of a permanent residence, school, hospital, institution or church. Below-grade tanks located within 1000' of a permanent residence, school, hospital, institution or church will be fenced by 6' chain link fence with at least two strands of barbed wire at the top. All gates associated with below-grade tanks will remain closed and locked when responsible individuals are not on site.
- 4. XTO shall construct below-grade tanks with an expanded metal covering or solid vaulted top on the top of the below-grade tank.
- 5. XTO will ensure that below-grade tanks are constructed of materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight. Tanks will be constructed of A36 carbon steel with 3/16" sides and ¼" bottom. (See attached drawing).
- 6. The below-grade tank 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. Sand bedding (4") will be placed on top of a level foundation to ensure prevention of punctures, cracks or indentations of the liner or tank bottom.
- 7. XTO will construct a berm and/or diversion ditch in a manner that prevents the collection of surface water run-on. Below-grade tanks will be equipped with automatic high level shut-off devices as well as manually operated shut-off valves. (See attached drawing).
- 8. XTO will construct and use below-grade tanks that do not have double walls. The below-grade tank sidewalls will be open for visual inspection for leaks. The sidewalls of the cellar will be constructed with 2" X 12" pine sidewalls and 4" X 4" pine brace posts. The below-grade tank

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Design and Construction Plan
For Below-Grade Tanks
Page 2

bottom will be elevated a minimum of 6" above the underlying ground surface and the belowgrade tank will be underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected. (See attached drawing).

- 9. XTO will equip below-grade tanks designed in this manner with a properly functioning automatic high-level shut-off control device and manual controls to prevent overflows. (See attached drawing).
- 10. XTO will demonstrate to the OCD that the geomembrane liner complies with the specifications of Subparagraph (a) of Paragraph (4) of Subsection I of 19.15.17.11 NMAC and obtain approval from OCD prior to the installation of the design. The geomembrane liner shall have a hydraulic conductivity no greater than 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 acidics and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A. (See attached drawing).
- 11. The general specifications for design and construction are attached.

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## XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Maintenance and Operating Plan For Below-Grade Tanks

In accordance with Rule 19.15.17.12 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 which does not conform to this plan.

## General Plan

- 1. XTO will operate and maintain below-grade tanks to contain fiquids and solids, maintain the integrity of the liner and secondary containment system, prevent contamination of fresh water and protect public health and the environment. Fluid levels will be monitored weekly and high levels will be removed as necessary. Monthly inspections will be conducted to monitor integrity of below-grade tank systems and below-grade tanks will be equipped with automatic high-level shut-off devices.
- 2. XTO will not allow below-grade tanks to overflow and will use berms and/or diversion ditch to prevent surface run on to enter the below-grade tank. Below-grade tanks will be equipped with automatic high-level shut-off control devices as well as manually operated shut-off valves. See attached drawing for vault design and placement of diversion berms and shut-off devices.
- 3. XTO will continuously remove any visible or measurable layer of oil from the fluid surface of below-grade tanks in order to prevent significant accumulation of oil.
  - XTO will inspect the below-grade tank monthly and maintain written records for five years.
     Monthly inspections will consist of documenting the following: (see attached template),

Well Name API # Sec., Twn., Rng. XTO Inspector's name Inspection date and time Visible tears in liner Visible signs of tank overflow Collection of surface run on

Visible layer of oil Visible signs of tank leak

Estimated freeboard

- 5. XTO will maintain adequate freeboard to prevent over topping of the below-grade tank. High level shut-off devices control the freeboard at an average of 28" beneath the top of the tank.
- 6. XTO will not discharge into or store any hazardous waste in any below-grade tank.
- If a below-grade tank develops a leak, or if any penetration of a below-grade tank occurs below the liquids surface, XTO will remove all liquids above the damage or leak line within 48 hours,

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XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Maintenance and Operating Plan For Below-Grade Tanks Page 2

notify the appropriate division district office within 48 hours of the discovery and repair the damage or replace the below-grade tank. If an existing below-grade tank does not meet current requirements of Paragraphs 1-4 of Subsection I of 19.15.17.11 NMAC the tank will be modified or retrofitted to comply. If compliance can not be achieved XTO will implement the approved closure plan.

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## XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Closure Plan For Below-Grade Tanks

In accordance with Rule 19.15.17.13 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 which does not conform to this plan

## General Plan

- XTO will close below-grade tanks 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 a below-grade tank 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 below-grade tank within 60 days of cessation of the below-grade tank'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 below-grade tanks prior to implementing a closure method and will dispose of the liquids and sludge in a division-approved facility. Approved facilities and waste streams include:

Envirotech Permit No. NM01-0011 and IEI Permit No. NM 01-0010B

Soil contaminated by exempt petroleum hydrocarbons

Produced sand, pit sludge and contaminated bottoms from storage of exempt wastes

Basin Disposal Permit No. NM01-005 Produced water

- 5. XTO will remove the below-grade tank and dispose of it in a division approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office has approved prior to removal. Any associated liners will be removed, properly cleaned and disposed of per 19.15.9.712 NMAC at San Juan County Landfill. Documentation of the final disposition will be included in the closure report.
- XTO will remove any on-site equipment associated with a below-grade tank unless the equipment is required for some other purpose.
- 7. XTO will test the soils beneath the below-grade tank 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

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Closure Plan
For Below-Grade Tanks
Page 2

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 operations will be given to the Aztec Division District III office between 72 hours and one week prior to the start of closure activities via email or verbally.

  The notification will include the following:
  - i. Operator's name
  - ii. Well Name and API Number
  - iii. Location by Unit Letter, Section, Township, and Range

The surface owner shall also be notified prior to the implementation of any closure operations of below-grade tanks as per the approved closure plan using certified mail, return receipt requested.

- 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.
- 12. A minimum of 4 feet of cover shall be achieved and the cover shall include 1 foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater. Soil cover will be constructed to the site's existing grade and ponding of water and erosion of the cover material will be prevented with drainage control, natural drainages and silt traps where needed.
- 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.

XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Closure Plan For Below-Grade Tanks Page 3

- 14. All closure activities will include proper documentation and be available for review upon request and will be submitted in closure report form to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on form C-144 and incorporate the following:
  - Proof of closure notice to division and surface owner,
  - Details on capping and covering, where applicable; ii.
  - III. Inspection reports,
  - iv. Confirmation sampling analytical results;
  - Disposal facility name(s) and permit number(s), V..
  - vi. Soil backfilling and cover installation;
  - VII. Re-vegetation application rates and seeding techniques, (or approved alternative to re-vegetation requirements if applicable);

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VIII. Photo documentation of the site reclamation.

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

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1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505**

QUESTIONS

Action 143746

### **QUESTIONS**

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	143746
	Action Type:
	[C-144] Legacy Below Grade Tank Plan (C-144LB)

### QUESTIONS

acility and Ground Water								
lease answer as many of these questions as possible in this group. More information will help us identify the appropriate associations in the system.								
Facility or Site Name	WF FEDERAL 11 1							
Facility ID (f#), if known	Not answered.							
Facility Type	Below Grade Tank - (BGT)							
Well Name, include well number	WF FEDERAL 11 1							
Well API, if associated with a well	3004532268							
Pit / Tank Type	Not answered.							
Pit / Tank Name or Identifier	Not answered.							
Pit / Tank Opened Date, if known	Not answered.							
Pit / Tank Dimensions, Length (ft)	Not answered.							
Pit / Tank Dimensions, Width or Diameter (ft)	Not answered.							
Pit / Tank Dimensions, Depth (ft)	Not answered.							
Ground Water Depth (ft)	Not answered.							
Ground Water Impact	Not answered.							
Ground Water Quality (TDS)	Not answered.							

Below-Grade Tank	
Subsection I of 19.15.17.11 NMAC	
Volume / Capacity (bbls)	120
Type of Fluid	Produced Water
Pit / Tank Construction Material	Steel
Secondary containment with leak detection	Not answered.
Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off	Not answered.
Visible sidewalls and liner	Not answered.
Visible sidewalls only	Not answered.
Tank installed prior to June 18. 2008	True
Other, Visible Notation. Please specify	Not answered.
Liner Thickness (mil)	Not answered.
HDPE (Liner Type)	Not answered.
PVC (Liner Type)	Not answered.
Other, Liner Type. Please specify (Variance Required)	Not answered.

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## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505**

QUESTIONS, Page 2

Action 143746

QUESTI	IONS (continued)
Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171 Action Number: 143746
	Action Type:  [C-144] Legacy Below Grade Tank Plan (C-144LB)
QUESTIONS	
Fencing	
Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tank	ks)
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)	Not answered.
Four foot height, four strands of barbed wire evenly spaced between one and four feet	Not answered.
Alternate, Fencing. Please specify (Variance Required)	4' hogwire
N. ot	
Netting Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)	
Screen	Not answered.
Netting	Not answered.
Other, Netting. Please specify (Variance May Be Needed)	expanded metal or solid vaulted top
	<u>I</u>
Signs	
Subsection C of 19.15.17.11 NMAC (If there are multiple operators at a site, each operator must have	re their own sign in compliance with Subsection C of 19.15.17.11 NMAC.)

Signs	
Subsection C of 19.15.17.11 NMAC (If there are multiple operators at a site, each operator must have their own sign in compliance with Subsection C of 19.15.17.11 NMAC.)	
12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers	Not answered.
Signed in compliance with 19.15.16.8 NMAC	True

Variances and Exceptions	
Justifications and/or demonstrations ofequivalency are required. Please refer to 19.15.17 NMAC for Please check a box if one or more of the following is requested, if not leave blank:	quidance.
Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.	Not answered.
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval	Not answered.

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1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170 **District IV** 

1220 S. St Francis Dr., Santa Fe, Phone:(505) 476-3470 Fax:(505)

Houston, TX 77002

## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe NM 87505

QUESTIONS, Page 3

Action 143746

Francis Dr., Santa Fe, NM 87505 15) 476-3470 Fax:(505) 476-3462	
	QUESTIONS (continued)
	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:

143746

[C-144] Legacy Below Grade Tank Plan (C-144LB)

Action Type:

## QUESTIONS

Operator:

QOEOTIONO	
Siting Criteria (regarding permitting)	
19.15.17.10 NMAC	

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.

Siting Criteria, General Siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank	No
NM Office of the State Engineer - iWATERS database search	True
USGS	Not answered.
Data obtained from nearby wells	Not answered.

Siting Criteria, Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lakebed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark)	No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption	No

Proposed Closure Method	
Below-grade Tank	Below Grade Tank - (BGT)
Waste Excavation and Removal	True
Alternate Closure Method. Please specify (Variance Required)	Not answered.

Operator Application Certification	
Registered / Signature Date	11/21/2008

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## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505**

ACKNOWLEDGMENTS

Action 143746

### **ACKNOWLEDGMENTS**

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	143746
	Action Type:
	[C-144] Legacy Below Grade Tank Plan (C-144LB)

### **ACKNOWLEDGMENTS**

V	I acknowledge that I have received prior approval from the OCD to submit documentation of a legacy below-grade tank on behalf of my operator.
V	I hereby certify that the information submitted with this documentation is true, accurate and complete to the best of my knowledge and belief.

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**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

CONDITIONS

Action 143746

## **CONDITIONS**

Operator:	OGRID:
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1111 Travis Street	Action Number:
Houston, TX 77002	143746
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	[C-144] Legacy Below Grade Tank Plan (C-144LB)

### CONDITIONS

Created By		Condition Date
jburdine	None	9/20/2022