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 Sasta For Facility and exceptions.

Form C-14

July 21, 200

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

# Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Proposed Alternative Method Permit or	Closure Plan Application	
Type of action:  Existing BGT  Closure of a pit, closed-loop system, below Modification to an existing permit  Closure plan only submitted for an existing below-grade tank, or proposed alternative method		
Instructions: Please submit one application (Form C-144) per individual pit, clo	losed-loop system, below-grade tank or alternative request	
Please be advised that approval of this request does not relieve the operator of liability should operationment. Nor does approval relieve the operator of its responsibility to comply with any other	perations result in pollution of surface water, ground water or the ner applicable governmental authority's rules, regulations or ordinar	ıcı
t. Operator: XTO Energy, Inc.	OGRID #: 5380	
Address: #382 County Road 3100, Aztec, NM 87410		
Facility or well name: Berger #5		
API Number: 3004505821 OCD Permit Num		
U/L or Qtr/Qtr O Section 14 Township 26N Range		
Center of Proposed Design: Latitude 36.48305 Longitude		
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: Thicknessmil LLDPE HDPE	□ PVC □ Other	
☐ String-Reinforced		
Liner Seams: Welded Factory Other Volume:	bbl Dimensions: L x W x D	
3.		=
Closed-loop System: Subsection H of 19.15.17.11 NMAC		
Type of Operation: P&A Drilling a new well Workover or Drilling (Applies to intent)	o activities which require prior approval of a permit or notice of	ſ
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other		
☐ Lined ☐ Unlined Liner type: Thicknessmil ☐ LLDPE ☐ HDPE	PE PVC Other	
Liner Seams: Welded Factory Other		
4.		=
Below-grade tank: Subsection I of 19.15.17.11 NMAC		
Volume:120bbl Type of fluid:Produced Water		
Tank Construction material: Steel		Z
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and	nd automatic overflow shut-off	1

Form C-144

Liner type: Thickness

Alternative Method:

Oil Conservation Division

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

☐ Visible sidewalls and liner ☐ Visible sidewalls only ☒ Other \_<u>Visible sidewalls</u>, vaulted, automatic high-level shut off, no liner

mil 🔲 HDPE 🔲 PVC 🔲 Other

Page I of 5

Released to Imaging: 3/17/2

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)  Four foot height, four strands of barbed wire evenly spaced between one and four feet	l, hospital,
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)	
s. 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 consideration of approval.  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	ı 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 accommaterial are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the approffice or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dry above-grade tanks associated with a closed-loop system.	opriate district approval. ying 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	☐ Yes ⊠ Ne
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to temporary, emergency, or cavitation pits and below-grade tanks)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ⊠ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to permanent pits)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
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 ⊠ Ne
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 ⊠ N
Within a 100-year floodplain FEMA map	☐ Yes 🛛 1
Form C-144 Oil Conservation Division Page 2 of 3	Polaceof to Imaging. 2/17/
	Rologod

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the description.	
### 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.   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 and 19.15.17.13 NMAC	.9 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 definition of the following items must be attached to the application.	ocuments are
attached.  Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19. Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NM 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 19.15.17.13 NMAC	15.17.9 1AC
☐ Previously Approved Design (attach copy of design) API Number:	
Previously Approved Operating and Maintenance Plan API Number: (Applies only to closed-loop sy	stem that use
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)	
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the de 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	ocuments are
Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC  Quality Control/Quality Assurance Construction and Installation Plan  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Nuisance or Hazardous Odors, including H <sub>2</sub> S, Prevention Plan  Emergency Response Plan  Oil Field Waste Stream Characterization  Monitoring and Inspection Plan  Erosion Control Plan  Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC	
Proposed Closure: 19.15.17.13 NMAC Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.	
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Closed-loop S 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	System
Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for co	
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be at closure plan. Please indicate, by a check mark in the box, that the documents are attached.	tached to the
Form C-144 Oil Conservation Division Page 3 of	5
<ul> <li>✓ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC</li> <li>✓ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC</li> <li>✓ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)</li> <li>✓ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC</li> <li>✓ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC</li> <li>✓ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC</li> </ul> Form C-144  Oil Conservation Division  Page 3 of	

Disposal Facility Name:	Disposal Facility Permit Number:	
Disposal Facility Name:		
Will any of the proposed closed-loop system opera  Yes (If yes, please provide the information by	ations and associated activities occur on or in areas that will not be used for future serbelow) $\square$ No	vice and operation
Re-vegetation Plan - based upon the appropri	d for future service and operations:  ns based upon the appropriate requirements of Subsection H of 19.15.17.13 NMA riate requirements of Subsection I of 19.15.17.13 NMAC ropriate requirements of Subsection G of 19.15.17.13 NMAC	C .
provided below. Requests regarding changes to c	onstration of compliance in the closure plan. Recommendations of acceptable sou vertain siting criteria may require administrative approval from the appropriate dis I to the Santa Fe Environmental Bureau office for consideration of approval. Just	trict office or may
Ground water is less than 50 feet below the bottom - NM Office of the State Engineer - iWATE	of the buried waste. RS database search; USGS; Data obtained from nearby wells	Yes No
Ground water is between 50 and 100 feet below the - NM Office of the State Engineer - iWATE	e bottom of the buried waste RS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the botto - NM Office of the State Engineer - iWATE	om of the buried waste. RS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercoake (measured from the ordinary high-water mark - Topographic map; Visual inspection (certification)		Yes No
Within 300 feet from a permanent residence, school Visual inspection (certification) of the prop	ol, hospital, institution, or church in existence at the time of initial application. posed site; Aerial photo; Satellite image	☐ Yes ☐ No
watering purposes, or within 1000 horizontal feet of	resh water well or spring that less than five households use for domestic or stock of any other fresh water well or spring, in existence at the time of initial application. RS database; Visual inspection (certification) of the proposed site	Yes No
idopted pursuant to NMSA 1978, Section 3-27-3,	in a defined municipal fresh water well field covered under a municipal ordinance as amended. the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland US Fish and Wildlife Wetland Identification	on map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine.  - Written confirmation or verification or ma	p from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area.  - Engineering measures incorporated into the Society; Topographic map	e design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological	Yes No
Within a 100-year floodplain. - FEMA map		☐ Yes ☐ No
by a check mark in the box, that the documents at Siting Criteria Compliance Demonstrations Proof of Surface Owner Notice - based upon Construction/Design Plan of Burial Trench Construction/Design Plan of Temporary Pit Protocols and Procedures - based upon the a Confirmation Sampling Plan (if applicable) Waste Material Sampling Plan - based upon Disposal Facility Name and Permit Number Soil Cover Design - based upon the appropria	MAC) Instructions: Each of the following items must be attached to the closure pare attached.  - based upon the appropriate requirements of 19.15.17.10 NMAC in the appropriate requirements of Subsection F of 19.15.17.13 NMAC (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.13 NMAC - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC the appropriate requirements of Subsection F of 19.15.17.13 NMAC (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cantiate requirements of Subsection I of 19.15.17.13 NMAC right requirements of Subsection I of 19.15.17.13 NMAC right requirements of Subsection I of 19.15.17.13 NMAC	.15.17.11 NMAC
Form C-144	Oil Conservation Division Page 4 of	NF 5

Name (Print): Kim Champlin	Title:	Environmental Representative
ignature: Kim Champles		
		19/2008
-mail address: kim_champlin@xtoenergy.com	Telephone;	(505) 333-3100
o. DCD Approval: 🙀 Permit Application (including closure pla	in) Closure Plan (only) OCD Co	onditions (see attachment)
OCD Representative Signature: Victoria Venega	<i>y</i>	Approval Date: 03/17/2022
Fitle: Environmental Specialist	OCD Permit Number	BGT1
l.		
Closure Report (required within 60 days of closure completins instructions: Operators are required to obtain an approved cliphe closure report is required to be submitted to the division we dection of the form until an approved closure plan has been obtained.	osure plan prior to implementing any closithin 60 days of the completion of the clo	sure activities and submitting the closure repo sure activities. Please do not complete this n completed.
		ion Date:
Closure Method:  Waste Excavation and Removal On-Site Closure Metl  If different from approved plan, please explain.	hod	Waste Removal (Closed-loop systems only)
s. Closure Report Regarding Waste Removal Closure For Closusers Instructions: Please indentify the facility or facilities for when wo facilities were utilized.		
Disposal Facility Name:	Disposal Facility Perm	it Number:
Disposal Facility Name:		it Number:
Vere the closed-loop system operations and associated activitie  Yes (If yes, please demonstrate compliance to the items b		used for future service and operations?
required for impacted areas which will not be used for future set  Site Reclamation (Photo Documentation)  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique	ervice and operations:	
Closure Report Attachment Checklist: Instructions: Each of the Instruction of the Instruc		the closure report. Please indicate, by a check
On-site Closure Location: Latitude	Longitude	NAD: 🔲 1927 🔲 1983
because Certification: hereby certify that the information and attachments submitted elief. I also certify that the closure complies with all applicable lame (Print):	e closure requirements and conditions spec	
ignature:	Date:	
ignature:	Talanhana	
man address.	receptione:	
Form C-144	Oil Conservation Division	Page 5 of 5

# NEW MEXICO OIL CONSERVATION COMMISSION

# Well Location and Acreage Dedication Plat

Section A.			Date	Antohor_19 <sub>p</sub> _19	50
Cherator TENNESSEE GAS TRANSMISSI	ON_COLease	USA V.O.BERC	ER		34 177
Well No. 5 Unit Letter	Section 14	Township	26N	Range <u>11V</u>	NM NM
Located 790 Feet From so County San Juan G. L. E	levation 6/06	Dedicate	ed Acreage	erst i0	Lir
Name of Producing Formation		Pool			4 4
1. Is the Operator the only owner	r* in the dedicate	ated acreage or	utlined on	the plat below	N?
Yes No No 2. If the answer to question one	is "no." have	the interests o	of all the	owners been	
consolidated by communitizati					er is
"yes," Type of Consolidation_			17/1=		
<ol><li>If the answer to question two below:</li></ol>	1s "no," list	all the owners	and their	respective int	ierest:
4.					
<u>Owner</u>		Land Desc	riction		9
					24
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A	_	D'1 D . 11		Client:	XTO Energy
Lodestar Servic	es. Inc.	Pit Permit		Project:	Pit Permits
PO Box 4465, Duran	•	Siting Criteria		Revised:	30-Sep-08
<b>I V</b> ' '	Information Shee		et	Prepared by:	Devin Hencmann
				J.	
API#:		3004505821		USPLSS:	26N, 11W, 14O
Name:		DEDGED HE		Lat/Lauga	26 49205 / 107 97975
ivame:		BERGER #5		Lat/Long:	36.48305/-107.97075
Depth to groundwater:		>100'		Geologic formation:	Naciemento
Distance to closest continuously flowing watercourse:	15.7 mi	les N to the 'San Juan River'			
Distance to closest significant watercourse, lakebed, playa lake, or sinkhole:		es SW to Carson wash			
	- Value in Co			Soil Type:	Entisols
Permanent residence, school, hospital, institution or church within 300'		No			
				Annual Precipitation:	Bloomfield: 8.71" , Farmington: 8.21", Otis: 10.41"
Domestic fresh water well or spring within 500'		No		Precipitation Notes:	Historical daily max: Bloomfield (4.19")
Any other fresh water well or spring within 1000'		No			
Within incorporated municipal boundaries		No		Attached Documents:	27N 11W i-Waters pdf,27N 12W i-Waters pdf
Within defined municipal fresh water well field		No			Topo map pdf, Aerial pdf, Mines and Quarries Map pdf,i-Waters Ground Water Data Map pdf, FEMA flood zone map pdf
Wetland within 500'		No		Mining Activity:	None
Within unstable area		No			
Within 100 year flood plain	N	o-FEMA Zone 'X'			
Additional Notes:					

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#### BERGER #5 Below Ground Tank Hydrogeologic Report for Siting Criteria

#### General Geology and Hydrology

The San Juan Basin is a typical Rocky Mountain basin with a gently dipping southern flank and a steeply dipping northern flank. Asymmetrically layered Tertiary sandstones and shales, along with Quaternary alluvial deposits, dominate surficial geology (Dane and Bachman, 1965). The proposed pit location will be located in the northernmost Bisti region of the San Juan Basin within an area dominated by irrigated fields of the Navajo Indian Irrigation Project. The predominant geologic formation is the Nacimiento Formation of Tertiary age, which underlies surface soils and is often exposed (Dane and Bachman, 1965). Deposits of Quaternary alluvial and aeolian sands occur prominently near the surface of the area, especially near streams and washes.

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

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

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

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

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#### Site Specific Hydrogeology

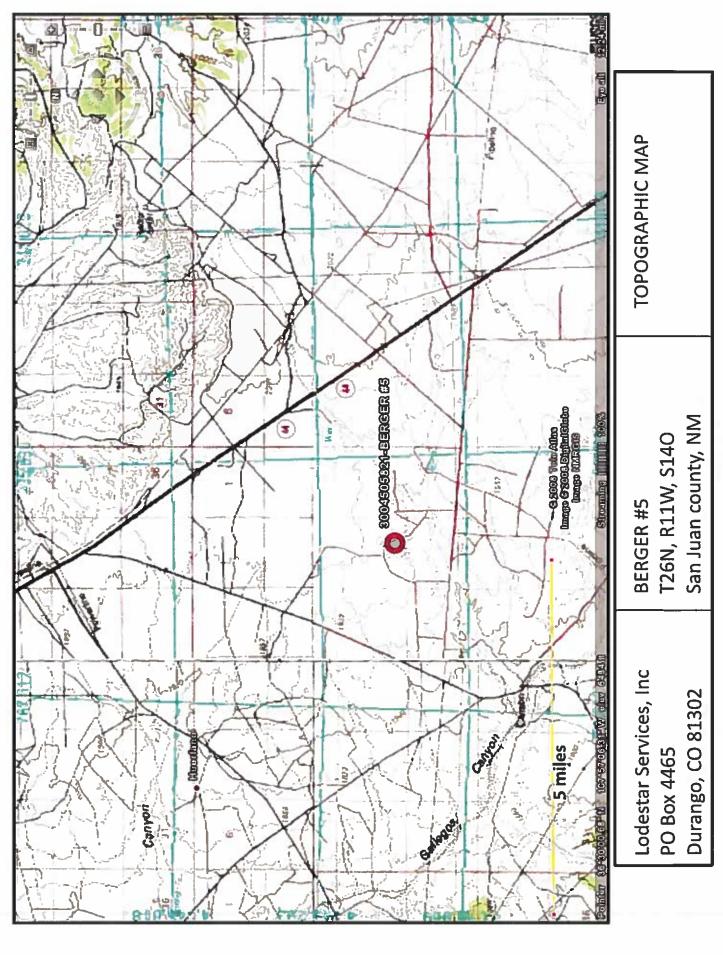
Depth to groundwater is estimated to be greater than 100 feet. This estimation is based on data from Stone and others (1983), the USGS Groundwater Atlas of the United States and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity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

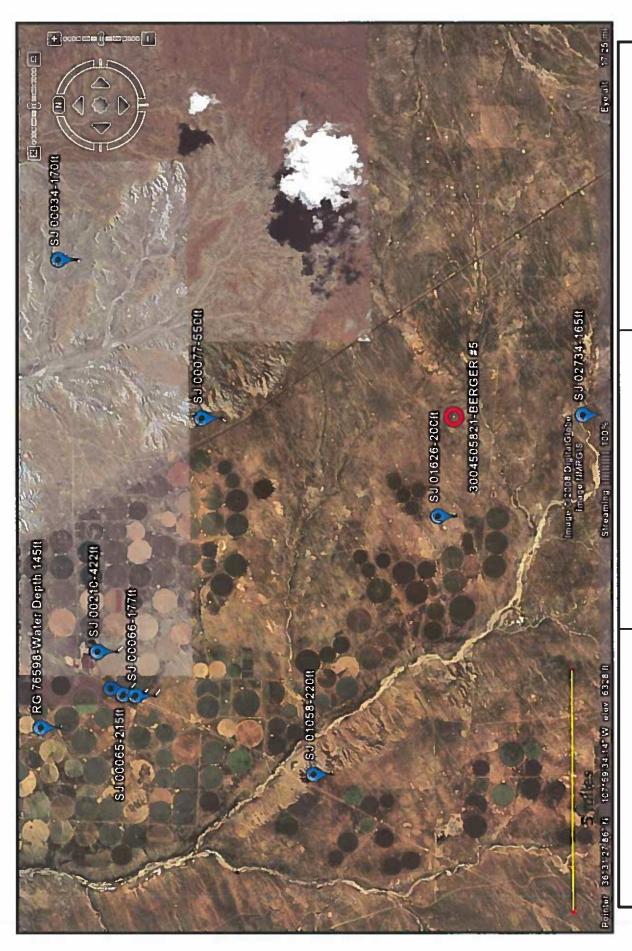
Beds of water-yielding sandstone are present in the Nacimiento Formation, which are fluvial in origin and are interbedded with siltstone, shale and coal. Porous sandstones form the principal aquifers, while relatively impermeable shales form confining units between the aquifers (Stone et al., 1983).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

The site in question is located on the relatively flat mesa top at an elevation of approximately 6400 feet and approximately 4.8 miles east of Gallegos Canyon. Broad shalely hills are interspersed with occasional sandstone outcrops, and systems of dry washes and their tributaries are evident on the attached aerial image. Groundwater is expected to be shallow within Gallegos Canyon. But the significant distance between the Canyon and the site, as well as an elevation difference of over 400 feet suggest groundwater is greater than 100 feet at the proposed site.

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

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. Wells located at similar elevations within the irrigated area contain groundwater greater than 100 feet deep. A map showing the location of wells in reference to the proposed pit location is attached.

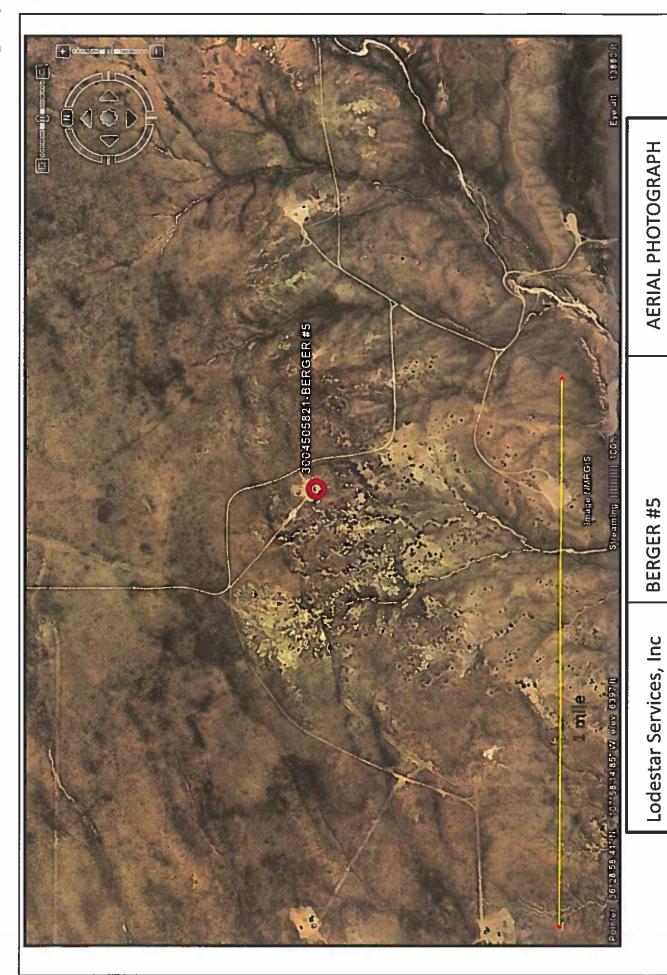




Lodestar Services, Inc BERG PO Box 4465 Durango, CO 81302 San J

BERGER #5 T26N, R11W, S14O San Juan county, NM

i-Waters Ground Water Data Map

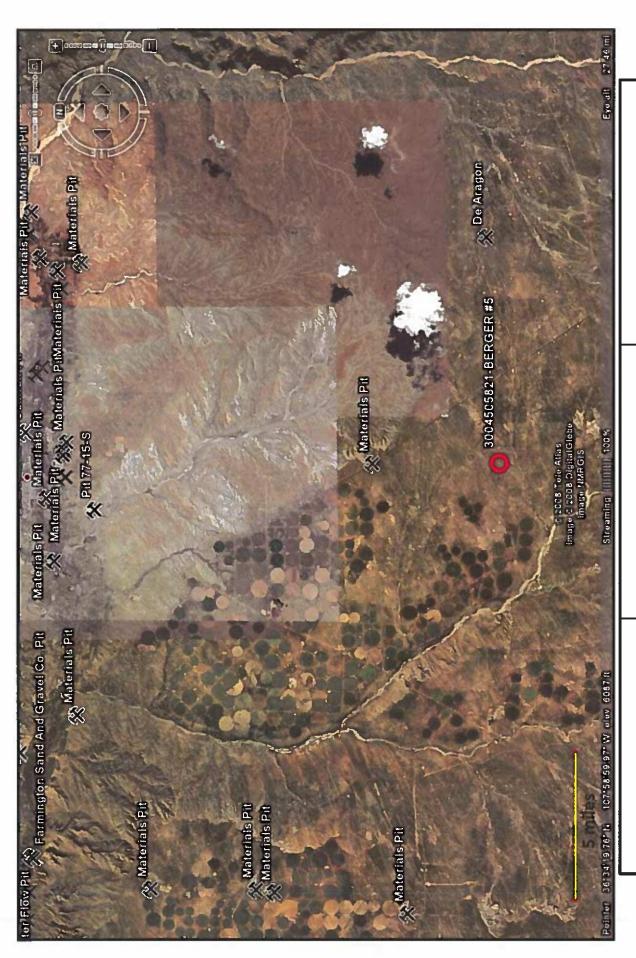


San Juan county, NM T26N, R11W, S140 BERGER #5

Durango, CO 81302

PO Box 4465

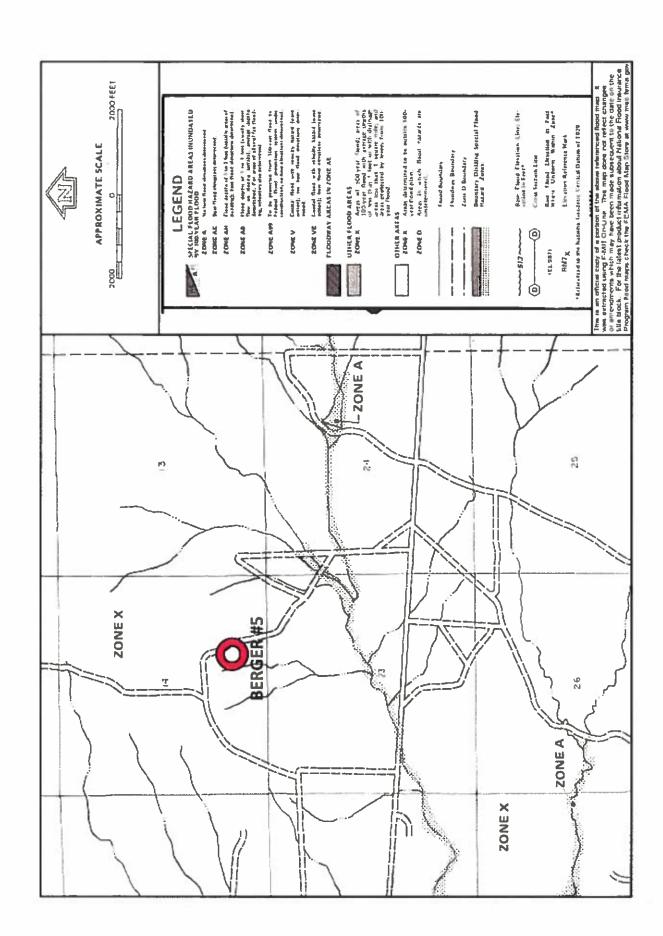
**AERIAL PHOTOGRAPH** 



San Juan county, NM Lodestar Services, Inc Durango, CO 81302 PO Box 4465

T26N, R11W, S140 **BERGER #5** 

Mines and Quarries Map



# 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.

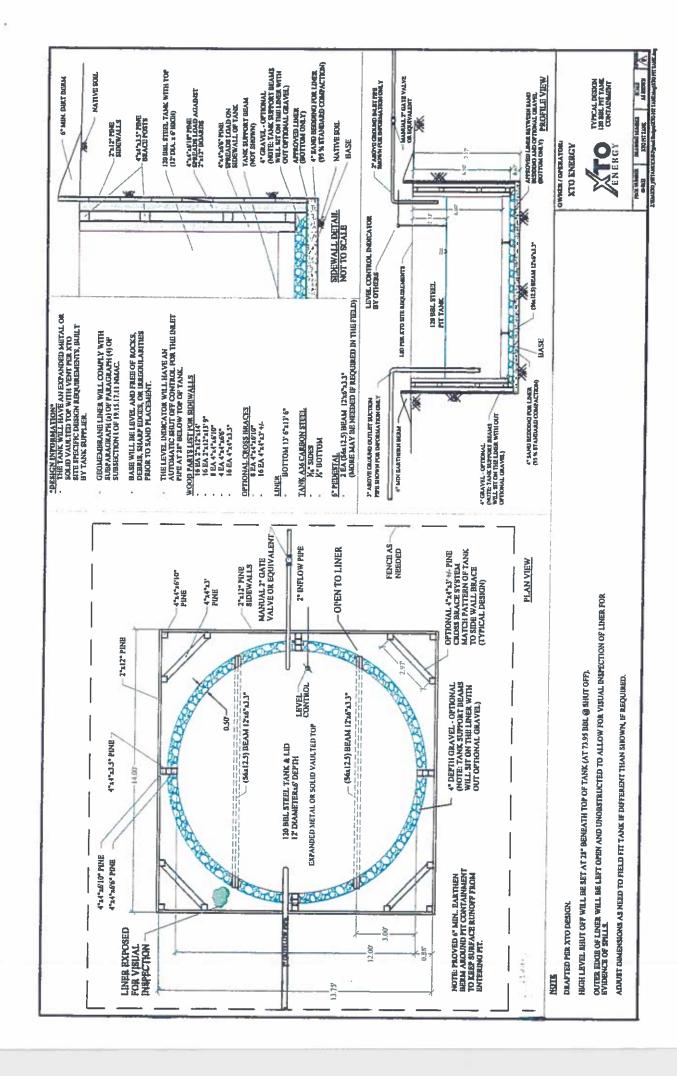
#### General Plan

- 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.
- 2. 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 ¼ 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 below-grade tank will be underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected. (See attached drawing).

- 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 I 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 liquids 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.
- 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.
  - 4. 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

		MONTH	1LY BELO	HLY BELOW GRADE TANK INSPECTION FORM	INSPECTION	N FORM		
Well Name:	ů.		:		API No.:			
<u>y</u>	500		- Cida		C	5*3		
	כני		dillelinb.		Kange:			
XTO	Inspection	Inspection	Any visible liner	Anv visible sions of	Collection of	Visible layer	Any viesble eigne	100000000000000000000000000000000000000
Name	Date	$\leftarrow$	tears (Y/N)	tank overflows (Y/N)	run on (Y/N)	of oil (Y/N)	of a tank leak (Y/N)	Est. (ft)
						:	:	
						ļ		
Notes:	Provide De	Provide Detailed Description:	otion:			:		
1								
Misc.								
·								
							:	

# 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.
- 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 studge from below-grade tanks prior to implementing a closure method and will dispose of the liquids and studge 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.
- 6. 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.

- 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
  - it. 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.

- 11. 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.
- 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,
  - ii. Details on capping and covering, where applicable;
  - iii. Inspection reports;
  - iv. Confirmation sampling analytical results:
  - v. Disposal facility name(s) and permit number(s):
  - vi. Soil backfilling and cover installation;
  - vii. Re-vegetation application rates and seeding techniques, (or approved alternative to re-vegetation requirements if applicable);
  - viii. Photo documentation of the site reclamation.

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

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III 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 87197

#### **QUESTIONS**

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	87197
	Action Type:
	[C-144] Legacy Below Grade Tank Plan (C-144LB)

#### QUESTIONS

Facility and Ground Water		
Please answer as many of these questions as possible in this group. More information will help us id	lentify the appropriate associations in the system.	
Facility or Site Name	Berger 5	
Facility ID (f#), if known	Not answered.	
Facility Type	Below Grade Tank - (BGT)	
Well Name, include well number	Berger 5	
Well API, if associated with a well	30-045-05821	
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	No	
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	87197

QUESTIONS (continued)				
Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171 Action Number: 87197 Action Type: [C-144] Legacy Below Grade Tank Plan (C-144LB)			
QUESTIONS	[6] - 3			
Fencing				
Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tank	s)			
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' steel mesh			
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			
Signs				
Subsection C of 19.15.17.11 NMAC (If there are multiple operators at a site, each operator must have	e 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:	guidance.			
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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District III

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

### **State of New Mexico Energy, Minerals and Natural Resources** 0 1220 S. St Francis Dr. Santa Ea NIM 97505

QUESTIONS, Page 3

Action 87197

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il Conservation Division	

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462				
QUESTI	ONS (continued)			
Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	A	OGRID:		
QUESTIONS	<u> </u>	[O TT] Edgady Book Grade Fallet Min (O TTEE)		
Siting Criteria (regarding permitting)  19.15.17.10 NMAC  Instructions: The applicant must demonstrate compliance for each siting criteria below. Siting criteria does not apply to drying pads or above-grade tanks.	below in the applicat	ion. Recommendations of acceptable source material are provided		
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	I			
Below-grade Tank	Below Grade Tank - (BGT)			
Waste Excavation and Removal	Not answered.			
Alternate Closure Method. Please specify (Variance Required)	Not answered.			

11/19/2008

Operator Application Certification Registered / Signature Date

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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 87197

#### **ACKNOWLEDGMENTS**

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	87197
	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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CONDITIONS

Action 87197

#### **CONDITIONS**

Operator:	OGRID:
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1111 Travis Street	Action Number:
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	Action Type:
	[C-144] Legacy Below Grade Tank Plan (C-144LB)

#### CONDITIONS

Created By		Condition Date
vvenegas	None	3/17/2022