District I 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural Resources** Department

Oil Conservation Division 1220 South St. Francis Dr.

2008 DE Santa FANM 87505

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office. For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

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

Type of action: Existing BGT Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method Modification to an existing permit Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
1. Operator: <u>XTO Energy, Inc.</u> OGRID #: <u>5380</u>
Address: #382 County Road 3100, Aztec, NM 87410
Facility or well name:HARGRAVE RP F # 3
API Number: 30-045-21716 OCD Permit Number:
U/L or Qtr/QtrE Section16 Township27N Range10W County: San Juan
Center of Proposed Design: Latitude36.57735 Longitude107.9537 NAD: ☐ 1927 ☒ 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment
Pit: Subsection F or G of 19.15.17.11 NMAC Temporary: Drilling Workover Permanent Emergency Cavitation P&A Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other String-Reinforced Liner Seams: Welded Factory Other
Below-grade tank: Subsection I of 19.15.17.11 NMAC Volume: 120 bbl Type of fluid: Produced Water Tank Construction material: Steel Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off Visible sidewalls and liner Visible sidewalls only Other Visible sidewalls, vaulted, automatic high-level shut off, no liner Liner type: Thickness mil HDPE PVC Other Alternative Method:
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

· · · · · · · · · · · · · · · · · · ·	
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and	l below-grade tanks)
Chain link, six feet in height, two strands of barbed wire at top (Required if located within I institution or church)	1000 feet of a permanent residence, school, 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 r	ailing
7. 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	iop idinos
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 n	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 NMA	AC 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 dist	rict or the Santa Fe Environmental Bureau office for
consideration of approval. Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office	
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the material are provided below. Requests regarding changes to certain siting criteria may requi office or may be considered an exception which must be submitted to the Santa Fe Environm Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidat above-grade tanks associated with a closed-loop system.	ire administrative approval from the appropriate district nental Bureau office for consideration of approval.
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained fr	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant water lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	ercourse or lakebed, sinkhole, or playa Yes 🛛 No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	e at the time of initial application. Yes No NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	ce at the time of initial application. Yes No NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five he watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in exi NM Office of the State Engineer - iWATERS database search; Visual inspection (certification)	stence at the time of initial application.
Within incorporated municipal boundaries or within a defined municipal fresh water well field adopted pursuant to NMSA 1978, Section 3-27-3, as amended. Written confirmation or verification from the municipality; Written approval obtained for the municipality of the second section of the municipality.	
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 Minera	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Society; Topographic map	Resources; USGS; NM Geological ☐ Yes ☒ No
Within a 100-year floodplain FEMA map	from the municipality (certification) of the proposed site □ Yes ⋈ No
Form C-144 Oil Conservation Division	Page 2 of 5

I. Temporary Pits, Emergency Pits, and Below-grade Tan Instructions: Each of the following items must be attach attached.	ed to the application. Please indicate, by a	check mark in the box, that the documents are
 ☒ Hydrogeologic Report (Below-grade Tanks) - based ☒ Hydrogeologic Data (Temporary and Emergency Pit ☒ Siting Criteria Compliance Demonstrations - based u ☒ Design Plan - based upon the appropriate requiremer ☒ Operating and Maintenance Plan - based upon the ap 	s) - based upon the requirements of Paragraphon the appropriate requirements of 19.15.1 ats of 19.15.17.11 NMAC	oh (2) of Subsection B of 19.15.17.9 NMAC 7.10 NMAC
Closure Plan (Please complete Boxes 14 through 18, and 19.15.17.13 NMAC		
Previously Approved Design (attach copy of design)	API Number:	or Permit Number:
Closed-loop Systems Permit Application Attachment C Instructions: Each of the following items must be attach attached. Geologic and Hydrogeologic Data (only for on-site	ed to the application. Please indicate, by a	check mark in the box, that the documents are
Siting Criteria Compliance Demonstrations (only fo Design Plan - based upon the appropriate requireme Operating and Maintenance Plan - based upon the a Closure Plan (Please complete Boxes 14 through 18 and 19.15.17.13 NMAC	r on-site closure) - based upon the appropria nts of 19.15.17.11 NMAC ppropriate requirements of 19.15.17.12 NMA	te requirements of 19.15.17.10 NMAC
	API Number:	
Previously Approved Operating and Maintenance Plan		(Applies only to closed-loop system that use
above ground steel tanks or haul-off bins and propose to in	mplement waste removal for closure)	
Instructions: Each of the following items must be attached. Hydrogeologic Report - based upon the requirement Siting Criteria Compliance Demonstrations - based Climatological Factors Assessment Certified Engineering Design Plans - based upon the Dike Protection and Structural Integrity Design - based upon the appropriate Liner Specifications and Compatibility Assessment Quality Control/Quality Assurance Construction and Operating and Maintenance Plan - based upon the appropriate Reeboard and Overtopping Prevention Plan - based Nuisance or Hazardous Odors, including H ₂ S, Prevention Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Closure Plan - based upon the appropriate requirements	es of Paragraph (1) of Subsection B of 19.15. Supon the appropriate requirements of 19.15.17.11 Ni sed upon the appropriate requirements of 19.15.17.11 NMAC requirements of 19.15.17.11 NMAC based upon the appropriate requirements of 19.15.17.12 NMAC based upon the appropriate requirements of 19.15.17.12 NMA upon the appropriate requirements of 19.15.17.12 NMA upon the appropriate requirements of 19.15.17.12 NMA upon the appropriate requirements of 19.15. Sention Plan	17.9 NMAC 17.10 NMAC MAC 15.17.11 NMAC f 19.15.17.11 NMAC AC 17.11 NMAC
Proposed Closure: 19.15.17.13 NMAC Instructions: Please complete the applicable boxes, Boxe	es 14 through 18, in regards to the proposed	l closure plan.
☐ In-place Buria	noval oop systems only) Only for temporary pits and closed-loop syste	•,
Waste Excavation and Removal Closure Plan Checklist Closure plan. Please indicate, by a check mark in the box Protocols and Procedures - based upon the appropria Confirmation Sampling Plan (if applicable) - based Disposal Facility Name and Permit Number (for liqu Soil Backfill and Cover Design Specifications - based Re-vegetation Plan - based upon the appropriate req	t: (19.15.17.13 NMAC) Instructions: Each t, that the documents are attached. The requirements of 19.15.17.13 NMAC the appropriate requirements of Subsections, drilling fluids and drill cuttings) and upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC	tion F of 19.15.17.13 NMAC section H of 19.15.17.13 NMAC
Form C-144	Oil Conservation Division	Page 3 of 5

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC) Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two				
Jacilitles 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 ser Yes (If yes, please provide the information below) No	vice 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				
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.				
Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; 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				
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				
Within 500 feet of a wetland US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No			
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	Yes No			
 Within an unstable area. Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map 	☐ Yes ☐ No			
Within a 100-year floodplain FEMA map	☐ Yes ☐ No			
18.				
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached. 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 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 Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved) Soil Cover Design - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC				

Form C-144 Oil Conservation Division Page 4 of 5

99. Operator Application Certification: I hereby certify that the information submitted with this application	on is true, accurate and complete to th	e best of my knowledge and belief.
		Environmental Representative
Signature: Kim Champlin	Date:	11-25-68
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		(505) 333-3100
20. OCD Approval: X Permit Application (including closure plan)	Closusa Plan (anhv) C OCD	Conditions (see attachment)
OCD Representative Signature: Victoria Venegas	Closure Plan (only) [OCD	Approval Date: 06/06/2022
Title: Environmental Specialist	OCD Provide Name	DCT1
	OCD Permit Numb	er:
Closure Report (required within 60 days of closure completion Instructions: Operators are required to obtain an approved closs The closure report is required to be submitted to the division with section of the form until an approved closure plan has been obtain the control of the form until an approved closure plan has been obtained.	— ure plan prior to implementing any c hin 60 days of the completion of the c	losure activities and submitting the closure report. closure activities. Please do not complete this
	☐ Closure Comp	letion Date:
22. Closure Method: Waste Excavation and Removal On-Site Closure Method If different from approved plan, please explain.	d	☐ Waste Removal (Closed-loop systems only)
Closure Report Regarding Waste Removal Closure For Closed Instructions: Please indentify the facility or facilities for where		
two facilities were utilized. Disposal Facility Name:	Disposal Facility Pe	rmit Number:
Disposal Facility Name:		rmit Number:
Were the closed-loop system operations and associated activities p Yes (If yes, please demonstrate compliance to the items below		be used for future service and operations?
Required for impacted areas which will not be used for future served. Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	vice and operations:	
Closure Report Attachment Checklist: Instructions: Each of to mark in the box, that the documents are attached. Proof of Closure Notice (surface owner and division) Proof of Deed Notice (required for on-site closure) Plot Plan (for on-site closures and temporary pits) Confirmation Sampling Analytical Results (if applicable) Waste Material Sampling Analytical Results (required for o Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location: Latitude		to the closure report. Please indicate, by a check NAD: 1927 1983
25.		
Operator Closure Certification: I hereby certify that the information and attachments submitted with belief. I also certify that the closure complies with all applicable complies.	closure requirements and conditions sp	pecified in the approved closure plan.
Name (Print):	100	
Signature:		
e-mail address:	Telephone:	
ned by		
Form C-144	Dil Conservation Division	Page 5 of 5

HER ME TO UNE CONSERVATION COMPANY WELL LOCATION AND ACREAGE DEDICATION PLAT

form C-102 Supersedes C-128 Effective 1-1-65

	luction Compa	ny	-	ase R. P. Harg	rave	uku		Well No.
it Letter	Section	Township		Ronge		County		
tual Footage L	16	27N		10W		San	Juan	
785	feet from the	North	line and 1	L 9 0	feet	from the	West	line
ound Level Ele			Po					Dedicated Acreage:
993 est		red Cliffs		Fulcher Ku				160 Acres
1. Uutline	the acreage dedi	cated to the	subject well	by colored p	ncil or	hachure	marks on t	he plat below.
2. If more interest	than one lease and royalty).	is dedicated	to the well, o	utline each a	nd iden	tify the c	wnership t	hereof (both as to working
3. If more (dated by	han one lease of communitization	different ow, unitization,	nership is ded force-pooling.	icated to the etc?	well, h	ave the i	nterests of	all owners been consoli-
Yes	☐ No II	answer is "	yes;" type of c	onsolidation .				
16								
this form	r is "no;" list th if necessary.)	e owners and	l tract descript	tions which h	ave act	ually bed	en consolid	ated. (Use reverse side of
		gned to the w	ell until all in	terests have	been c	nnanlidat	ed (by som	munitization, unitization,
torcea-bi	oling, or otherwis	e) or until a	non-standard u	nit, eliminati	ng such	interest	s, has been	approved by the Commis-
sion.		12%						
				ı				CERTIFICATION
		1		 		ŀ		
				i		-	I hereby	certify that the information con-
				1				rein is true and complete to the
	1385	(4)		 			best of m	y knowledge and belief.
	레						BZ	Hamilton
	+				- -		Nome G.	L. Hamilton
				1			Position	
11901			. s	I			Area A	lm. Supervisor
24	! ! 						AMOCO I	PRODUCTION COMPANY
	ł	· ·		- I				ebruary 25, 1975
		Sec	26	 				<u> </u>
	20		16	i				
	i			1			l	certify that the well location
	į	1					_	this plat was plotted from field octual surveys made by me or
	!			*				supervision, and that the same
	i		•	22				nd correct to the best of my
				!			knowledge	ond belief.
				1				
	1			1			Date Survey	ed S
	1			i			Januar	The second secon
	_	·		i			Registered I	roless Shal Englacer
	1			1	1.		and/or Land	Surveyor UV UK
				1			July	& Tenn
	304			<u> </u>			Fred B	· Kerr or
							Certificate I	No. No. 16.

A Lodestar Service	es. Inc.	Pit Permit	Client: Project:	XTO Energy Pit Permits
PO Box 4465, Duran		Siting Criteria	Revised:	23-Oct-08
10 box 4403, but at	ţu, cu 01302	Information Shee		Devin Hencmann
APi#:		3004521716	USPLSS:	27N, 10W, 16E
Name:	HA	RGRAVE RP F #3	Lat/Long:	36.57735/-107.90537
Depth to groundwater:	•	50'-100'	Geologic formation:	Naciemento
Distance to closest continuously flowing watercourse:		to the 'San Juan River'		
Distance to closest significant watercourse, lakebed, playa lake, or sinkhoie:		to the east fork of Kutz Canyon wash		
			Soil Type:	Entisols
Permanent residence, school, hospital, institution or church withln 300'		No		
	III—SIII——		Annuai	Bloomfield: 8.71", Farmington: 8.21", Otis:
Domestic fresh water			Precipitation:	10.41"
well or spring within 500'		No	Precipitation Notes:	Historical daily max: Bloomfield (4.19")
Any other fresh water weli 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 Quarrie 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	Ne	o-FEMA Zone 'X'		
Additional Notes:				

HARGRAVE RP F #3 Below Ground Tank Hydrogeologic Report for Siting Criteria

General Geology and Hydrology

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

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

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

Dry and arid weather further prohibit active recharge. The climate of the region is arid, averaging 8 to 12 inches of rainfall annually. As is typical of the southwestern United States monsoonal weather patterns, most precipitation falls from August through October. The heaviest rainfall occurs in the summer in isolated, intense cloudbursts. November through June is relatively dry. Snow generally falls from December to mid-February and averages less than one-half inch in depth. However, most recharge occurs during the winter months during snowmelt periods from the upper elevations (Western Regional Climate Center www.wrcc.dri.edu).

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

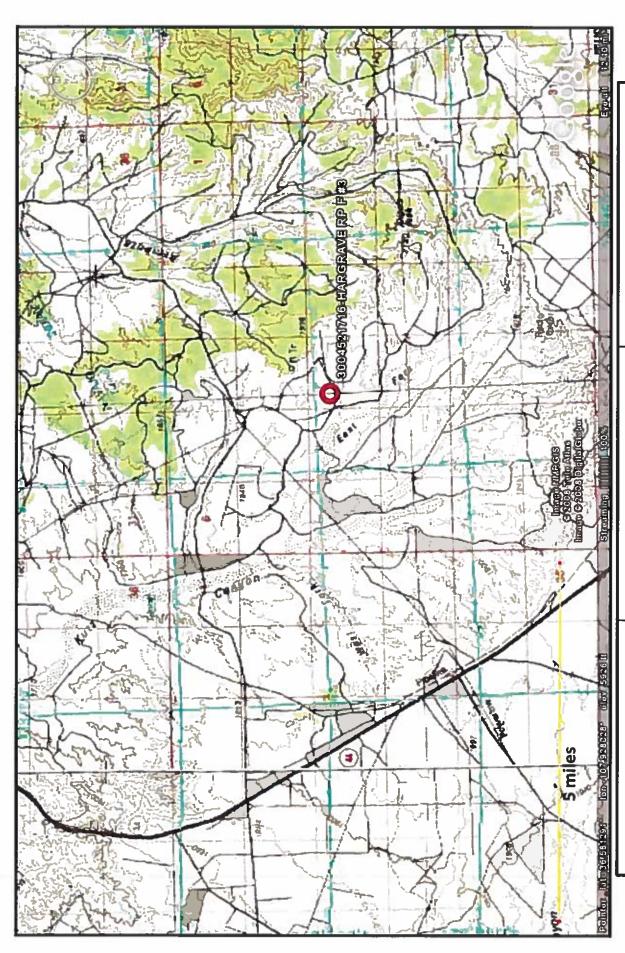
Site Specific Hydrogeology

Depth to groundwater is estimated to be between 50' and 100'. This estimation is based on data from Stone and others (1983), the USGS Groundwater Atlas of the United States and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

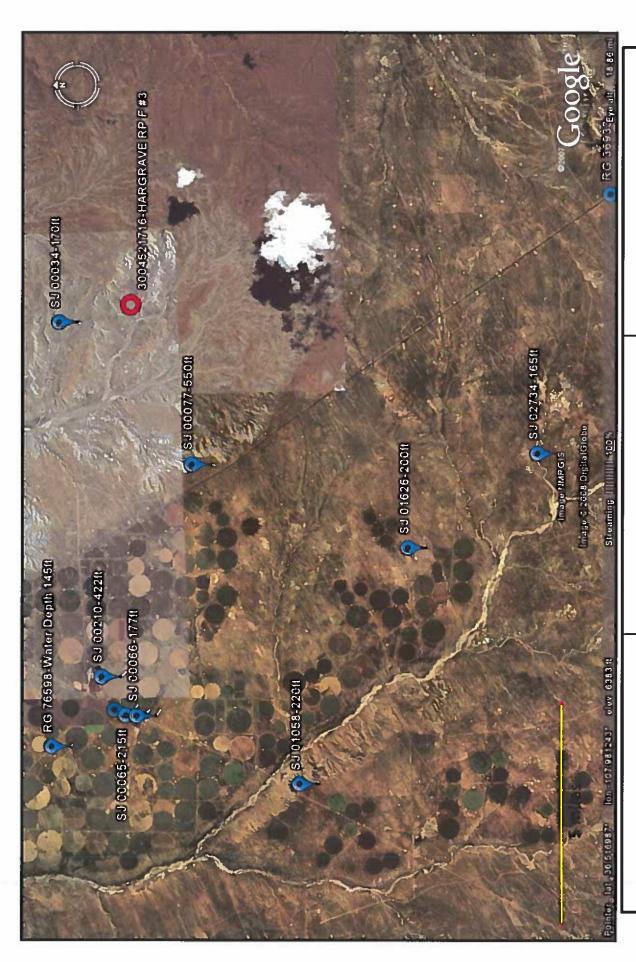
Beds of water-yielding sandstone are present in the Nacimiento Formation, which are fluvial in origin and are interbedded with siltstone, shale and coal. Porous sandstones form the principal aquifers, while relatively impermeable shales form confining units between the aquifers (Stone et al., 1983).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

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

The pit will be located on a relatively flat mesa top at an elevation of approximately 6006 feet near the head of Kutz Wash. It is located within the Kutz Canyon tributary system 2,043 feet northeast of the east fork of Kutz Wash. Groundwater is expected to be shallow within Kutz Wash. But the distance between the Canyon and the site, as well as an elevation difference of over 60 feet suggest groundwater is between 50 and 100 feet at the proposed site.

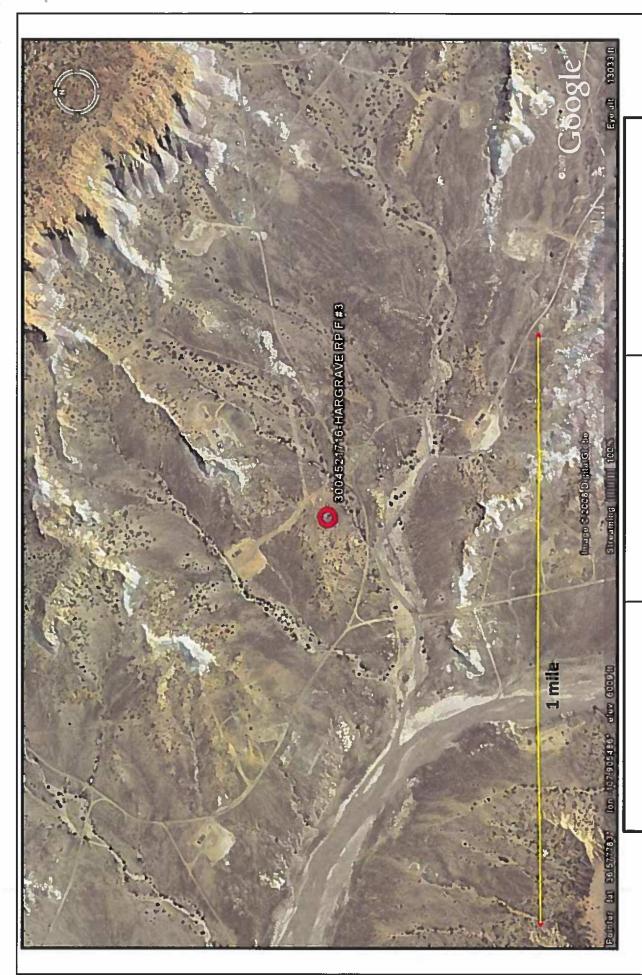


TOPOGRAPHIC MAP San Juan county, NM HARGRAVE RP F #3 T27N, R10W, S16E Lodestar Services, Inc Durango, CO 81302 PO Box 4465



Мар San Juan county, NM HARGRAVE RP F #3 T27N, R10W, S16E Lodestar Services, Inc Durango, CO 81302 PO Box 4465

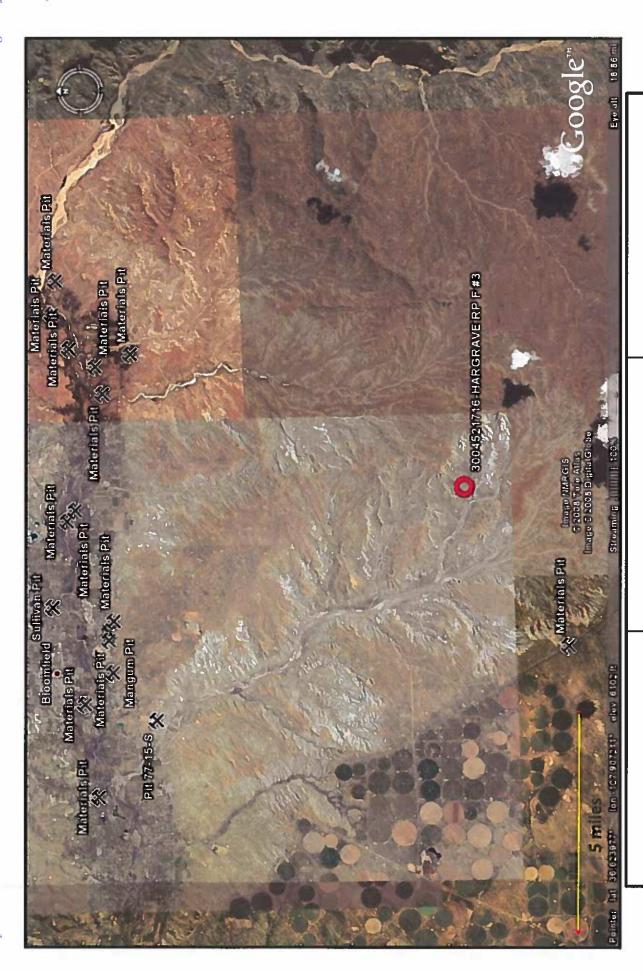
i-Waters Ground Water Data Map



AERIAL PHOTOGRAPH

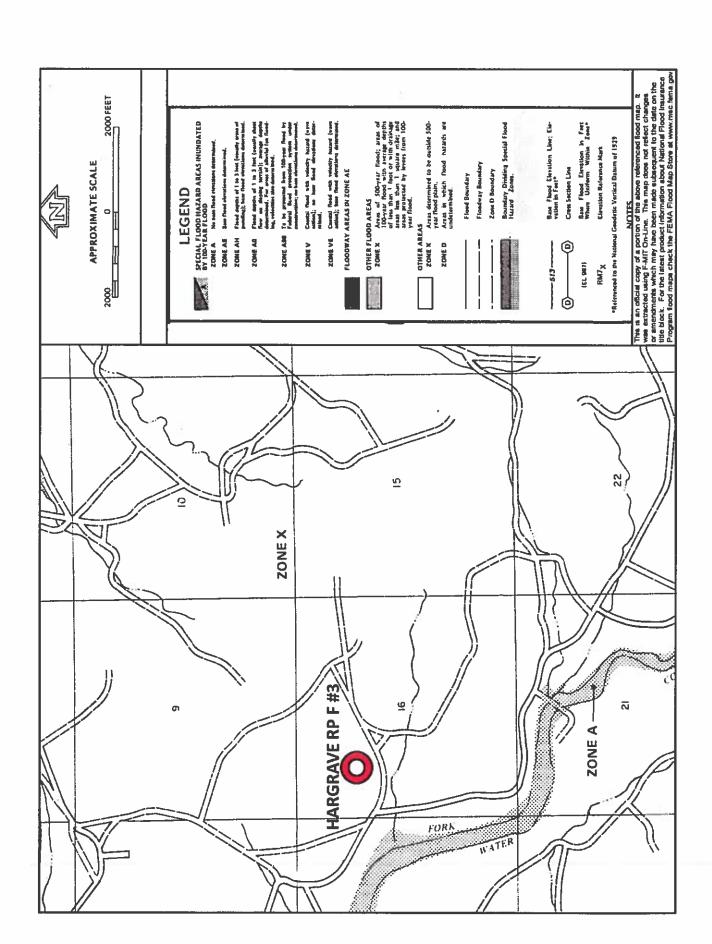
Lodestar Services, Inc PO Box 4465 Durango, CO 81302

HARGRAVE RP F #3 T27N, R10W, S16E San Juan county, NM



Lodestar Services, Inc
PO Box 4465
Durango, CO 81302
HARGRAVE RP F #3
T27N, R10W, S16E
San Juan county, NM

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

- 1. 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 '/2 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 \(\lambda'' \) 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

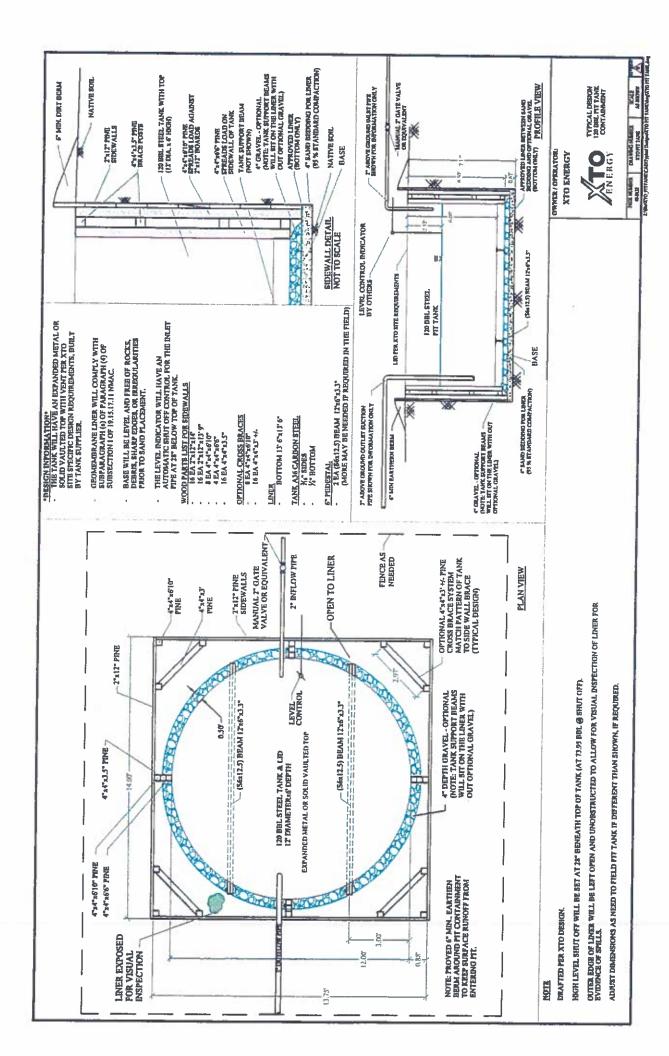
XTO Energy Inc. San Juan Basin (Northwest New Mexico) General Design and Construction Plan For Below-Grade Tanks Page 2

> 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).

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11. The general specifications for design and construction are attached.



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 3. 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.
- 7. 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,

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.

	K 3	MONT	ILY BELO	MONTHLY BELOW GRADE TANK INSPECTION FORM	INSPECTIO	N FORM		
Well Name:					API No.:			
Legals	Sec:		Township:		Range:			
XTO Inspector's Name	Inspection	Inspection	Any visible liner	Any visible signs of	Collection of surface	Visible layer	Any visible signs	Freeboard
			(Cals (TIN)	Idilk Overilows (17N)	ינער סח (א/א)	Of OII (Y/N)	of a tank leak (Y/N)	Est. (ft)
								į
= 1								
				(B)				
Notes:	Provide Det	Provide Detailed Description:	stion:					
×					R			
Misc.				1				

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

- L 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.
- 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.

- 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.

- 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.
- 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:
 - i. 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);

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viii. Photo documentation of the site reclamation.

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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 93229

QUESTIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	93229
	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	R P HARGRAVE F 3		
Facility ID (f#), if known	Not answered.		
Facility Type	Below Grade Tank - (BGT)		
Well Name, include well number	R P HARGRAVE F 3		
Well API, if associated with a well	30-045-21716		
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.

District II

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QUESTIONS (continued)

QUESTIONS, Page 2

Action	93229

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street	372171
Houston, TX 77002	Action Number: 93229
110000011, 1777002	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	(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.
Allowed Foreign Bloom and it (Aladian a Boundard)	
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)	evpended motel or colid voulted top
Other, Netting. I lease specify (Variance May be Needed)	expanded metal or solid vaulted top
Oima.	
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
	1.146
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	Not answered.
consideration of approval	

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QUESTIONS, Page 3

Action 93229

QUESTIONS (continued)		
Operator:	OGRID:	
HILCORP ENERGY COMPANY	372171	
1111 Travis Street	Action Number:	
Houston, TX 77002	93229	
	Action Type:	
	[C-144] Legacy Below Grade Tank Plan (C-144LB)	

The state of the s	7 totton Transport
Houston, TX 77002	93229
	Action Type:
	[C-144] Legacy Below Grade Tank Plan (C-144LB)
QUESTIONS	
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.	a below in the application. 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	
Below-grade Tank	Polony Grada Tank (PGT)

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

Operator Application Certification	
Registered / Signature Date	11/25/2008

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ACKNOWLEDGMENTS

Action 93229

ACKNOWLEDGMENTS

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	93229
	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 93229

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

CONDITIONS

Created By		Condition Date
vvenegas	None	6/6/2022