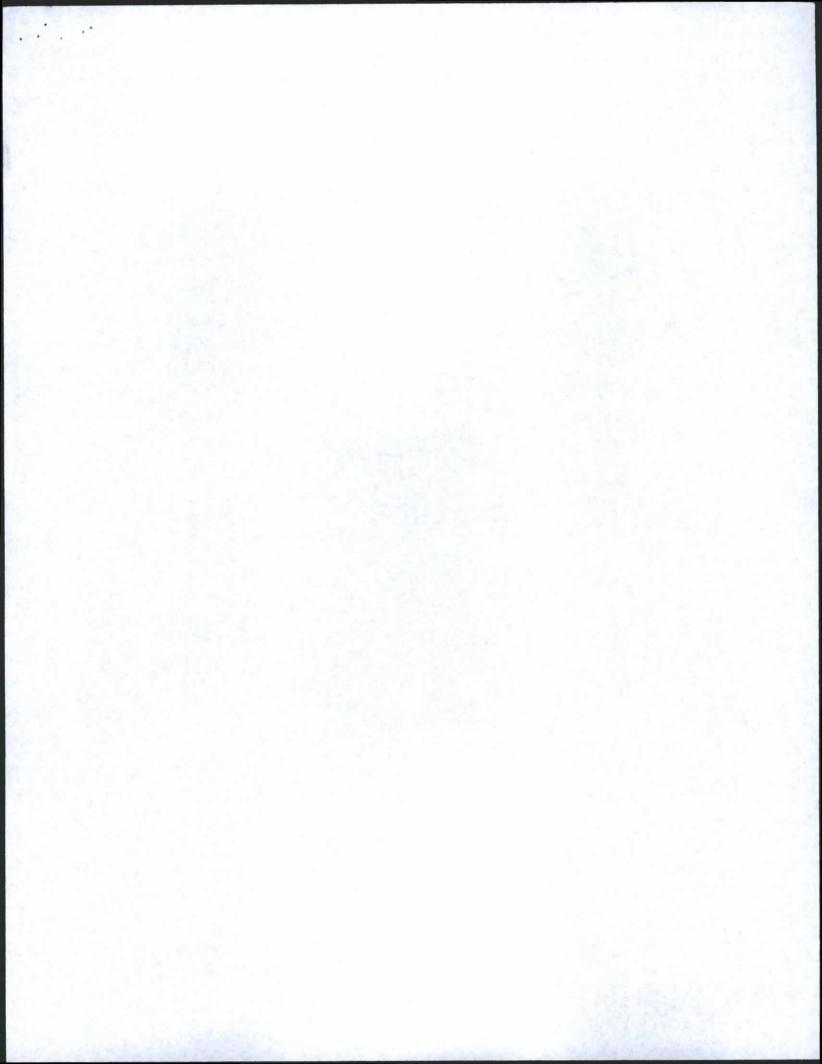
1625 N. French Dr., Hobbs, NM 88240	State of New Mexico Energy Minerals and Natural Resources	Form C-14 July 21, 20		
District II 1301 W. Grand Ave., Artesia, NM 88210	Department Oil Conservation Division	For temporary pits, closed-loop sytems, and below-grade tanks, submit to the appropriate NMOCD District Office.		
District III 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Francis Dr. Santa Fe, NM 87505	For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the		
District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505	0 S. St. Francis Dr., Santa Fe, NM 87505 appropriate NMOCD Distr			
	Pit, Closed-Loop System, Below-Grad	de Tank, or		
Propos	sed Alternative Method Permit or Closu	re Plan Application		
Type of action:	 X Permit of a pit, closed-loop system, below-grade Closure of a pit, closed-loop system, below-grade Modification to an existing permit Closure plan only submitted for an existing permit below-grade tank, or proposed alternative method 	e tank, or proposed alternative method itted or non-permitted pit, closed-loop system,		
Please be advised that approval	application (Form C-144) per individual pit, closed-lo of this request does not relieve the operator of liability should operations lieve the operator of its responsibility to comply with any other applicable	pop system, below-grade tank or alternative requer result in pollution of surface water, ground water or the		
Operator: Burlington Resources O Address: PO Box 4289, Farmingt		OGRID#: <u>14538</u>		
Facility or well name: UTE 27				
	3004529276 OCD Permit Numb	er:		
J/L or Qtr/Qtr: L Secti	on: 16 Township: 32N Range:	14W County: San Juan		
Center of Proposed Design: Latitud		-108.31856°W NAD: X 1927 198		
Surface Owner: Federal Pit: Subsection F or G of 19.15.1	State Private X Tribal Trust or India			
Surface Owner: Federal Pit: Subsection F or G of 19.15.1 Temporary: Drilling Wo Permanent Emergency O Lined Unlined String-Reinforced Liner Seams: Welded G Closed-loop System: Subsect Type of Operation: P&A Drying Pad Above Group Lined Unlined	State Private X Tribal Trust or India 7.11 NMAC rkover Cavitation P&A iner type: Thickness mil LLDPE factory Other Volume: tion H of 19.15.17.11 NMAC	An Allotment HDPE PVC Other bbl Dimensions L x W x D o activities which require prior approval of a permit or		
Surface Owner: Federal Pit: Subsection F or G of 19.15.1 Temporary: Drilling Wo Permanent Emergency G Lined Unlined L String-Reinforced Liner Seams: Welded F Closed-loop System: Subsect Type of Operation: P&A Drying Pad Above Grou Lined Unlined Line Liner Seams: Welded F A X Below-grade tank: Subsection	State Private X Tribal Trust or India 7.11 NMAC rkover Cavitation P&A iner type: Thickness mil LLDPE	An Allotment HDPE PVC Other bbl Dimensions L x W x D o activities which require prior approval of a permit or HDPE PVD Other		

Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pit, temporary pits, and below-grade tanks)		
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital,	institution or ch	urch)
Four foot height, four strands of barbed wire evenly spaced between one and four feet		
X Alternate. Please specify 4' hog wire fencing topped with two strands barbed wire.		
	1.	CENTRAL ST
Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)	in will man	cherks (191
X Screen Netting Other	いたいない	的行动的特别
Monthly inspections (If netting or screening is not physically feasible)		
Signs: Subsection C of 19.15.17.11 NMAC		
12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers		
X 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:		
X Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for co (Fencing/BGT Liner)	onsideration of a	approval.
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	Bernard	
	T	
Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. 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. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above grade-tanks associated with a closed-loop system.		
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	XNo
 Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). Topographic map; Visual inspection (certification) of the proposed site 	Yes	XNo
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	Yes	XNo
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)	NA	
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image		
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	Yes	No
(Applied to permanent pits)	XNA	
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	_	
Within 500 horizonal 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.	Yes	XNo
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site.		
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality; Written approval obtained from the municipality	Yes	XNo
 Written confirmation of vertication 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	XNo
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division	Yes	XNo
Within an unstable area.	TYes	XNo
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological		
Society; Topographic map		
Society; Topographic map Within a 100-year floodplain	Yes	XNo

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Oil Conservation Division



Temporary Pits, Emergency	Pits and Below-grade Tanks	s Permit Application	Attachment Check	list: Subsection B of 19.15.17.9 NMAC n the box, that the documents are attached.
				ubsection B of 19.15.17.9 NMAC
				bh (2) of Subsection B of 19.15.17.9
In the second seco	nce Demonstrations - based up			1.10 NMAC
	n the appropriate requirements		ne	방법은 가지 않는 것 같은 것이 없다. 것 같은 것 같
				C the state of the same Plan fideled from
X Closure Plan (Please con 19.15.17.9 NMAC and		f applicable) - based	upon the appropriate r	requirements of Subsection C of
Previously Approved Desig	n (attach copy of design)	API	and the second second	or Permit
Geologic and Hydrogeol Siting Criteria Compliar Design Plan - based upo Operating and Maintena	g items must be attached to the ap logic Data (only for on-site clo nce Demonstrations (only for o on the appropriate requirements nce Plan - based upon the app	pplication. Please india osure) - based upon th on-site closure) - base s of 19.15.17.11 NM. propriate requirements	cate, by a check mark in the requirements of Par- d upon the appropriate AC a of 19.15.17.12 NMA	
Closure Plan (Please con NMAC and 19.15.17.13		f applicable) - based i	pon the appropriate r	requirements of Subsection C of 19.15.17.9
Previously Approved Desig	n (attach copy of design)	API		
Previously Approved Opera		API	E PARA	and the second second
 Dike Protection and Str. Leak Detection Design - Liner Specifications and Quality Control/Quality Operating and Maintena Freeboard and Overtopp Nuisance or Hazardous (Emergency Response Ph Oil Field Waste Stream (Monitoring and Inspection) Erosion Control Plan 	esign Plans - based upon the a loctural Integrity Design: based based upon the appropriate re Compatibility Assessment - b Assurance Construction and In nce Plan - based upon the appr ing Prevention Plan - based up Odors, including H2S, Prevent an Characterization	upon the appropriate equirements of 19.15. based upon the approp- nstallation Plan ropriate requirements pon the appropriate re tion Plan	requirements of 19.1: 17.11 NMAC oriate requirements of of 19.15.17.12 NMA equirements of 19.15.1	5.17.11 NMAC 19.15.17.11 NMAC IC 17.11 NMAC
	u de appropriate requiremente	s of Subsection C of		
roposed Closure: 19.15.17.1	3 NMAC applicable boxes, Boxes 14 throw	ough 18, in regards to t	he proposed closure pla	17.
	ver Emergency Cavitat			ow-grade Tank Closed-loop System
roposed Closure Method:	Waste Excavation and Remova Waste Removal (Closed-loop s On-site Closure Method (only)	systems only) for temporary pits and		
C	In-place Burial Alternative Closure Method (E	On-site Trench Exceptions must be sub	omitted to the Santa Fe	Environmental Bureau for consideration)
start of the second			A CONTRACTOR	
X Protocols and Procedures X Confirmation Sampling I X Disposal Facility Name a	in the box, that the documents and s - based upon the appropriate of Plan (if applicable) - based upon and Permit Number (for liquids	re attached. requirements of 19.1. on the appropriate req s. drilling fluids and c	5.17.13 NMAC uirements of Subsecti drill cuttings)	following items must be attached to the closure plan ion F of 19.15.17.13 NMAC ection H of 19.15.17.13 NMAC
Vaste Excavation and Removile lease indicate, by a check mark it X Protocols and Procedures X Confirmation Sampling It X Disposal Facility Name at X Soil Backfill and Cover It	in the box, that the documents and s - based upon the appropriate of Plan (if applicable) - based upon and Permit Number (for liquids	re attached. requirements of 19.1. on the appropriate req s. drilling fluids and o upon the appropriate r	5.17.13 NMAC juirements of Subsecti drill cuttings) requirements of Subse	ion F of 19.15.17.13 NMAC

16 Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel T Instructions: Please identify the facility or facilities for the disposal of liquids, drilling flue are required.		acilities
	isposal Facility Permit #:	
Disposal Facility Name: D	isposal Facility Permit #:	
Will any of the proposed closed-loop system operations and associated activities of Yes (If yes, please provide the information No		ervice and operations?
Required for impacted areas which will not be used for future service and operations: Soil Backfill and Cover Design Specification - based upon the appropriate Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	n I of 19.15.17.13 NMAC	c
17 <u>Siting Criteria (Regarding on-site closure methods only:</u> 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Reco certain siting criteria may require administrative approval from the appropriate district office or m for consideration of approval. Justifications and/or demonstrations of equivalency are required. F	ay be considered an exception which must be submitted to the	
Ground water is less than 50 feet below the bottom of the buried waste.		Yes No
- NM Office of the State Engineer - iWATERS database search; USGS: Data obtained	d from nearby wells	N/A
Ground water is between 50 and 100 feet below the bottom of the buried waste		TYes No
 NM Office of the State Engineer - iWATERS database search; USGS; Data obtained 	from nearby wells	
- THE OTHER OF THE STATE LAGINGE THE THE THE STATE AND A STATE OF THE OTHER OTHER OF THE OTHER	indu nearby wens	
Ground water is more than 100 feet below the bottom of the buried waste.		Yes No
 NM Office of the State Engineer - iWATERS database search; USGS; Data obtained 	from nearby wells	∐N/A
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant (measured from the ordinary high-water mark).	watercourse or lakebed, sinkhole, or playa lake	Yes No
- Topographic map; Visual inspection (certification) of the proposed site		
Within 300 feet from a permanent residence, school, hospital, institution, or church in exist - Visual inspection (certification) of the proposed site: Aerial photo: satellite image	tence at the time of initial application.	Yes No
 Within 500 horizontal feet of a private, domestic fresh water well or spring that less than fipurposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence NM Office of the State Engineer - iWATERS database; Visual inspection (certificatio Within incorporated municipal boundaries or within a defined municipal fresh water well fipursuant to NMSA 1978, Section 3-27-3, as amended. 	at the time of the initial application. n) of the proposed site	Yes No
- Written confirmation or verification from the municipality; Written approval obtained	1 from the municipality	
 Within 500 feet of a wetland US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection 		Yes No
Within the area overlying a subsurface mine.	(certification) of the proposed site	
 Written confirantion or verification or map from the NM EMNRD-Mining and Miner 	ral Division	Yes No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Minera		Yes No
Topographic map Within a 100-year floodplain. - FEMA map	5	Yes No
¹⁸ <u>On-Site Closure Plan Checklist:</u> (19.15.17.13 NMAC) Instructions: Each of th by a check mark in the box, that the documents are attached.	te following items must bee attached to the closure	plan. Please indicate,
Siting Criteria Compliance Demonstrations - based upon the appropriate req	uirements of 19.15.17.10 NMAC	
Proof of Surface Owner Notice - based upon the appropriate requirements of	f Subsection F of 19.15.17.13 NMAC	
Construction/Design Plan of Burial Trench (if applicable) based upon the ap	propriate requirements of 19.15.17.11 NMAC	
Construction/Design Plan of Temporary Pit (for in place burial of a drying particular of the protocols and Procedures - based upon the appropriate requirements of 19.15		15.17.11 NMAC
Confirmation Sampling Plan (if applicable) - based upon the appropriate requ		A State of the second sec
Waste Material Sampling Plan - based upon the appropriate requirements of		
Disposal Facility Name and Permit Number (for liquids, drilling fluids and d	rill cuttings or in case on-site closure standards can	not be achieved)
Soil Cover Design - based upon the appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection		

ARE SIN

Operator Application Certification: Thereby certify that the information submitted with this app	plication is true, accurate and complete to the best of my knowledge and belief.
Name (Print): Crystal Tafoya	Title: Regulatory Technician
Signature: Constal	Tapyo Date: 12/22/2008
e-mail address: crystal tatova@conocop	
the second s	
20 OCD Approval: Permit Application (including o	closure plan) Closure Plan (only) OCD Conditions (see attachment)
OCD Representative Signature:	Approval Date:
Title:	OCD Permit Number:
	l closure plan prior to implementing any closure activities and submitting the closure report. The closure days of the completion of the closure activities. Please do not complete this section of the form until an ctivities have been completed.
	Closure Completion Date:
22 Closure Method: Waste Excavation and Removal If different from approved plan, please explain.	e Closure Method Alternative Closure Method Waste Removal (Closed-loop systems only)
	Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: here the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities
Disposal Facility Name:	Disposal Facility Permit Number:
Disposal Facility Name:	Disposal Facility Permit Number:
	activities performed on or in areas that will not be used for future service and opeartions?
Yes (If yes, please demonstrate compliane to the ite	
Required for impacted areas which will not be used for f Site Reclamation (Photo Documentation)	nuure service and operations:
Soil Backfilling and Cover Installation	
Re-vegetation Application Rates and Seeding Techn	nique
24 <u>Closure Report Attachment Checklist:</u> Instruction the box, that the documents are attached.	ns: Each of the following items must be attached to the closure report. Please indicate, by a check mark in
Proof of Closure Notice (surface owner and divi	ision)
Proof of Deed Notice (required for on-site closu	
Plot Plan (for on-site closures and temporary pit	ts)
Confirmation Sampling Analytical Results (if ap	
Waste Material Sampling Analytical Results (if	applicable)
Disposal Facility Name and Permit Number	
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Te	echnique
Site Reclamation (Photo Documentation)	
On-site Closure Location: Latitude:	Longitude: NAD 1927 1983
25 Deerator Closure Certification: hereby certify that the information and attachments submit he closure complies with all applicable closure requirement	tted with this closure report is ture, accurate and complete to the best of my knowledge and belief. I also certify that ts and conditions specified in the approved closure plan.
lame (Print):	Title:
	Date:
ignature:	

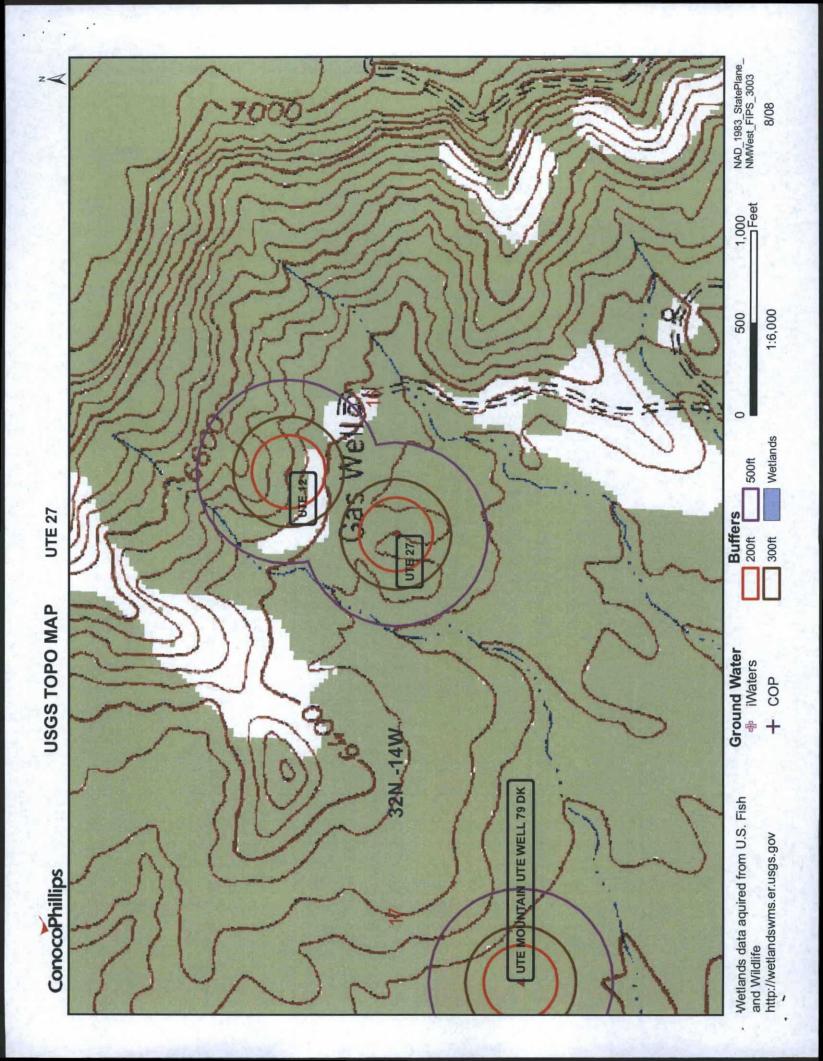
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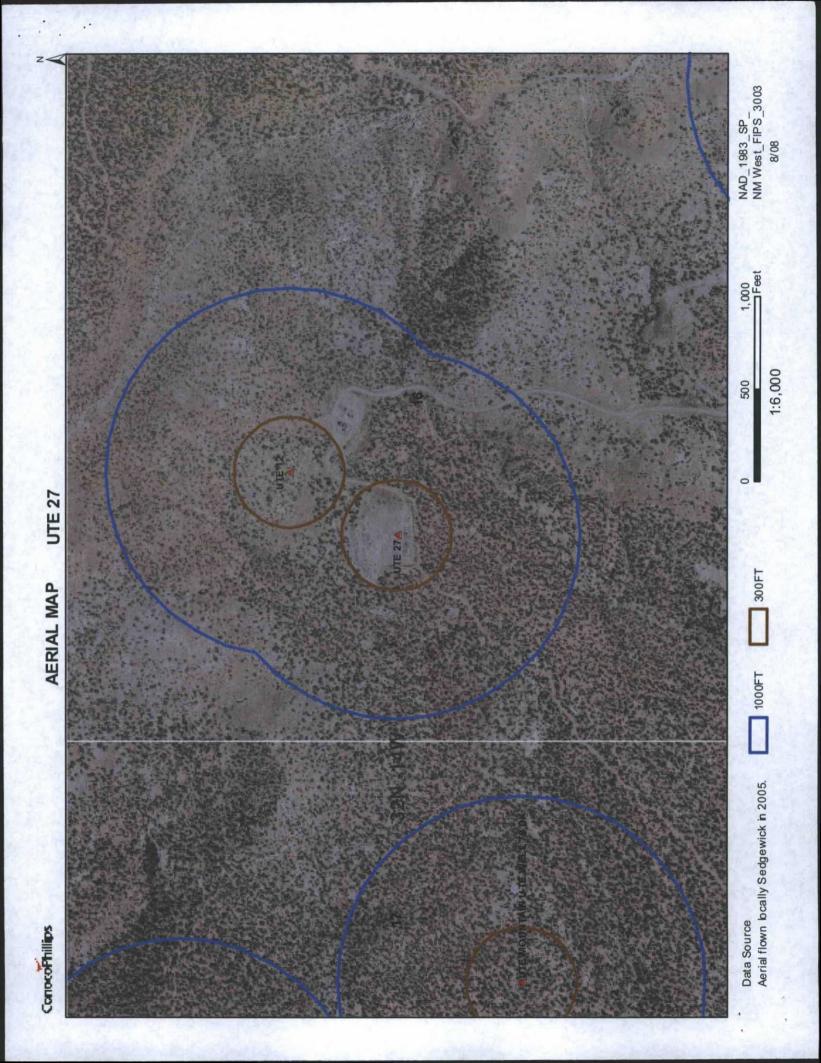
. New Mexico Office of the State Engineer

1

Towns	ship: 32N	Range: 14W	Sections:				
NAD27	X:	Y:	Zone:	Sea	rch Radius:		
County:	Bas	in:		Number:	Su	uffix:	
Owner Name: (Firs	t)	(Last)		O Non-	Domestic C	Domestic	All
A Contraction of the			- Donth to Mat			-	-
POD / Surface	e Data Repo		g Depth to Wate	er Report	Water C	olumn Report	STORE OF ST
POD / Surface	e Data Repo	Clear Form	iWATERS M			olumn Repon	
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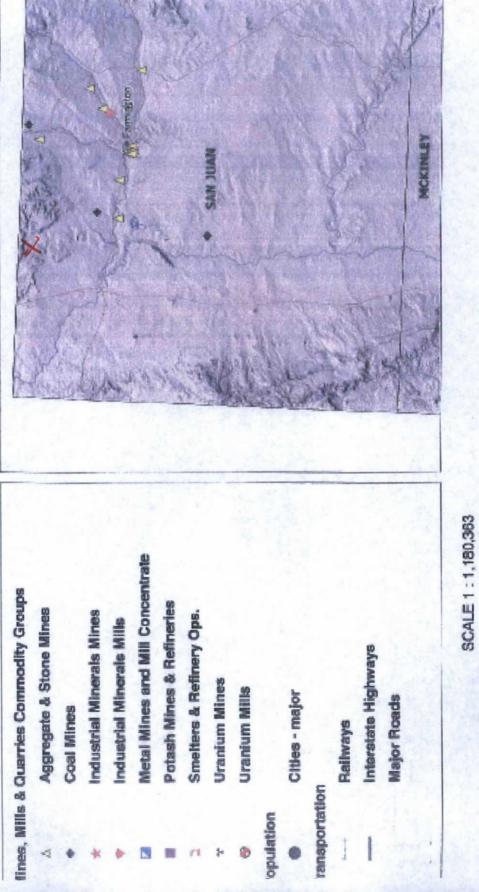
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Mines, Mills and Quarries Web Map UTE 27

Unit Letter: L, Section: 16, Town: 032N, Range: 014W





UTE 27

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'UTE 27', which is located at 36.98647 degrees North latitude and 108.31856 degrees West longitude. This location is located on the Purgatory Canyon 7.5' USGS topographic quadrangle. This location is in section 0 of Township 32 North Range 14 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in San Juan County, New Mexico. The nearest town is La Plata, located 8.0 miles to the southeast. The nearest large town (population greater than 10,000) is Farmington, located 18.6 miles to the southeast (National Atlas). The nearest highway is State Highway 170, located 7.1 miles to the east. The location is on Tribal land and is 4,857 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Middle San Juan. Arizona, Colorado, New Mexico, Subbasin. This location is located 1951 meters or 6399 feet above sea level and receives 15.5 inches of rain each year. The vegetation at this location is classified as Inter-Mountain Basins Semi-Desert Grassland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 504 feet. This estimation is based on the data published on the New Mexico Engineer's iWaters Database website and water depth data from ConocoPhillips' Cathodic wells. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest stream is 405 feet to the southeast and is classified by the USGS as an intermittent stream. The nearest perrenial stream is 10,669 feet to the west. The nearest water body is 3,993 feet to the southeast. It is classified by the USGS as a perennial lake and is 0.1 acres in size. The nearest spring is 41,958 feet to the southwest. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 32,377 feet to the east. There is no wetland data available for this area. The slope at this location is 2 degrees to the south as calculated from USGS 30M National Elevation Dataset. This information is also discerned from the aerial and topographic map included. The surface geology at this location is with a Shale dominated formations of all ages substrate. The soil at this location is 'Romberg-Crosscan complex, 6 to 25 percent slopes' and is well drained and not hydric with moderate erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 5.9 miles to the east as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Regional Geological context:

The Formation is of late Cretaceous age and crops out beyond the margins of the central San Juan Basin. Erosion-resistant sandstones in the Menefee Formation commonly cap isolated buttes and hillocks, whereas softer shale units form slopes and broad valleys or flats. Topography formed by the Menefee is typically rolling to rough, broken and steep, and generally has a badland appearance. The upper part of the Menefee Formation commonly forms steep slopes below mesas or buttes capped by the erosion-resistant Cliff House Sandstone.

The Menefee Formation is the middle unit of the classical three-part Mesaverde Group of the San Juan Basin. The Menefee Formation conformably or disconformably overlies the Point Lookout Sandstone and is conformably or disconformably overlain by the Cliff House Sandstone; intertonguing locally occurs at both contacts (Tabet and Frost, 1979, Stone et al, 1983). Some authors have reported the Menefee to be conformably overlain by the Lewis Shale in the southeastern part of the basin (Dane, 1936; Beaumont and others, 1956). South of the pinch-out of the Point Lookout Sandstone in the vicinity of Gallup, New Mexico, the Menefee conformably overlies the Crevasse Canyon Formation.

In general, the Menefee Formation consists of interbedded and repetitive sequences of differing thicknesses of sandstone, siltstone, shale and claystone, carbonaceous shale and coal beds of differing thicknesses (Tabet and Frost, 1979). Typically the sandstones are lenticular, light brown to gray, thick to very thick bedded, and fine to medium grained, with clay matrix and various types of cement. The siltstones commonly are tabular, gray, and thin to thick bedded; shales and claystones typically are light brownish gray and thick to very thick bedded (Tabet and Frost, 1979).

The Menefee Formation increases in thickness from north to south. Thickness ranges from zero where the unit pinches out between the Point Lookout and Cliff House Sandstones in Colorado to about 2,000 feet along its southern outcrop area (Molenaar, 1977)

Hydraulic Properties:

The transmissivity of the Menefee Formation depends on the thickness of sandstone lenses penetrated. Transmissivity values reported for nine aquifer tests (Stone et al, 1983) range from 2.7 to 112 feet squared per day and the median value is 10 feet squared per day. Hydraulic conductivity calculated from drill-stem tests in oil and gas wells in deeper parts of the basin averages 0.017 foot per day (Reneau and Harris, 1957).

The reported or measured discharge from 83 water wells and seven springs completed in the Menefee Formation ranges from 2 to 308 gallons per minute and the median is 10 gallons per minute. The specific capacity of 37 of these wells ranges from 0.002 to 0.57 gallon per minute per foot of drawdown and the median is 0.11 gallon per minute per foot of drawdown.

Water from the Menefee Formation is used for livestock watering and domestic purposes. Most wells completed in the Menefee are designed for a low but steady yield of water because the ultimate rate of yield is limited by the rate of leakage of water from shale and silt that encase the lenses of sandstone. Because of the extensive area of the outcrop and the lenticular occurrence of water-yielding sandstones in a clay matrix, the Menefee Formation is both one of the most widely used aquifers and one of the most regionally effective confining units in the basin.

References:

Beaumont, E.C., Dane, C.H., and Sears, J.D., 1956, revised nomenclature of Mesaverde Group in San Juan Basin, New Mexico: American Association of Petroleum Geologists Bulletin, v.40, no. 9, p. 2149-2162. Dane, C.H., 1936, The La Ventana-Chacra Mesa coal field, in The geology of fuels in the southern part of the San Juan Basin, New Mexico: U.S.G.S. Bulletin 860-C, p. 81-161.

Molenaar, C.M., 1977, Stratigraphy and depositional history of Upper Cretaceous rocks of the San Juan Basin area, New Mexico and Colorado, with a note on Economic resources, in Fassett, J.E., ed., Guidebook of San Juan Basin III: New Mexico Geological Society, 28th Field Conference, p. 159-166.

Reneau, W.E., Jr., and Harris, J.D., 1957, Reservoir characteristics of Cretaceous sands of the San Juan Basin, in Little, C.J., and Gill, J.J., eds., Guidebook to geology of southwestern San Juan Basin: Four Corners Geological Society, Second Field Conference, p. 40-43.

Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T., 1983, of Mines and Mineral Resources, Hydrologic Report 6.

Tabet, D.E., and Frost, S.J., 1979, Environmental characteristics of Menefee coals in the Torreon Wash area, New Mexico: Socorro, New Mexico Bureau of Mines and Mineral Resources Open-File Report 102, 134 p.

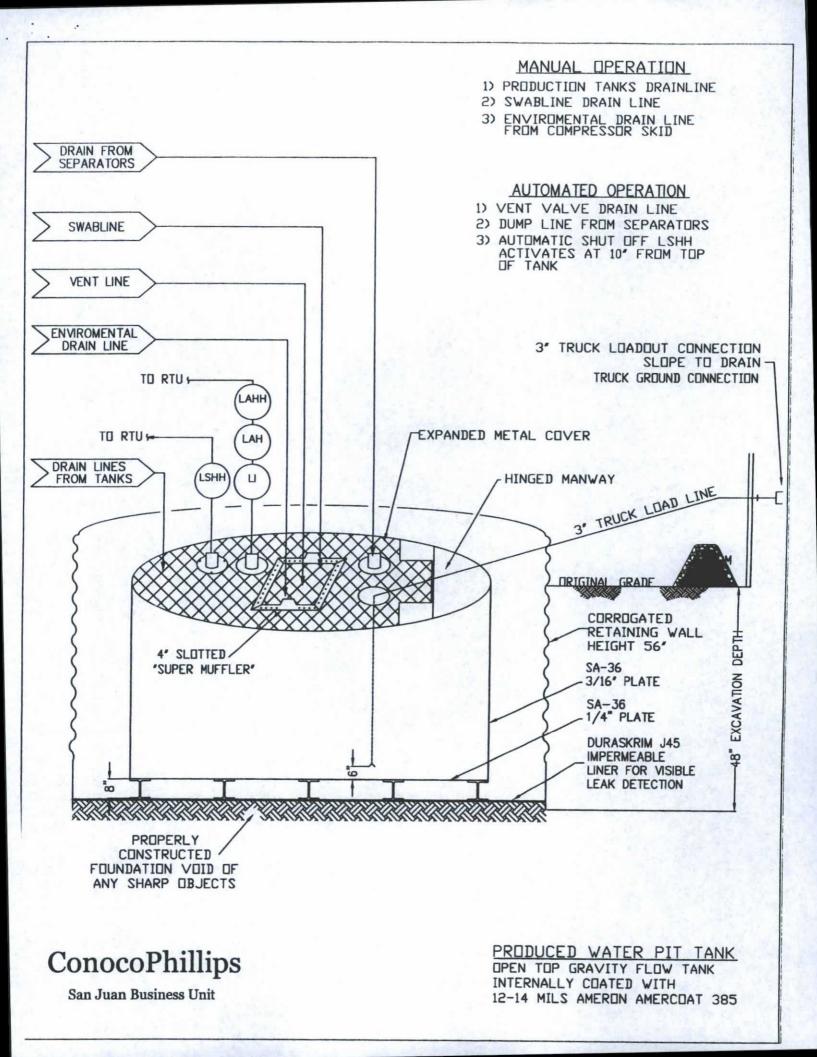
Burlington Resources Oil & Gas Company, LP San Juan Basin Below Grade Tank Design and Construction

In accordance with NMAC 19.15.17 the following information describes the design and construction of below grade tanks on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all below grade tanks (BGT). A separate plan will be submitted for any BGT which does not conform to this plan.

General Plan:

- BR will design and construct a properly sized and approved BGT which will contain liquids and should prevent contamination of fresh water to protect the public health and environment.
- BR signage will comply with 19.15.3.103 NMAC when BR is the operator. If BR is not the operator it will comply with 19.15.17.11NMAC. BR includes Emergency Contact information on all signage.
- 3. BR has approval to use alternative fencing that provides better protection. BR constructs fencing around the BGT using 4 foot hog wire fencing topped with two strands of barbed wire, or with a pipe top rail. A six foot chain link fence topped with three strands of barbed wire will be use if the well location is within 1000 feet of permanent residence, school, hospital, institution or church. BR ensures that all gates associated with the fence are closed and locked when responsible personnel are not onsite.
- 4. BR will construct a screened, expanded metal covering, on the top of the BGT.
- BR shall ensure that a below-grade tank is constructed of materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight as shown on design drawing and specification sheet.
- The BR below-grade tank system shall 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 as shown on design drawing.
- 7. BR shall operate and install the below-grade tank to prevent the collection of surface water run-on. BR has built in shut off devices that do not allow a belowgrade tank to overflow. BR constructs berms and corrugated retaining walls at least 6" above ground to keep from surface water run-on entering the below grade tank as shown on the design plan.
- 8. BR will construct and use a below-grade tank that does not have double walls. The below-grade tank's side walls will be open for visual inspection for leaks, the below-grade tank's bottom is elevated a minimum of six inches above the underlying ground surface and the below-grade tank is underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected.

- 9. BR has equipped the below-grade tanks with the ability to detect high level in the tank and provide alarm notification and shutdown process streams into the tank. Once high level is detected RTU logic closes the inlet separator sales valve and does not permit vent valve to open. This shutdown of the sales valve and gagging of the vent valves prevents any hydrocarbon process streams from entering the pit tank once a high level is detected. Furthermore, an electronic page is sent to the BR MSO for that well site and to the designated contract "Water-Hauling" Company indicating a high level and that action must be taken to address this alarm. The environmental drain line from BR's compressor skid under normal operating conditions is in the open position. The environmental drain line is in place to capture any collected rain water or spilled lubricants from our compressor skids. The swab drain line is a manually operated drain and by normal operating procedures is in the closed position. The tank drain line is also a manually operated drain and during normal operations it is in the closed position.
- 10. The geomembrane liner consists of a 45-mil flexible LLDPE material manufactured by Raven Industries as J45BB. This product is a four layer reinforced laminated containing no adhesives. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications. The J45BB is reinforced with 1300 denier (minimum) tri-directional scrim reinforcement. It exceeds ASTMD3083 standard by 10%. J45BB has a warranty for 20 years from Raven Industries and is attached. It is typically used in Brine Pond, Oilfield Pit liner and other industrial applications. The manufacture specific sheet is attached and the design attached displays the proper installation of the liner.
- The general specification for design and construction are attached in the BR document.



DURA-SKRIM®

J30, J36 a J45

PROPERTIES	TEST METHOD	J30BB		J36BB		J4588	
		Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages
Appearance		Blac	k/Black	Black	/Black	Black	/Black
Thickness	ASTM D 5199	27 mil	30 mil	32 mil	36 mil	40 mil	45 mil
Weight Lbs Per MSF (oz/yd²)	ASTM D 5261	126 lbs (18.14)	140 lbs (20.16)	151 lbs (21.74)	168 lbs (24.19)	189 lbs (27.21)	210 lbs (30.24)
Construction		**Extrusion laminated with encapsulated tri-directiona			al scrim reinforcement		
Ply Adhesion	ASTM D 413	16 lbs	20 lbs	19 lbs	24 lbs	25 lbs	31 lbs
1" Tensile Strength	ASTM D 7003	88 lbf MD 63 lbf DD	110 lbf MD 79 lbf DD	90 lbf MD 70 lbf DD	113 lbf MD 87 lbf DD	110 lbf MD 84 lbf DD	138 lbf MD 105 lbf DD
1" Tensile Elongation @ Break. % (Film Break)	ASTM D 7003	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD
1" Tensile Elongation @ Peak % (Scrim Break)	ASTM D 7003	20 MD 20 DD	33 MD 33 DD	20 MD 20 DD	30 MD 31DD	20 MD 20 DD	36 MD 36 DD
Tongue Tear Strength	ASTM D 5884	75 lbf MD 75 lbf DD	97 lbf MD 90 lbf DD	75 lbf MD 75 lbf DD	104 lbf MD 92 lbf DD	100 lbf MD 100 lbf DD	117 lbf MD 118 lbf DD
Grab Tensile	ASTM D 7004	180 lbf MD 180 lbf DD	218 lbf MD 210 lbf DD	180 lbf MD 180 lbf DD	222 lbf MD 223 lbf DD	220 lbf MD 220 lbf DD	257 lbf MD 258 lbf DD
Trapezoid Tear	ASTM D 4533	120 lbf MD 120 lbf DD	146 lbf MD 141 lbf DD	130 lbf MD 130 lbf DD	189 lbf MD 172 lbf DD	160 lbf MD 160 lbf DD	193 lbf MD 191 lbf DD
* Dimensional Stability	ASTM D 1204	<1	<0.5	<1	<0.5	<1	<0.5
Puncture Resistance	ASTM D 4833	50 lbf	64 lbf	65 lbf	83 lbf	80 lbf	99 lbf
Maximum Use Temperature		180° F	180° F	180° F	180° F	180° F	180° F
Minimum Use Temperature		-70° F	-70° F	-70° F	-70° F	-70° F	-70° F

MD = Machine Direction DD = Diagonal Directions

Note: Minimum Roll Averages are set to take into account product variability in addition to testing variability between laboratories.

*Dimensional Stability Maximum Value

**DURA-SKRIM J30BB, J36BB & J45BB are a four layer reinforced laminate containing no adhesives. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications. DURA-SKRIM J30BB, J36BB & J45BB are reinforced with a 1300 denier (minimum) tri-directional scrim reinforcement.

Note: RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and cliscialins all liability for resulting loss or damage.

RAVEN Industries

PLANT LOCATION

Sioux Falls, South Dakota

SALES OFFICE

P.O. Box 5107 Sioux Falls, SD 57117-5107 (605) 335-0174 (605) 331-0333 FAX 800-635-3456

08/06

RAVEN INDUSTRIES INC. EXPOSED GEOMEMBRANE LIMITED WARRANTY

Raven Industries Inc. warrants Dura-Skrim J30BB, J36BB, and J45BB to be free from manufacturing defects and to be able to withstand normal exposure to sunlight for a period of 20 years from the date of sale for normal use in approved applications in the U.S and Canada, excluding Hawaii. This warranty is effective for products sold and shipped from January 1, 2008 to December 31, 2008. These dates will be updated prior to December 31, 2008.

This Limited Warranty does not include damages or defects in the Raven geomembrane resulting from acts of God, casualty or catastrophe including but not limited to: earthquakes, floods, piercing hail, or tornadoes. The term "normal use" as used herein does not include, among other things improper handling during transportation, unloading, storage or installation, the exposure of Raven geomembranes to harmful chemicals, atypical atmospheric conditions, abuse of Raven geomembranes by machinery, equipment or people; improper site preparation or covering materials, excessive pressures or stresses from any source or improper application or installation. Raven geomembrane material warranty is intended for commercial use only and is not in effect for the consumer as defined in the Magnuson Moss Warranty or any similar federal, state, or local statues. The parties expressly agree that the sale hereunder is for commercial or industrial use only.

Should defects or premature loss of use within the scope of the above Limited Warranty occur, Raven Industries Inc. will, at its option, repair or replace the Raven geomembrane on a pro-rata basis at the then current price in such manner as to charge the Purchaser/User only for that portion of the warranted life which has elapsed since purchase of the material. Raven Industries Inc. will have the right to inspect and determine the cause of any alleged defect in the Raven geomembrane and to take appropriate steps to repair or replace the Raven geomembrane if a defect exists which is covered under this warranty. This Limited Warranty extends only to Raven's geomembrane, and does not extend to the installation service of third parties nor does it extend to materials furnished or installed by others in connection with the intended use of the Raven geomembranes.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail, to the General Manager of Engineered Films Division of Raven Industries Inc. within ten (10) days of becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have any rights under this warranty. Raven Industries Inc. shall not be obligated to perform repairs or replacements under this warranty unless and until the area to be repaired or replaced is clean, dry, and unencumbered. This includes, but is not limited to, the area made available for repair and/or replacement of Raven geomembrane to be free from all water, dirt, sludge, residuals and liquids of any kind. If after inspection it is determined that there is no claim under this Limited Warranty, Purchaser shall reimburse Raven Industries Inc. for its costs associated with the site inspection.

In the event the exclusive remedy provided herein fails in its essential purpose, and in that event only, the Purchaser shall be entitled to a return of the purchase price for so much of the material as Raven Industries Inc. determines to have violated the warranty provided herein. Raven Industries Inc. shall not be liable for direct, indirect, special, consequential or incidental damages resulting from a breach of this warranty including, but not limited to, damages for loss of production, lost profits, personal injury or property damage. Raven Industries Inc. shall not be obligated to reimburse Purchaser for any repairs, replacement, modifications or alterations made by Purchaser unless Raven Industries Inc. specifically authorized, in writing, said repairs, replacements, modifications or alteration in advance of them having been made. Raven Industry's liability under this warranty shall in no event exceed the replacement cost of the material sold to the Purchaser for the particular installation in which it failed.

Raven Industries Inc. neither assumes nor authorizes any person other than the undersigned of Raven Industries Inc. to assume for it any other or additional liability in connection with the Raven geomembrane made on the basis of the Limited Warranty. The Limited Warranty on the Raven geomembrane herein is given in lieu of all other possible material warranties, either expressed or implied, and by accepting delivery of the material; Purchaser waives all other possible warranties, except those specifically given. This Limited Warranty may only be modified by written document mutually executed by Owner and Raven Industries Inc.

Limited Warranty is extended to the purchaser/owner and is non-transferable and non-assignable; i.e., there are no third-party beneficiaries to this warranty.

Purchaser acknowledges by acceptance that the Limited Warranty given herein is accepted in preference to any and other possible materials warranties.

THIS LIMITED WARRANTY SHALL BE GOVERNED BY SOUTH DAKOTA LAW AND VENUE FOR ALL LEGAL PROCEEDINGS IN CONNECTION WITH THIS LIMITED WARRANTY SHALL BE IN MINNEHAHA COUNTY, SOUTH DAKOTA. RAVEN INDUSTRIES INC. MAKES NO WARRANTY OF ANY KIND OTHER THAN THAT GIVEN ABOVE AND HEREBY DISCLAIMS ALL WARRANTIES, BOTH EXPRESSED OR IMPLIED, OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS IS THE ONLY WARRANTY THAT APPLIES TO THE MATERIALS REFERED TO HEREIN AND RAVEN INDUSTRIES INC. DISCLAIMS ANY LIABILITY FOR ANY WARRANTIES GIVEN BY ANY OTHER PERSON OR ENTITY, EITHER WRITTEN OR ORAL.

RAVEN INDUSTRIES' WARRANTY BECOMES AN OBLIGATION OF RAVEN INDUSTRIES INC. TO PERFORM UNDER THE WARRANTY ONLY UPON RECEIPT OF FINAL PAYMENT AND EXECUTION BY A DULY AUTHORIZED OFFICER OF RAVEN INDUSTRIES INC.

Burlington Resources Oil & Gas Company, LP San Juan Basin Below Grade Tank Maintenance and Operating Plan

In accordance with Rule 19.15.17 the following information describes the operation and maintenance of Below Grade Tank (BGT) on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all BGT. A separate plan will be submitted for any BGT which does not conform to this plan.

General Plan:

- BR will operate and maintain a BGT to contain liquids and solids and maintain the integrity of the liner, liner system and secondary containment system to prevent contamination of fresh water and protect public health and environment. BR will accomplish this by performing an inspection on a monthly basis, installing cathodic protection, and automatic overflow shutoff devices as seen on the design plan.
- 2. BR will not discharge into or store any hazardous waste in the BGT.
- 3. BR shall operate and install the below-grade tank to prevent the collection of surface water run-on. BR has built in shut off devices that do not allow a belowgrade tank to overflow. BR constructs berms and corrugated retaining walls at least 6" above ground to keep from surface water run-on entering the below grade tank as shown on the design plan.
- 4. As per 19.17.15.12 Subsection D, Paragraph 3, BR will inspect the below-grade tank at least monthly reviewing several items which include 1) containment berms adequate and no oil present, 2) tanks had no visible leaks or sign of corrosion, 3) tank valves, flanges, and hatches had no visible leaks and 4) no evidence of significant spillage of produced liquids. In addition, BR's multi-skilled operators (MSOs) are required to visit each well location once per week. If detected on either inspection, BR shall remove any visible or measurable layer of oil from the fluid surface of a below-grade tank in an effort to prevent significant accumulation of oil overtime. The written record of the monthly inspections will include the items listed above and will be maintained for five years.
- 5. BR shall require and maintain a 10" adequate freeboard to prevent overtopping of the below-grade tank.
- 6. If the below grade tank develops a leak, or if any penetration of the pit liner or below grade tank, occurs below the liquid's surface, then BR shall remove all liquid above the damage or leak line within 48 hours. BR shall notify the appropriate district office. BR shall repair or replace the pit liner or below grade tank, within 48 hours of discovery. If the below grade tank or pit liner does not demonstrate integrity, BR shall promptly remove and install a below grade tank or pit liner that complies with Subsection I of 19.15.17.11 NMAC. BR shall notify the appropriate district office of a discovery of leaks less than 25 barrels as required pursuant to Subsection B of 19.15.3.116 NMAC shall be reported within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), and Subparagraph (d) of 19.15.3.116 NMAC shall be reported to the division's Environmental Bureau Chief.

Burlington Resources Oil & Gas Company, LP San Juan Basin Below Grade Tank Closure Plan

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure requirements of Below Grade Tanks (BGTs) on Burlington Resources Oil & Gas Company, LP locations hereinafter known as BR locations. This is BR's standard procedure for all BGTs. A separate plan will be submitted for any BGT which does not conform to this plan.

General Requirements:

- BR shall close a below-grade tank within the time periods provided in Subsection A of 19.15.17.13 NMAC. This will include a) below-grade tanks that do 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, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) permitted below-grade tanks within 60 days of cessation of the below-grade tank's operation., or c) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, BR will file the C144 Closure Report as required.
- 2. BR shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.
- 3. BR will receive prior approval to 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 approves. Documentation of how the below-grade tank was disposed of or recycled will be provided in the closure report.
- 4. If there is any on-site equipment associated with a below-grade tank, then BR shall remove the equipment, unless the equipment is required for some other purpose.
- 5. BR shall test the soils beneath the below-grade tank to determine whether a release has occurred. BR shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other 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 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 100 mg/kg; and the chloride concentration, as determined by EPA method that the division approves, does not exceed 250 mg/kg, or other 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. BR shall notify the division of its results on form C-141.
- If BR or the division determines that a release has occurred, then BR shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

- 7. 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, then BR shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.
- Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following:
 - i. Operator's name
 - ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.
- The surface owner shall be notified of BR's closing of the below-grade tank prior to closure as per the approved closure plan via certified mail, return receipt requested.
- 10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. 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 place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 11. BR shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will used on federally jurisdicted lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private 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. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. BR will repeat seeding or planting will be continued until successful vegetative growth occurs.
- 12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
- 13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
 - Soil Backfilling and Cover Installation
 - Re-vegetation application rates and seeding techniques
 - Photo documentation of the site reclamation
 - Confirmation Sampling Results
 - Proof of closure notice

OCD Aztec District III Conoco Phillips/Burlington Checklist Below Grade Tank Registration

19.15.17.9 Permit application

Signed C-144 (Page 5 of C-144)

19.15.17.10 Siting requirements

New Mexico Office of State Engineer attachment
 USGS TOPO map
 Aerial Map
 Mines, Mills and Quarries Web Map
 FIRM map (flood insurance rate map from Federal Emergency Management Agency)

19.15.17.11 Design Plan Contents

Below Grade Tank Design and Construction Plan.

19.15.17.12 Operating and Maintenance Plan

Below Grade Tank Operating and Maintenance Plan

19.15.17.13 Closure Plan

Below Grade Tank Closure Plan

Requirements:_

Registration Date: 2/12/16