1625 N. French Dr., Hobbs, NM 88740	State of New Mexico	Form C-14
	Ind Natural Resources	July 21, 20
REGISTERED	artment ation Division St. Francis Dr.	For temporary pits, closed-loop sytems, and below-grade tanks, submit to the appropriate NMOCD District Office.
District IV	Santa Fe, NM 87505	For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.
1220 S. St. Francis Dr., Santa Fe, NM 87505		
Pit, Clo	osed-Loop System, Below-Grad	e lank, or
Proposed Alter	native Method Permit or Closur	e Plan Application
Type of action: X Permit	t of a pit, closed-loop system, below-grade t	ank, or proposed alternative method
Closur	e of a pit, closed-loop system, below-grade	tank, or proposed alternative method
Modif	ication to an existing permit	
Closur	e plan only submitted for an existing permit- grade tank, or proposed alternative method	tted or non-permitted pit, closed-loop system,
Instructions: Please submit one application	(Form C-144) per individual pit, closed-loc	op system, below-grade tank or alternative reques
Please be advised that approval of this request d environment. Nor does approval relieve the operator	oes not relieve the operator of liability should operations re or of its responsibility to comply with any other applicable	esult in pollution of surface water, ground water or the governmental authority's rules, regulations or ordinances.
1 Operator: Burlington Resources Oil & Gas Co	ompany, LP	OGRID#: <u>14538</u>
Address: PO Box 4289, Farmington, NM 87	499	
Facility or well name: SAN JUAN 27-5 UNIT	90	
API Number: 3003982362	2 OCD Permit Number	r:
U/L or Qtr/Qtr: <u>G</u> Section: <u>16</u>	Township: 27N Range:	W County: Rio Arriba
Center of Proposed Design: Latitude:	36.57411°N Longitude:	-107.36144°W NAD: [X] 1927[1983
Surface Owner: Federal X Stat	te Private Inbal Trust or Indian	
Temporary Drilling Workover		
Temporary: Drilling Workover Permanent Emergency Cavitation Lined Unlined Liner type: String-Reinforced Liner Seams: Welded Factory 3 Closed-loop System: Subsection H of 19. Type of Operation: P&A Drilling a proving Pad	P&A Thickness mil LLDPE Other Volume: 15.17.11 NMAC new well Workover or Drilling (Applies to notice of intent) uks Haul-off Bins Other	HDPE PVC Other
Temporary: Drilling Workover Permanent Emergency Cavitation Lined Unlined Liner type: String-Reinforced Liner Seams: Welded Factory 3 Closed-loop System: Subsection H of 19. Type of Operation: P&A Drilling a string a string and the sectory Drying Pad Above Ground Steel Tam Lined Unlined Liner type: Liner Seams: Welded Factory	P&A Thickness mil LLDPE Other Volume: 15.17.11 NMAC new well Workover or Drilling (Applies to notice of intent) uks Haul-off Bins Other Fhickness mil LLDPE Hould be a state of the s	HDPE PVC Other
Temporary: Drilling Workover Permanent Emergency Cavitation Lined Unlined Liner type: String-Reinforced Liner Seams: Welded Factory 3 Closed-loop System: Subsection H of 19. 3 Closed-loop System: Subsection H of 19. Type of Operation: P&A Drilling a prime and the subsection H of 19. Lined Unlined Liner type: The subsection H of 19. Lined Unlined Liner type: The subsection H of 19. Lined Unlined Liner type: The subsection I of 19. 4 X Below-grade tank: Subsection I of 19. 4 X Below-grade tank: Subsection I of 19. Yolume: 120 bbl Type Tank Construction material: Secondary containment with leak detection Visible sidewalls and liner Visible Liner Type: Thickness mil Milling Milling	P&A Thickness mil LLDPE Other Volume: 15.17.11 NMAC new well Workover or Drilling (Applies to notice of intent) iks Haul-off Bins Other Fhickness mil LLDPE Thickness mil LLDPE Athen Metal Metal X Visible sidewalls, liner, 6-inch lift and auto Inter HDPE PVC X Other	HDPE PVC Other bbl Dimensions L x W activities which require prior approval of a permit or IDPE PVD Other omatic overflow shut-off Inspecified
Temporary: Drilling Workover Permanent Emergency Cavitation Lined Unlined Liner type: String-Reinforced Liner Seams: Welded Factory 3 Closed-loop System: Subsection H of 19. 7 Type of Operation: P&A Drilling a string a str	P&A Thickness mil LLDPE Other Volume: 15.17.11 NMAC new well Workover or Drilling (Applies to notice of intent) iks Haul-off Bins Other Fhickness mil LLDPE Thickness mil LLDPE Other Metal Differ X Visible sidewalls, liner, 6-inch lift and autor It and autor le sidewalls only Other U	HDPE PVC Other bbl Dimensions L
Temporary: Drilling Workover Permanent Emergency Cavitation Lined Unlined Liner type: String-Reinforced Liner Seams: Welded Factory 3 Closed-loop System: Subsection H of 19. 7 Type of Operation: P&A Drilling and the section H of 19. 7 Drying Pad Above Ground Steel Tame Lined Unlined Liner type: Lined Unlined Liner type: Tame Lined Unlined Liner type: Tame Liner Seams: Welded Factory Gamma 4 X Below-grade tank: Subsection I of 19.15.17 Volume: 120 bbl Type Tank Construction material: Secondary containment with leak detection Visible sidewalls and liner Visible 5 Alternative Method: Submittal of an exception request is required. Exception Exception	P&A Thickness mil LLDPE Other Volume: 15.17.11 NMAC new well Workover or Drilling (Applies to notice of intent) tks Haul-off Bins Other Fhickness mil LLDPE Thickness mil LLDPE Ther Metal Metal X Visible sidewalls, liner, 6-inch lift and autor Lle sidewalls only HDPE PVC X Other U eptions must be submitted to the Santa Fe Enviro Enviro	HDPE PVC Other bbl Dimensions L x W x D activities which require prior approval of a permit or IDPE PVD Other omatic overflow shut-off Inspecified Inmental Bureau office for consideration of approval.

Fencing: Subsection D of 19.15-17-11 NMAC (Applies to permanent pit, temporary pits, and below-grade tanks)								
Chain flow, six feel in height, two strands of barbed wire at top (<i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i>)								
Four tool 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.								
7								
Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)								
X Screen Netting Other								
Monthly inspections (If netting or screening is not physically feasible)								
8								
Signs: Subsection C of 19.15.17.11 NMAC								
12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers								
X Signed in compliance with 19.15.3.103 NMAC								
9								
Administrative Approvals and Exceptions:								
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.								
Please check a box if one or more of the following is requested, if not leave blank;								
Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for (Fencing/BGT Liner)	consideration of approval.							
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.								
10								
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 XN0							
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)								
- Visual inspection (certification) of the proposed site; Aerial photo: Satellite image								
Within 1000 feet from a permanent residence, school, hospital, institution or church in evidence of the time of time of the ti								
(Applied to permanent pits)	Yes No							
- Visual inspection (certification) of the proposed site: Aerial photo: Satellite image	XNA							
Within 500 horizonal feet of a private, domestic fresh water well or spring that less then five hourselds are to a								
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	Yes XNo							
Within 500 feet of a wetland								
- US Fish and Wildlife Wetland Identification map: Topographic map: Visual increasing from the	Yes X No							
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 VING							
Society; Topographic map								
Within a 100-year floodplain	Yes XING							
- памилиар								

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Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Chec Instructions: Each of the following items must be attached to the application. Please indicate, by a check mari	klist: Subsection B of 19.15.17.9 NMAC
X Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of	Subsection B of 19.15.17.9 NMAC
Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Parage	aph (2) of Subsection B of 19-15-17/9
X Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15	17.10 NMAC
X Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC	
X Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NM	AC
X Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate 19.15.17.9 NMAC and 19.15.17.13 NMAC	requirements of Subsection C of
Previously Approved Design (attach copy of design) API	or Permit
12 Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19,15,17,9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark i Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Pa Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropria Design Plan - based upon the appropriate requirements of 19,15,17,11 NMAC	n the box, that the documents are attached. ragraph (3) of Subsection B of 19,15,17.9 le requirements of 19,15,17,10 NMAC
Operating and Maintenance Plan - based upon the appropriate requirements of 19-15-17-12 NAM	
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate NMAC and 19.15.17.13 NMAC	AC
Previously Approved Design (attach copy of design)	
Previously Approved Operating and Maintenance Plan	_
API	
Permanent Pits Permit Application Charletter Charletter Charletter	
Instructions: Each of the following items must be attached to the article in the standard to the section B of 19.15.17.9 NMAC	
Hydrogeologic Report - based upon the ruguirements of Deserve 1 (1) 60	in the box, that the documents are attached.
Siting Criteria Compliance Demonstrations based upon the series of Paragraph (1) of Subsection B of 19.15.1	7.9 NMAC
Climatological Factors Assessment	7.10 NMAC
Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 MA	
Dike Protection and Structural Integrity Design: based upon the appropriate requirements of 19.17	IAC 5.17.11.NMAC
Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC	D.T.T. INMAC
Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of	19 15 17 11 NMAC
Quality Control/Quality Assurance Construction and Installation Plan	CASTRIT NWAC
Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMA	c
Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.1	7.11 NMAC
Nuisance or Hazardous Odors, including H2S, Prevention Plan	
Cit E therefore Plan	
On Field Waste Stream Characterization	
Erosion Control Plan	
Closure Plan - based upon the appropriate combines of the time in a second seco	
Costate Final Posted upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and	19.15.17.13 NMAC
14 Proposed Closure: 10.15.17.17 NMAC	
Instructions: Please complete the applicable boxes, Boxes 14 through 18 in regarde to the proposed along the	
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit X Below	w-grade Tank Closed-loop System
Proposed Closure Method: X Waste Excavation and Removal	
Waste Removal (Closed-Joon systems only)	
On-site Closure Method (only for temporary nits and closed loop unstance)	
In-place Burial Operate (Creach	
Alternative Closure Method (Exceptions must be submitted as the Closure T	
Constant a reaction of the submitted to the Santa Fe E	invironmental Bureau for consideration)
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the for Please indicate, by a check mark in the box, that the documents are attached	llowing items must be attached to the closure plan.
X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NIMAG	
X Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Sub-	E & C 10 15 17 12 No.11 7
X Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)	LT 0F 19.15.17.13 NMAC
X Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subcurd	ion H of 10 15 17 12 NM 4 C
X Re-vegetation Plan - based upon the appropriate requirements of Subsection Lof 10.15.17.12 NIMAGE	NIG 1 01 19.13.17.13 NMAC
X Site Reclamation Plan - based upon the appropriate requirements of Subsection C of 10.15 17.15 MMAC	440
	AC

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16 <u>Waste Removal Closure For Closed-loop Systems Tha</u> Instructions: Please identify the facility or facility of all	t Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19,15,17,13 D NMA	0
are required.	e disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than t	wo facilities
Disposal Facility Name:	Disposal Facility Permit #:	
Disposal Facility Name:	Disposal Facility Permit #:	
Will any of the proposed closed-loop system operation Yes (If yes, please provide the information	ons and associated activities occur on or in areas that will not be used for futu	re service and operations?
Required for impacted areas which will not be used for fut Soil Backfill and Cover Design Specification Re-vegetation Plan - based upon the appropria Site Reclamation Plan - based upon the appropria	ture service and operations: - based upon the appropriate requirements of Subsection H of 19.15.17.13 N ate requirements of Subsection I of 19.15.17.13 NMAC praite requirements of Subsection G of 19.15.17.13 NMAC	МАС
17		
Siting Criteria (Regarding on-site closure method Instructions: Each siting criteria requires a demonstration of co certain sung criteria may require administrative approval from for consideration of approval. Justifications and/or demonstrati	s only: 19.15.17.10 NMAC impliance in the closure plan. Recommendations of acceptable source material are provided is the appropriate district office or may be considered an exception which must be submitted to ions of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	below. Reque sts regarding changes to the Santa Fe Environmental Bureau office
Ground water is less than 50 feet below the bottom of	f the buried waste.	Yes No
 NM Office of the State Engineer - iWATERS databate 	ase search: USGS: Data obtained from nearby wells	
Ground water is between 50 and 100 feet below the b	ottom of the buried waste	
 NM Office of the State Engineer - iWATERS databased 	se search; USGS; Data obtained from nearby wells	
Ground water is more than 100 feet below the bottom	of the buried waste.	
 NM Office of the State Engineer - iWATERS database 	se search; USGS; Data obtained from nearby wells	
Within 300 feet of a continuously flowing watercourse, or 2 (measured from the ordinary high-water mark).	200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake	
- Topographic map; Visual inspection (certification) of	the proposed site	
Within 300 feet from a permanent residence, school, hospita - Visual inspection (certification) of the proposed site; A	al. institution. or church in existence at the time of initial application. Aerial photo: satellite image	Yes No
Within 500 horizontal feet of a private, domestic fresh water purposes, or within 1000 horizontal fee of any other fresh w - NM Office of the State Engineer - iWATERS database	r well or spring that less than five households use for domestic or stock watering ater well or spring, in existence at the time of the initial application.	Yes No
Within incorporated municipal boundaries or within a define pursuant to NMSA 1978, Section 3-27-3, as amended. Written confirmation or verification from the municipal	ed municipal fresh water well field covered under a municipal ordinance adopted	Yes No
Within 500 feet of a wetland	any, written approval obtained from the municipality	
- US Fish and Wildlife Wetland Identification map; Top	ographic map; Visual inspection (certification) of the proposed site	Yes No
Within the area overlying a subsurface mine.		TYes No
Within an unstable area	M EMNRD-Mining and Mineral Division	
 Engineering measures incorporated into the design; NM Topographic map 	Bureau of Geology & Mineral Resources: USGS; NM Geological Society:	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 bee attached to the closur	renian Plaass in direct
by a check mark in the box, that the documents are att	ached.	e pran. I teuse indicate,
Siting Criteria Compliance Demonstrations - base	ed upon the appropriate requirements of 19.15.17.10 NMAC	
Construction/Design blog of D. 1177 - 1177	appropriate requirements of Subsection F of 19.15.17.13 NMAC	
Construction/Design Plan of Burial Trench (if ap	plicable) based upon the appropriate requirements of 19.15.17.11 NMAC	
Protocols and Provedures - based upon the another	n place burial of a drying pad) - based upon the appropriate requirements of 14	9.15.17.11 NMAC
Confirmation Sampling Plan tif anniables	d upon the emerged of 19.15.17.13 NMAC	
Waste Material Sampling Plan thered upon the	upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC	
Disposal Facility Name and Permit Number (for 1)	ppropriate requirements of Subsection F of 19.15.17.13 NMAC	
Soil Cover Design - based upon the appropriate re	equips, utiling fluids and drill cuttings or in case on-site closure standards can	not be achieved)

Re-vegetation Plan - based upon the appropriate requirements of Subsection 1 of 19.15.17.13 NMAC

Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

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19				
Operator Applicat	ion Certification:			
Thereby certify that the	be information submitted with this application is true	e, accurate and complete to the l	best of my knowledge and belief.	
Name (Print):	Crystal Tafoya	Title:	Regulatory Technician	
Signature:	aptal Japy	Date:	12/22/2008	
e-mail address:	crystal taloya 🕸 conocophiltips. om 🖉	Telephone:	505-326-9837	
20				
OCD Approval:	Permit Application (including closure plan)	Closure Plan (only)	OCD Conditions (care attack-must)	
OCD Representati	ve Signature.			
			Approval Date:	
Title:		OCD Permi	t Number:	
21 <u>Closure Report (re</u> Instructions: Operator report is required to b approved closure plan	guired within 60 days of closure completion) is are required to obtain an approved closure plan p e submitted to the division within 60 days of the com has been obtained and the closure activities have b	Subsection K of 19.15.17.13 NMAC rior to implementing any closur upletion of the closure activities, cen completed.	e activities and submitting the closure report. The Please do not complete this section of the form u	e closure ntil an
		Closure (Completion Date:	
22				
Closure Method: Waste Excavat	ion and Removal On-site Closure Metho m approved plan. please explain.	od Alternative Closure M	lethod Waste Removal (Closed-loop system	ns only)
23 <u>Closure Report Regan</u> Instructions: Please id were utilized.	ding Waste Removal Closure For Closed-loop Sy lentify the facility or facilities for where the liquids,	stems That Utilize Above Grou drilling fluids and drill cutting	and Steel Tanks or Haul-off Bins Only; s were disposed. Use attachment if more than tw	vo facilities
Disposal Facility Na	ıme:	Disposal Facility P	emit Number	
Disposal Facility Na	ame:	Disposal Facility Pr	mit Number:	
Were the closed-loo	p system operations and associated activities perfori	med on or in areas that will not 1	be used for future service and opeartions?	
Yes (If yes, ple	ase demonstrate complilane to the items below)	No		
Required for impact	ed areas which will not be used for future service ar	nd operations:		
Soil Backfilling	and Cover Installation			
Re-vegetation A	Application Rates and Seeding Technique			
24				
Closure Report A	ttachment Checklist: Instructions: Each of the	following items must be attache	ed to the closure report. Please indicate, by a che	ck mark in
The box, that the doc	uments are attached.			
Proof of Deed	Notice (required for on-site closure)			
Plot Plan (for o	on-site closures and temporary pits)			
Confirmation S	Sampling Analytical Results (if applicable)			
Waste Materia	Sampling Analytical Results (if applicable)			
Disposal Facili	ty Name and Permit Number			
Soil Backfilling	g and Cover Installation			
Re-vegetation /	Application Rates and Seeding Technique			
Site Reclamation	on (Photo Documentation)			
On-site Closure	: Location: Latitude:	Longitude:	NAD [] 1927 [] 19	83
25 Operator Closure Ce Thereby certify that the i the closure complies with	rtification: nformation and attachments submitted with this clos a all applicable closure requirements and conditions	sure report is ture, accurate and specified in the approved closu	complete to the best of my knowledge and belief. re plan.	l also certify that
Name (Print):		Title:		
ignature:		Date:		-
-mail address:		Telephone:		-
				-

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New Mexico Office of the State Engineer POD Reports and Downloads
Township: 27N Range: 05W Sections:
NAD27 X: Y: Zone: Search Radius:
County: Basin: Number: Suffix:
Owner Name: (First) (Last) C Non-Domestic C Domestic All
POD / Surface Data Report Avg Depth to Water Report Water Column Report
Clear Form iWATERS Menu Help
WATER COLUMN REPORT 08/20/2008 (quarters are 1=NW 2=NE 3=SW 4=SE)

	(quarter	s ar	e big	gge	est	to:	smallest)			Depth	Depth	Water (in
POD Number	Tws	Rng	Sec	g	a	q	Zone	x	Y	Well	Water	Column	
RG 81026	27N	05W	27	4	4	3				460	186	274	
SJ 00199	27N	05W	03	2	1					1840			
SJ 00046	27N	05W	04	4	4					506	260	246	

Record Count: 3



AERIAL MAP SAN JUAN 27-5 UNIT 90





Mines, Mills and Quarries Web Map

SAN JUAN 27-5 UNIT 90

TA CH

Unit Letter: G, Section: 16, Town: 027N, Range: 005W





Page 1 of 1 /0



SAN JUAN 27-5 UNIT 90

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'SAN JUAN 27-5 UNIT 90', which is located at 36.57411 degree, North latitude and 107.36144 degree, West longitude. This location is located on the Vigas Canyon 7.5' USGS topographic quadrangle. This location is in section 16 of Township 27 North Range 5 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in Rio Arriba County, New Mexico. The nearest town is Turley, located 26.3 miles to the northwest. The nearest large town (population greater than 10,000) is Farmington, located 48.2 miles to the west (National Atlas). The nearest highway is US Highway 64, located 8.0 miles to the north. The location is on State land and is 1,972 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Blanco Canyon. New Mexico, Sub-basin. This location is located as Inter-Mountain Basins Shale Badland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 246 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 420 feet to the south and is classified by the USGS as an intermittent stream. The nearest perennial stream is 2,861 feet to the southwest. The nearest water body is 2,861 feet to the southwest. It is classified by the USGS as an intermittent lake and is 0.7 acres in size. The nearest spring is 21,219 feet to the east. 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 3,356 feet to the east. The nearest wetland is a 0.7 acre other located 2.928 feet to the southwest. The slope at this location is 8 degree, 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 SAN JOSE FORMATION--Siltstone, shale, and sandstone with a Sandstone dominated formations of all ages substrate. The soil at this location is 'Rock outcrop-Vessilla-Menefee complex, 15 to 45 percent slopes' and is well drained and not hydric with not rated erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 17.9 miles to the north as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Regional Hydrogeological context:

The San Jose Formation of Eocene age occurs in New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico State line and overlies the Animas Formation in the area generally north of the State line. The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and variegated shale. Thickness of the San Jose Formation generally increases from west to east (200 feet in the west and south to almost 2,700 feet in the center of the structural basin). Ground water is associated with alluvial and fluvial sandstone aquifers. Thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modifications, namely erosion and structural deformation. Transmissivity data for San Jose Formation are minimal. Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone et al, 1983, table 5). The reported or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use. The San Jose Formation is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily adsorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the San Jose Formation by the San Juan River and its tributaries all tend to reduce the effective recharge to the unit.

Stone et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico: Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 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:

- 1. 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.
- 2. 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
- 4. BR will construct a screened, expanded metal covering, on the top of the BGT.
- 5. 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.
- 6. 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.
- 11. The general specification for design and construction are attached in the BR document.



PROPERTIES TEST METHOD J30BB J36BE **J45BB** Min. Roll Typical Roll Min. Roll Typical Roll Min. Roll Averages **Typical Roll** Averages Averages Averages Averages Appearance Averages Black/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 126 lbs ASTM D 5261 140 lbs 151 lbs (oz/yd²) 168 lbs 189 lbs 210 lbs (18.14)(20.16)(21.74)(24.19)(27.21)(30.24)Construction **Extrusion laminated with encapsulated tri-directional scrim reinforcement Ply Adhesion **ASTM D 413** 16 lbs 20 lbs 19 lbs 24 lbs 25 lbs 31 lbs 1" Tensile Strength 88 lbf MD 110 lbf MD **ASTM D 7003** 90 lbf MD 113 lbf MD 110 lbf MD 138 lbf MD 63 lbf DD 79 lbf DD 70 lbf DD 87 lbf DD 84 lbf DD 105 lbf DD 1" Tensile Elongation @ 550 MD **ASTM D 7003** 750 MD Break, % (Film Break) 550 MD 750 MD 550 MD 750 MD 550 DD 750 DD 550 DD 750 DD 550 DD 750 DD 1" Tensile Elongation @ 20 MD ASTM D 7003 33 MD Peak % (Scrim Break) 20 MD 30 MD 20 MD 20 DD 36 MD 33 DD 20 DD 31DD 20 DD 36 DD Tongue Tear Strength 75 lbf MD 97 lbf MD ASTM D 5884 75 lbf MD 104 lbf MD 100 lbf MD 117 lbf MD 75 lbf DD 90 lbf DD 75 lbf DD 92 lbf DD 100 lbf DD 118 lbf DD Grab Tensile 180 lbf MD 218 lbf MD ASTM D 7004 180 lbf MD

210 lbf DD

146 lbf MD

141 lbf DD

< 0.5

64 lbf

180° F

-70° F

MD = Machine Direction DD = Diagonal Directions

Trapezoid Tear

* Dimensional Stability

Maximum Use Temperature

Minimum Use Temperature

Puncture Resistance

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

180 lbf DD

130 lbf MD

130 lbf DD

<1

65 lbf

180° F

-70° F

222 lbf MD

223 lbf DD

189 lbf MD

172 lbf DD

< 0.5

83 lbf

180° F

-70° F

*Dimensional Stability Maximum Value

180 lbf DD

120 lbf MD

120 lbf DD

<1

50 lbf

180° F

-70° F

ASTM D 4533

ASTM D 1204

ASTM D 4833

**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

THE FAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, to guarantee of satisfactory results from reliance upon contained information or recommendations and

PLANT LOCATION

Sioux Falls, South Dakota

SALES OFFICE

220 lbf MD

220 lbf DD

160 lbf MD

160 lbf DD

<1

80 lbf

180° F

-70° F

257 lbf MD

258 lbf DD

193 lbf MD

191 lbf DD

< 0.5

99 lbf

180° F

-70° F

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





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.

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, at its 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 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 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 REFERRED 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:

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- 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 below-grade 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.
- 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 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by 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 250 mg/kg, or the background concentration, whichever is greater. BR shall notify the division of its results on form C-141.
- 6. 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, nonwaste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.
- 8. 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
 - i. Operator's name
 - ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.
- 9. 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 belowgrade 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