	State of New Mexico	Form C-144
	and Natural Resources	July 21, 2008
REGISTERED	vation Division St. Francis Dr.	tanks, submit to the appropriate NMOCD District Office.
00 Rio Brazos Rd., Aztec, NM 87410 s <u>trict IV</u>	Santa Fe, NM 87505	For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the
20 S. St. Francis Dr., Santa Fe, NM 87505		appropriate NMOCD District Office.
<u>Pit,</u>	Closed-Loop System, Below-Grad	e Tank, or
Proposed Al	ternative Method Permit or Closur	e Plan Application
Type of action: X Pe	rmit of a pit, closed-loop system, below-grade t	ank, or proposed alternative method
	osure of a pit, closed-loop system, below-grade	tank, or proposed alternative method
Шм	odification to an existing permit	
	osure plan only submitted for an existing permi low-grade tank, or proposed alternative method	tted or non-permitted pit, closed-loop system,
Instructions: Please submit one applicat	ion (Form C-144) per individual pit, closed-loo	p system, below-grade tank or alternative request
Please be advised that approval of this requ	uest does not relieve the operator of liability should operations r	esult in pollution of surface water, ground water or the
environment. Nor does approval relieve the op	perator of its responsibility to comply with any other applicable	governmental authority's rules, regulations or ordinances.
perator: Burlington Resources Oil & Ga	s Company, LP	OGRID#: 14538
Idress: PO Box 4289, Farmington, NM	87499	
cility or well name: SAN JUAN 27-5 UN	NIT 98	
PI Number: 300390	7064 OCD Permit Numbe	r.
Lor Otr/Otr: E Section:	14 Township: 27N Bange:	W County: <b>Bio Arriba</b>
enter of Proposed Design: Latitude:	<b>36.57562°N</b> Longitude:	-107.33237°W NAD: X 1927 1983
urface Owner: X Federal	State Private Tribal Trust or India	Allotment
Temporary:       Drilling       Workover         Permanent       Emergency       Cavitatio         Lined       Unlined       Liner type         String-Reinforced       Liner Seams:       Welded       Factory	n P&A :: Thickness mil LLDPE Other Volume:	HDPE         PVC         Other           bbl         Dimensions         L         x         W        x         D
Closed-loop System: Subsection H of Type of Operation: P&A Drillin Drying Pad Above Ground Stee	f 19.15.17.11 NMAC ng a new well Workover or Drilling (Applies to notice of intent) I Tanks Haul-off Bins Other	activities which require prior approval of a permit or
	Thickness mil LLDPE	IDPE PVD Other
Lined Unlined Liner type: Liner Seams: Welded Factory		
Lined Unlined Liner type: Liner Seams: Welded Factory X Below-grade tank: Subsection 1 of 19.1 Volume: 120	Other       5.17.11 NMAC       Tupe of fluid:	
Lined Unlined Liner type: Liner Seams: Welded Factory X Below-grade tank: Subsection 1 of 19.1 Volume: 120 bbl Tank Construction material:	Other 5.17.11 NMAC Type of fluid: Produced Water Metal	
Lined Unlined Liner type: Liner Seams: Welded Factory           X         Below-grade tank:         Subsection 1 of 19.1           Volume:         120         bbl           Tank Construction material:         Secondary containment with leak detection	Other	omatic overflow shut-off
Lined Unlined Liner type: Liner Seams: Welded Factory           X         Below-grade tank:         Subsection 1 of 19.1           Volume:         120         bbl           Tank Construction material:         Secondary containment with leak detection           Visible sidewalls and liner         Visible sidewalls and liner	Other 5.17.11 NMAC Type of fluid: Produced Water Metal X Visible sidewalls, liner, 6-inch lift and autority Visible sidewalls only Other	omatic overflow shut-off
Lined Unlined Liner type: Liner Seams: Welded Factory           X         Below-grade tank:         Subsection 1 of 19.1           Volume:         120         bbl           Tank Construction material:	Other         5.17.11 NMAC         Type of fluid:       Produced Water         Metal         X       Visible sidewalls, liner, 6-inch lift and autor         /isible sidewalls only       Other         I       HDPE       PVC	omatic overflow shut-off
Lined Unlined Liner type: Liner Seams: Welded Factory           X         Below-grade tank:         Subsection 1 of 19.1           Volume:         120         bbl           Tank Construction material:	Other         .5.17.11 NMAC         Type of fluid:       Produced Water         Metal         X       Visible sidewalls, liner, 6-inch lift and auto         /isible sidewalls only       Other         il       HDPE       PVC       X Other	omatic overflow shut-off
Lined       Unlined       Liner type:         Liner Seams:       Welded       Factory         X       Below-grade tank:       Subsection 1 of 19.1         Volume:       120       bbl         Tank Construction material:	Other         5.17.11 NMAC         Type of fluid:       Produced Water         Metal         X       Visible sidewalls, liner, 6-inch lift and autor         /isible sidewalls only       Other         il       HDPE       PVC         IX       Other       IX	omatic overflow shut-off
Lined Unlined Liner type: Liner Seams: Welded Factory           X         Below-grade tank:         Subsection 1 of 19.1           Volume:         120         bbl           Tank Construction material:	Other         5.17.11 NMAC         Type of fluid:       Produced Water         Metal         X       Visible sidewalls, liner, 6-inch lift and autor         /isible sidewalls only       Other         il       HDPE       PVC         X       Other       Image: Source of the second	omatic overflow shut-off

.

Fencing: Subsection D of 19.15.17.11 NMAC (Applies to pursy manual of									
(approx s 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 foot of a new second state)									
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 harbed wire									
Netting: Subsection F of 19.15.17.11 NMAC (Application)									
X Screen Netting Other									
Monthly increations of the second sec									
remainly aspections (if netting or screening is not physically feasible)									
DUNK SUBSECTION C of 19.15.17.11 NMAC									
Signat is superior in the test second									
Sogned in compliance with 19.15.3.103 NMAC									
Administrative Approvals and Exceptions: Justifications and/or demonstrations of autimatements of the Discourse of the Discou									
Please check a box if one or more of the following is segmented by the second s									
X Administrative approved(s): Poenware to be to be a final leave blank:									
(Fencing/BGT Liner)	consideration of approval.								
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for convidentian of									
and the second s									
Siting Criteria (regarding permitting): 10.15.17.10 NMAC									
Instructions: The applicant must demonstrate compliance for each siting criteria below in the proti of the proti									
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 diach incidentian for									
does not apply to drying pads or above grade-tanks associated with a closed-loop system.									
Ground water is less than 50 fact below the training of the									
- NM Office of the State Engineer - iWATERS (latabase search: USCS) Data above 16	Yes X No								
Within 300 feet of a continuously flowing wetercourse and 200 feet of a continuously flowing wetercourse and									
lake (measured from the ordinary high-water mark).	Yes X No								
- Topographic map; Visual inspection (certification) of the proposed site									
Within 300 feet from a permanent residence, school, hospital institution or church is existence at the side of the second s									
application.	Yes X No								
(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 existence at the time of initial application									
(Applied to permanent pits)									
- 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 than five households use for domestic on the bound in									
purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.	Yes X No								
- NM Office of the State Engineer - iWATEPS database secrets Visual									
Within incorporated municipal boundaries as within a final state of the state of th									
adopted pursuant to NMSA 1978, Section 3-27-3, as amended	Yes X No								
- Written confirmation or verification from the municipality; Written approval obtained from the municipality									
Within 500 feet of a wetland.	Yes VIN								
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site									
Writing confirmation or verification or man from the NIA DAMES and the	Yes XINo								
Within an unstable area									
- Engineering measures incorporated into the design. NM Dure of Contract of the design.	Yes X No								
Society; Topographic map									
Within a 100-year floodplain									
- FEMA map	Yes X No								

The second secon		
I emporary Pits, Emergency Pits and Below-grade Tanks Pe- Instructions: Each of the following items must be attached to the appli	mit Application Attachment Cl	tecklist: Subsection B of 19.15.17.9 NMAC
X Hydrogeologic Report (Below-grade Tanks) - based upon	the requirements of Paragraph (4)	ark in the box, that the documents are attached.
Hydrogeologic Data (Temporary and Emergency Pits) - ba	ased upon the requirements of Par-	of Subsection B of 19.15.17.9 NMAC
X Siting Criteria Compliance Demonstrations - based upon	the appropriate requirements of 10	15 17 10 NUALO
X Design Plan - based upon the appropriate requirements of	19 15 17 11 NMAC	15.17.10 NMAC
X Operating and Maintenance Plan - based upon the appropriate	fiate requirements of 10.15.17.19.	IMAC .
X Closure Plan (Please complete Boxes 14 through 18 if and	nticable) based on a sta	IMAC
19.15.17.9 NMAC and 19.15.17.13 NMAC	pheaoie) - based upon the appropri-	ite requirements of Subsection C of
Previously Approved Design (attach copy of design)	API	or Permit
12         Closed-toop Systems Permit Application Attachment Checkli         Instructions: Each of the following items must be attached to the applic         Geologic and Hydrogeologic Data (only for on-site closure         Siting Criteria Compliance Demonstrations (only for on-site         Design Plan - based upon the appropriate requirements of         Operating and Maintenance Plan - based upon the appropriate         Closure Plan (Please complete Boxes 14 through 18, if app	st: Subsection B of 19.15.17.9 NMA ation. Please indicate, by a check mai ) - based upon the requirements of te closure) - based upon the approp 19.15.17.11 NMAC iate requirements of 19.15.17.12 N dicable) - based upon the appropria	C k in the box, that the documents are attached. Paragraph (3) of Subsection B of 19:15:17:9 riate requirements of 19:15:17:10 NMAC MAC te requirements of Subsection C of 19:15:17:9
Duvised Area (D. 1917)		
L Previously Approved Design (attach copy of design)	API	
Previously Approved Operating and Maintenance Plan	API	
13 <u>Permanent Pits Permit Application Checklist:</u> Subsection B o Instructions: Each of the following items must be attached to the appli	of 19.15.17.9 NMAC	
Hydrogeologic Report - based upon the requirements of Par	agraph (1) of Subsection D of 10 1	ark in the box, that the documents are attached.
Siting Criteria Compliance Demonstrations - based upon the	e appropriate requirements of 10.11	5.17.10 NMAC
Climatological Factors Assessment	appropriate requirements of 19.15	5.17.10 NMAC
Certified Engineering Design Plans - based upon the approp	riate requirements of 19.15.17.11	NMAC
Dike Protection and Structural Integrity Design: based upon	the appropriate requirements of 19	15.17.11 NMAC
Leak Detection Design - based upon the appropriate required	ments of 19.15.17.11 NMAC	
Liner Specifications and Compatibility Assessment - based t     Outlity Control/Outline Assessment - 0	apon the appropriate requirements	of 19.15.17.11 NMAC
Operating and Maintenance Plan, bused user the	tion Plan	
Freeboard and Overtonning Prevention Plan based upon the	le requirements of 19.15.17.12 NM	AC
Nuisance or Hazardous Odors, including H2S, Prevention Pl	appropriate requirements of 19.15	.17.11 NMAC
Emergency Response Plan	an	
Oil Field Waste Stream Characterization		
Monitoring and Inspection Plan		
Erosion Control Plan		
Closure Plan - based upon the appropriate requirements of Su	ubsection C of 19.15.17.9 NMAC a	nd 19.15.17.13 NMAC
14		
Proposed Closure: 19.15.17.13 NMAC Instructions: Please complete the applicable boxes Boxes 14 through 18		
Type: Drilling Workover Emergency Covitation	, in regards to the proposed closure p	an.
	Pack Permanent Pit X Be	low-grade Tank Closed-loop System
Proposed Closure Method: X Waste Excavation and Removal	(Below-Grade Tank)	
Waste Removal (Closed-loop systems	only)	
On-site Closure Method (only for tem	porary pits and closed-loop systems	
In-place Burial On	Esite Trench	
Alternative Closure Method (Exceptio	ins must be submitted to the Santa F	e Environmental Bureau for consideration
15		
Waste Excavation and Removal Closure Plan Checklist: (19.15.17	1.13 NMAC) Instructions: Each of the	following items must be attached to at
Prease indicate, by a check mark in the box, that the documents are attach	red.	server and the server and the closure plan.
Confirmation Sampling Discussion and Proceedings	ments of 19.15.17.13 NMAC	
X Disposal Facility Name and Domin Must have been the applicable of the second	ppropriate requirements of Subsect	ion F of 19.15.17.13 NMAC
X Soil Backfill and Cover Design Specifications have 1	ig fluids and drill cuttings)	
X Re-vegetation Plan - based upon the	appropriate requirements of Subse	ection H of 19.15.17.13 NMAC
X Site Reviamation Plan based upon the appropriate requirements of	of Subsection Lof 19.15.17.13 NM	AC
in appropriate requirement	its of Subsection G of 19.15.17.13	NMAC

16		
Waste Removal Closure For Closed-loop Systems That Utilize Ah	nove Ground Steel Tanks or Haul-off Bins Only: (1945-1743 D NMA)	Ċ.
are required.	y liquids, drilling fluids and drill cuttings. Use attachment if more than t	wo facilities
Disposal Facility Name:	Disposal Facility Permit #-	
Disposal Facility Name:	Disnosal Facility Permit #	
Will any of the proposed closed-loop system operations and ass Yes (If yes, please provide the information	ociated activities occur on or in areas that will not be used for futur	re service and operations?
Required for impacted areas which will not be used for future service	and operations	
Soil Backfill and Cover Design Specification - based up	on the appropriate requirements of Subsection H of 19,15,17,13 NN	AAC .
Re-vegetation Plan - based upon the appropriate requirer	ments of Subsection 1 of 19.15.17.13 NMAC	
Site Reclamation Plan - based upon the appropraite requ	irements of Subsection G of 19.15.17.13 NMAC	
17 <u>Siting Criteria (Regarding on-site closure methods only:</u> 19 Instructions: Each stime criteria remains a domain termine of the state of the st	.15.17.10 NMAC	
certain string criteria may require administrative approval from the appropri for consideration of approval. Justifications and/or demonstrations of equiva-	the closure plan. Recommendations of acceptable source material are provided l iate district office or may be considered an exception which must be submitted to dency are required. Please refer to 19.15,17,10 NMAC for guidance.	elow, Requests regarding changes to the Santa Fe Environmental Bureau office
Ground water is less than 50 feet below the bottom of the buried	l waste.	
<ul> <li>NM Office of the State Engineer - iWATERS database search; I</li> </ul>	USGS: Data obtained from nearby wells	
Ground water is between 50 and 100 feet below the bottom of th	e buried waste	
- NM Office of the State Engineer - iWATERS database search; U	SGS: Data obtained from nearby wells	Yes No
Ground water is more than 100 feet below the bottom of the busi	ad	
NM Office of the State Engineer - iWATERS database search: 11	ed waste.	Yes No
Within WO fast of a speciment of	solo, Data obtained noni nearby wells	N/A
(measured from the ordinary high-water mark).	ny other significant watercourse or lakebed, sinkhole, or playa lake	Yes No
Within 100 fast from a summary visual inspection (certification) of the propose	d site	
<ul> <li>Visual inspection (certification) of the proposed site; Aerial photo;</li> </ul>	<ul> <li>n. or church in existence at the time of initial application.</li> <li>satellite image</li> </ul>	Yes No
Within 500 hours and a second second		Yes No
<ul> <li>within 500 horizontal feet of a private, domestic fresh water well or spr purposes, or within 1000 horizontal fee of any other fresh water well or</li> <li>NM-Office of the State Engineer - iWATERS database; Visual inst</li> </ul>	ing that less than five households use for domestic or stock watering spring, in existence at the time of the initial application.	
Within incorporated municipal boundaries or within a defined municipal pursuant to NMSA 1978, Section 3-27-3, as amended.	I fresh water well field covered under a municipal ordinance adopted	Yes No
Within 500 feet of a wetland	n approval obtained from the municipality	
<ul> <li>US Fish and Wildlife Wetland Identification map: Topographic ma</li> </ul>	ap: Visual inspection (certification) of the proposed vite	Yes No
Within the area overlying a subsurface mine.	proposed site	
- Written confiramtion or verification or map from the NM EMNRD	-Mining and Mineral Division	Yes No
Within an unstable area.		
<ul> <li>Engineering measures incorporated into the design; NM Bureau of Topographic map</li> </ul>	Geology & Mineral Resources: USGS; NM Geological Society:	
Within a 100-year floodplain. - FEMA map		Yes No
18		
by a check mark in the box, that the documents are attached.	ions: Each of the following items must bee attached to the closur	e plan. Please indicate,
Siting Criteria Compliance Demonstrations - based upon the	and contrast requirements of 19,15,17,10 NIMAC	
Proof of Surface Owner Notice - based upon the appropriate	e requirements of Subsection F of 19 15 17 13 NM AC	
Construction/Design Plan of Burial Trench (if applicable) b	ased upon the appropriate requirements of 19.15.17.11 NIMAG	
Construction/Design Plan of Temporary Pit (for in place but	rial of a drving pad) - based upon the appropriate requirements of 1	
Protocols and Procedures - based upon the appropriate requi	irements of 19.15.17.13 NMAC	ADATELI NMAC
Confirmation Sampling Plan (if applicable) - based upon the	appropriate requirements of Subsection F of 19 15 17 13 NMAC	
Waste Material Sampling Plan - based upon the appropriate	requirements of Subsection F of 19.15.17.13 NMAC	
Disposal Facility Name and Permit Number (for liquids, dril	ling fluids and drill cuttings or in case on-site closure standards can	not be achieved)
Soil Cover Design - based upon the appropriate requirement	s of Subsection H of 19.15.17.13 NMAC	io aonic vou)
Re-vegetation Plan - based upon the appropriate requirement	ts of Subsection I of 19.15.17.13 NMAC	
Site Reclamation Plan - based upon the appropriate requirem	nents of Subsection G of 19.15.17.13 NMAC	

19				
Operator Applicatio	m Certification;			
Thereby certify that the	information submitted with this application is true, a	iccurate and complete to the	best of my knowledge and belief.	
Name (Print):	Crystal Tafoya	Title:	Regulatory Technician	
Signature:	- Constal Taleya	Date:	12/22/2008	
e-mail address:	crystal taloya @consciptilling com	Telephone:	505-326-9837	
20				
OCD Approval:	Permit Application (including closure plan)	Closure Plan (only)	OCD Conditions (see attachment)	
OCD Representative	Signature:		Approval Date:	
Title:		OCD Perm	it Number:	
21 <u>Closure Report (requ</u> Instructions: Operators report is required to be :	uired within 60 days of closure completion): s are required to obtain an approved closure plan prio submitted to the division within 60 days of the comple	ubsection <b>K</b> of 19.15.17.13 NMAC or to implementing day closu etion of the closure activities	re activities and submitting the closure report. The closure	
approved closure plan h	as been obtained and the closure activities have been	<i>completed.</i>	Completion Date:	
23				
Closure Method: Waste Excavatio	n and Removal On-site Closure Method approved plan, please explain.	Alternative Closure }	Method Waste Removal (Closed-loop systems only)	
23 Closure Report Record				
Instructions: Please ider	nig waste Removal Closure For Closed-loop System	ms That Utilize Above Gro	und Steel Tanks or Haul-off Bins Only:	
were utilized.		ming fratus and arm cam	gs were asposed. Use anachment if more than two facilities	
Disposal Facility Nan	ie:	Disposal Facility F	ermit Number:	
Disposal Facility Narr	le:	Disposal Facility F	ermit Number:	
Ves (If yes place	system operations and associated activities performed	d on or in areas that will not	be used for future service and opeartions?	
Barning for import	terministrate compinane to the items below)			
Site Reclamation	(Photo Documentation)	operations:		
Soil Backfilling a	nd Cover Installation			
Re-vegetation Ap	plication Rates and Seeding Technique			
24				
Closure Report Att	achment Checklist: Instructions: Each of the fol	llowing items must be attach	ed to the closure report. Please indicate, by a check mark in	
Proof of Closure	Menus are attached.			
Proof of Deed N	otice (required for on-site closure)			
Plot Plan (for on	-site closures and temporary nits)			ľ
Confirmation Sa	moling Analytical Results (if applicable)			
Waste Material S	Sampling Analytical Results (if applicable)			
Disposal Facility	Name and Permit Number			
Soil Backfilling	and Cover Installation			
Re-vegetation Ar	oplication Rates and Seeding Technique			
Site Reclamation	(Photo Documentation)			
On-site Closure I	Location: Latitude:	Longitude:	NAD 1927 1983	
25				
Decrator Closure Cert hereby certify that the inf he closure complies with a	<mark>ification:</mark> Sormation and attachments submitted with this closure ill applicable closure requirements and conditions sp	e report is ture, accurate and vecified in the approved closs	complete to the best of my knowledge and belief. I also certify the regularity of the second	hat
lame (Print):		Title		
ignature:		Daté:		
-mail address:		Telephone		

.

÷

### 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

	(quarter (quarter	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest)							Depth	Depth	Water (in	(in	
POD Number	Tws	Rng	Sec	q	đ	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	24.6	

Record Count: 3



ConocoPhillips

# AERIAL MAP SAN JUAN 27-5 UNIT 98



# Mines, Mills and Quarries Web Map

# **SAN JUAN 27-5 UNIT 98**

Unit Letter: E, Section: 14, Town: 027N, Range: 005W





### SAN JUAN 27-5 UNIT 98

### Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'SAN JUAN 27-5 UNIT 98', which is located at 36.57562 degree, North latitude and 107.33237 degree, West longitude. This location is located on the Vigas Canyon 7.5' USGS topographic quadrangle. This location is in section 14 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 27.7 miles to the northwest. The nearest large town (population greater than 10,000) is Farmington, located 49.7 miles to the west (National Atlas). The nearest highway is US Highway 64, located 8.4 miles to the north. The location is on BLM land and is 841 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 at 2026 meters or 6645 feet above sea level and receives 13 inches of rain each year. The vegetation at this location is classified as Colorado Plateau Pinon-Juniper Woodland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 294 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 492 feet to the west and is classified by the USGS as an intermittent stream. The nearest perennial stream is 2,097 feet to the southeast. The nearest water body is 2,093 feet to the southeast. It is classified by the USGS as an intermittent lake and is 0.4 acres in size. The nearest spring is 12,899 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 2,598 feet to the east. The nearest wetland is a 0.5 acre other located 2,694 feet to the southeast. The slope at this location is 4 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 17.8 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 personnel are not onsite.
- 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 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.
- 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 **J45BE** Min. Roll Typical Roll Min. Roll Typical Roll Min. Roll **Typical Roll** Averages Averages Averages Averages Averages Averages Appearance 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 140 lbs 151 lbs ASTM D 5261 168 lbs (oz/yd²) 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 88 lbf MD mile Channel

Maximum Use Temperature		180° F	99 lbt 180° F				
Puncture Resistance	ASTM D 4833	50 lbf	64 lbf	65 lbf	83 lbf	80 lbf	00.154
* Dimensional Stability	ASTM D 1204	<1	<0.5	<1	<0.5	<1	<0.5
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
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
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
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
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 Electricity (	ASTM D 7003	63 lbf DD	79 lbf DD	70 lbf DD	113 lbf MD 87 lbf DD	110 lbf MD 84 lbf DD	138 lbf MD 105 lbf DD

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.

NOW, PAVEN DUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, to guarantee of patistactory results from resance upon contained information or recommendations and disclaims all above for resulting loss or damage.



# 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

# 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 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:

- 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 o f19.15.17.11 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 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 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 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, non-waste 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 the following:
  - 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 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