1625 N. French Dr., Hobbs, NM 88240

District II

1301 W Grand Ave , Artesia, NM 88210

District III

1000 Rio Brazos Rd , Aztec, NM 87410

District IV

1220 S St Francis Di , Santa Fe NM 87505

State of New Mexico Energy Minerals and Natural Resources

> Department Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-144 July 21, 2008

For temporary pits, closed-loop sytems, and below-grade tanks, submit to the appropriate NMOCD District Office.

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

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

Type of action:	X Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
	Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
	Modification to an existing permit
	Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system,
	below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of hability should operations result in pollution of surface water, ground water or the

environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.  I Operator: Burlington Resources Oil & Gas Company, LP OGRID#: 14538
Address: PO Box 4289, Farmington, NM 87499
Facility or well name: Newberry 8B
API Number: 30-045- 35048 OCD Permit Number:
U/L or Qtr/Qtr: O(SW/SE) Section: 9 Township: 31N Range: 12W County: San Juan
Center of Proposed Design: Latitude: 36.9088928 °N Longitude: 108.097877 °W NAD: 1927 X 1983
Surface Owner X Federal State Private Tribal Trust or Indian Allotment
X   Pit: Subsection F or G of 19 15 17 11 NMAC     Temporary   X   Drilling   Workover     Permanent   Emergency   Cavitation   P&A     X   Lined   Unlined   Liner type   Thickness   20   mil   X   LLDPE   HDPE   PVC   Other     X   String-Reinforced   String-Rein
Liner Seams: X Welded X Factory Other Volume: 7700 bbl Dimensions L 120' x W 55' x D 12'
Closed-loop System: Subsection H of 19.15 17.11 NMAC  Type of Operation P&A Drilling a new well Workovet or Drilling (Applies to activities which require prior approval of a permit or notice of intent)  Drymg Pad Above Ground Steel Lanks Haul-off Bins Other
Lined Unlined Liner type Thickness mil LLDPE HDPE PVD Other  Liner Seams: Welded Factory Other
A
Liner Type Thickness 45 mil HDPE PVC X Other LLDPE
5 Alternative Method:
Submittal of an exception request is required Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

Fencing: Subsection D of 19.15 17.11 NMAC (Applies to permanent pit, temporary pits, and below-grade tanks)					
Subsection D of 17.13 17.11 NWAC (Appries to permanent pit, temporary pits, and below-grade tanks)					
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)					
Four foot height, four strands of barbed wire evenly spaced between one and four feet					
X Alternate Please specify 4' hogwire fence with a single strand of barbed wire on top.					
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)					
Singar Calcapter C of 10 15 17 11 NIMAC					
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:					
X Administrative approval(s). Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration (Fencing/BGT Liner)	leration of appr	roval.			
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval		İ			
Siting Criteria (regarding permitting) 19.15.17.10 NMAC					
Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of 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.	∏Yes	X No			
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells					
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake	Yes	XNo			
(measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site					
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	Yes	XNo			
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)	Ппа				
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image					
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	□Yes	□No			
(Applied to permanent pits)	XNA				
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image					
Within 500 horizonal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering	Yes	XNo			
purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.		_			
- NM Office of the State Engineer - (WATERS database search; Visual inspection (certification) of the proposed site.	İ				
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	Yes	XNo			
adopted pursuant to NMSA 1978, Section 3-27-3, as amended		۰۰۰ نک			
- Written confirmation or verification from the municipality. Written approval obtained from the municipality	Yes	X No			
<ul> <li>Within 500 feet of a wetland.</li> <li>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	L	MNO			
Within the area overlying a subsurface mine.					
- Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division					
Within an unstable area.	Yes	XNo			
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map					
Within a 100-year floodplain	Yes	XNo			
- FEMA map					

Form C-144 Oil Conservation Division Page 2 of 5

Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Checklist Subsection B of 19.15.17.9 NMAC
Instructions Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached  X Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19 15.17 9 NMAC
Tydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC    X
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 NMAC
X Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of
19.15 17.9 NMAC and 19.15 17.13 NMAC
Previously Approved Design (attach copy of design) API or Permit
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19 15 17.9 NMAC  Instructions Each of the following items must be attached to the application Please indicate, by a check mark in the box, that the documents are attached.  Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
Design Plan - based upon the appropriate requirements of 19.15.17 11 NMAC
Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17 12 NMAC
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9
NMAC and 19.15 17 13 NMAC  Previously Approved Design (attach copy of design)  API
Previously Approved Design (anatom copy of design)  API  API
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17 9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15 17.10 NMAC
Climatological Factors Assessment
Certified Engineering Design Plans - based upon the appropriate requirements of 19.15 17 11 NMAC
Dike Protection and Structural Integrity Design: based upon the appropriate requirements of 19.15.17.11 NMAC
Leak Detection Design - based upon the appropriate requirements of 19.15 17.11 NMAC
Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17 11 NMAC
Quality Control/Quality Assurance Construction and Installation Plan
Operating and Maintenance Plan - based upon the appropriate requirements of 19 15.17.12 NMAC
Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Nuisance or Hazardous Odors, including H2S, Prevention Plan
Emergency Response Plan
Oil Field Waste Stream Characterization
Monitoring and Inspection Plan
Erosion Control Plan
Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17 9 NMAC and 19.15.17.13 NMAC
14
Proposed Closure: 19 15 17 13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.
Type: X Drilling Workover Emergency Cavitation P&A Permanent Pit X Below-grade Tank Closed-loop System
Alternative Proposed Closure Method. X Waste Excavation and Removal (Below-Grade Tank)
Waste Removal (Closed-loop systems only)
X On-site Closure Method (only for temporary pits and closed-loop systems)
X In-place Burial On-site Trench
Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
15
Waste Excavation and Removal Closure Plan Checklist (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan.
Please indicate, by a check mark in the box, that the documents are attached.
X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
X Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
Disposal Faculty Name and Permit Number (for liquids, drilling fluids and drill cuttings)
Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15 17 13 NMAC
X Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15.17.13 NMAC
X Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15 17.13 NMAC

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16  Waste Removal Closure For Closed-loop Systems That Utilize Above Grou	nd Steel Tanks or Haul-off Rins Only/19 15 17 13 D NMAC)			
Instructions Please identify the facility or facilities for the disposal of liquids, a facilities are regimed	friling fluids and drill cuttings. Use attachment if more than two	,		
Disposal Facility Name	Disposal Facility Permit #:			
Disposal Facility Name				
Will any of the proposed closed-loop system operations and associated  Yes (If yes, please provide the information No				
Required for impacted areas which will not be used for future service and opera  Soil Backfill and Cover Design Specification - based upon the a Re-vegetation Plan - based upon the appropriate requirements of S  Site Reclamation Plan - based upon the appropriate requirements.	ppropriate requirements of Subsection H of 19.15 17 13 N Subsection I of 19 15 17 13 NMAC	√MAC		
17				
Siting Criteria (Regarding on-site closure methods only: 19 15 17 10 Instructions Each siting criteria requires a demonstration of compliance in the closure placeriam string criteria may require administrative approval from the appropriate district of office for consideration of approval. Justifications and/or demonstrations of equivalency.	an Recommendations of acceptable source material are provided below fice or may be considered an exception which must be submitted to the S	v Requests regarding changes to Santa Fe Environmental Bureau		
Ground water is less than 50 feet below the bottom of the buried waste.  - NM Office of the State Engineer - IWATERS database search, USGS Database search.		Yes X No		
Ground water is between 50 and 100 feet below the bottom of the burie	d waste	Yes X No		
- NM Office of the State Figureer - (WATERS database search, USGS, Da		N/A □		
Ground water is more than 100 feet below the bottom of the buried was	ste	X Yes No		
- NM Office of the State Engineer - (WATERS database search, USGS, Da	ta obtained from nearby wells	N/A		
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other (measured from the ordinary high-water mark)	significant watercourse or lakebed, sinkhole, or playa lake	Yes X No		
- Topographic map, Visual inspection (certification) of the proposed site				
Within 300 feet from a permanent residence, school, hospital, institution or chu - Visual inspection (certification) of the proposed site. Aerial photo, satellite	••	Yes X No		
		Yes X No		
Within 500 horizontal feet of a private domestic fresh water well or spring that le purposes, or within 1000 horizontal fee of any other fresh water well or spring, i - NM Office of the State Engineer - tWATERS database. Visual inspection	in existence at the time of the initial application			
Within incorporated municipal boundaries or within a defined municipal fresh was pursuant to NMSA 1978, Section 3-27-3, as amended	ater well field covered under á municipal ordinance adopted	Yes XNo		
<ul> <li>Written confirmation or verification from the municipality. Written approved Within 500 feet of a wetland</li> </ul>	/al obtained from the municipality	Yes XNo		
- US Fish and Wildlife Wetland Identification map, Topographic map, Visi	nal inspection (certification) of the proposed site	[ [ ] 163 [ [ ] 110		
Within the area overlying a subsurface mine		Yes X No		
- Written confirantion or verification or map from the NM EMNRD-Mining Within an unstable area	g and Mineral Division	Yes XNo		
- Engineering measures incorporated into the design, NM Bureau of Geolog	y & Mineral Resources, USGS, NM Geological Society,	103 [110		
Topographic map Within a 100-year floodplain - FEMA map		Yes XNo		
18				
On-Site Closure Plan Checklist: (19.15 17 13 NMAC) Instructions: by a check mark in the box, that the documents are attached.	Each of the following items must bee attached to the clo	osure plan. Please indicate,		
X Siting Criteria Compliance Demonstrations - based upon the app	propriate requirements of 19.15.17.10 NMAC			
X Proof of Surface Owner Notice - based upon the appropriate req	uirements of Subsection F of 19 15.17 13 NMAC			
Construction/Design Plan of Burial Trench (if applicable) based	upon the appropriate requirements of 19.15.17.11 NMAC			
Construction/Design Plan of Temporary Pit (for in place burial of		s of 19.15.17.11 NMAC		
X Protocols and Procedures - based upon the appropriate requirem		1AC		
Confirmation Sampling Plan (if applicable) - based upon the app    X   Waste Material Sampling Plan - based upon the appropriate requ		TAC		
<ul> <li>X Waste Material Sampling Plan - based upon the appropriate requ</li> <li>X Disposal Facility Name and Permit Number (for liquids, drilling</li> </ul>		ds cannot be achieved)		
X Soil Cover Design - based upon the appropriate requirements of		as camer or donie, od)		
Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC    X   Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC				

Oil Conservation Division Page 4 of 5

Form C-144

19				
Operator Application Co				
•	mation submitted with this application is true, accur			
Name (Print)	Dollie L Busse	Title	Staff Regulatory Technician	
Signature	XALLUX, Tausse	Date:	11/30/09	
e-mail address	dollie i busse@conocophillips com	Telephone	505-324-6104	
20				
	rmit Application (including closure plan)		OCD Conditions (see attachment)	
OCD Representative Sig	nature: Bravel J		Approval Date: /- 8 - /D	
	Enviro BPEL.		•	<del></del>
Title:	Enviro BPEC	OCD Per	nit Number:	
21				
	d within 60 days of closure completion): Sub			
			e activities and submitting the closure report. The closure  Please do not complete this section of the form until an	
approved closure plan has be	een obtained and the closure activities have been co	mpleted		
		Closu	e Completion Date:	
22				
Closure Method:			•	
Waste Excavation an	d Removal . On-site Closure Method	Alternative Closur	Method Waste Removal (Closed-loop systems only)	
If different from appr	roved plan, please explain			
23				
	Waste Removal Closure For Closed-loop System	s That Utilize Above G	ound Steel Tanks or Haul-off Bins Only:	
	the facility or facilities for where the liquids, drilli	ing fluids and drill cuttir	gs were disposed. Use attachment if more than two facilities	
were utilized.		D 15 1.	5	
Disposal Facility Name		-	Permit Number	
Disposal Facility Name		·	Permit Number	
	tem operations and associated activities performed of	_	be used for future service and opeartions?	
		No		
	eas which will not be used for future service and op	pet attous		
Site Reclamation (Ph	, and the second second second second second second second second second second second second second second se			
Ke-vegetation Applic	cation Rates and Seeding Technique			
24				
Closure Report Attac		lowing items must be atte	ched to the closure report. Please indicate, by a check mark is	n
	Jotice (surface owner and division)			
<u></u>	uce (required for on-site closure)			
=	ite closures and temporary pits)			
	• • • •			
=	pling Analytical Results (if applicable)			
=	mpling Analytical Results (if applicable)			
	Name and Permit Number			
	d Cover Installation			
= -	olication Rates and Seeding Technique			
<u> </u>	Photo Documentation)		NAD [] 1027 [] 1022	
On-site Closure Lo	ocation Latitude.	Longitude:	NAD	
25	P4*		-	
Operator Closure Certif		raport is tura accurate	and complete to the best of my knowledge and belief I also cert	ify that
	mation and attachments submitted with this closure applicable closure requirements and conditions spe			yy mai
Name (Print).	•	Title:		
		<del>-</del>		
Signature		Date <sup>-</sup>		
e-mail address.		Telephone		



### New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

Sub Depth Depth Water **POD Number** basin Use County 64 16 4 Sec Tws Rng Y Well Water Column

SJ 02904 4 4 4 08 31N 12W

222778 4089142\*

Average Depth to Water: 142 feet

> Minimum Depth: 142 feet

Maximum Depth: 142 feet

**Record Count: 1** 

PLSS Search:

Section(s): 3, 4, 5, 8, 9, 10, Township: 31N

15, 16, 17

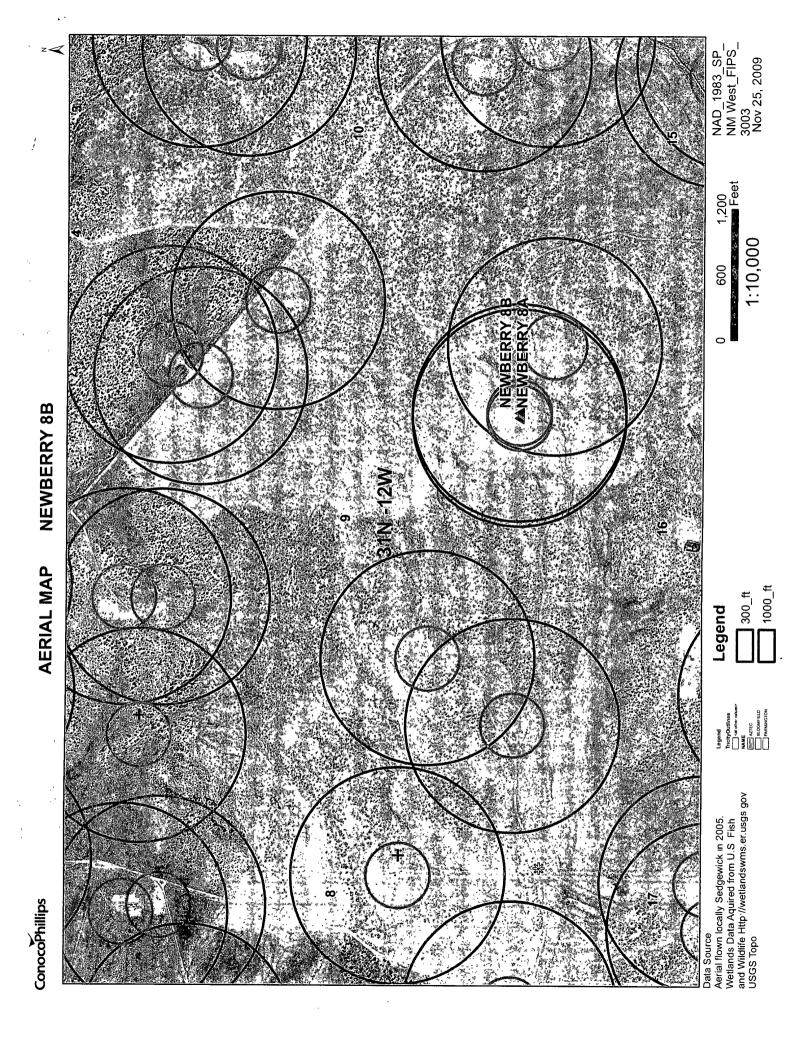
Range: 12W

### DATA SHEET FOR DEEP GROUND BED CATHODIC. PROTECTION WELLS NORTHWESTERN NEW MEXICO

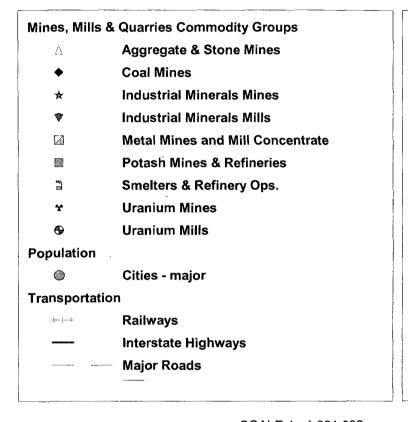
Operator Meridian Old Line Location: Unit O	Sec. 9 Twp 3/ Rng 13
Name of Well/Wells.or Pipeline Serviced	٠٠.
Itemberry #SA	
Elevation 6/91 Completion Date 4 - 1 - 93 Total Depth 44 8	Land Type
Casing Strings, Sizes, Types & Depths 3/15 5e 798 6	+8" PUC CASING.
NO GAS WATER OF Bouldets Were ENCOUNTERE	d During CASING
If Casing Strings are cemented, show amounts & types v	used CemenTed.
WITH 19 SACKS.	
If Cement or Bentonite Plugs have been placed, show de	epths & amounts used
No plugs	
Depths & thickness of water zones with description of	water: Fresh, Clear,
Salty, Sulphur, Etc. 200 and was clear	
Depths gas encountered: No gas	
Ground bed depth with type & amount of coke breeze use	ed: 448 with
53 (10016) sucks of boresco 5 w.	
Depths anodes placed: 1/15 0 + 430 15 15 15 0 + 345	Mays = 140, 135, 125, 120
Depths vent pipes placed: Bottom to Serface	n daduen -
Vent pipe perforations: Up 200'.	KEREIAE
Remarks:	JAN 3 1 1994
	OIL CON. DIV.

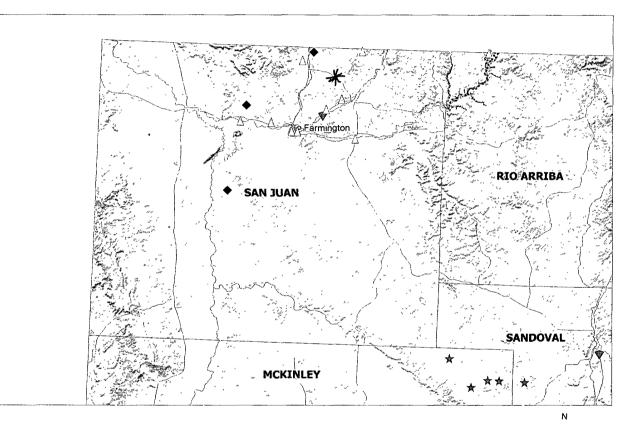
If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

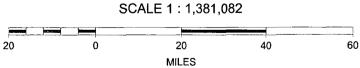
Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee. If Federal or Indian, add Lease Number.



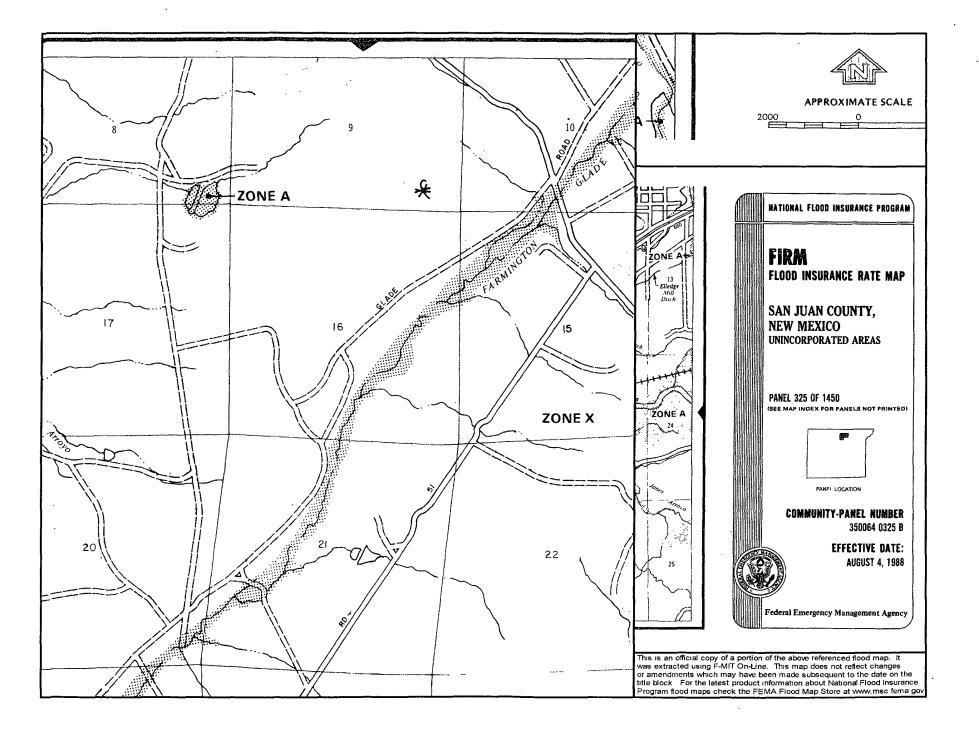
### Newberry 8B Mines, Mills and Quarries Web Map











#### Siting Criteria Compliance Demonstration & Hydro Geologic Analysis

The Newberry 8B is not located in an unstable area. The location is not over a mine and is not on the side of a hill as indicated on the Mines, Mills and Quarries Map and Topographic Map. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse as indicated on the Topographic Map. The location is not within a 100-year floodplain area as indicated on the FEMA Map. The Cathodic well data from the Newberry 8A has an elevation of 6192' and groundwater depth of 200'. The subject well has an elevation of 6201' which is 9' greater than the Newberry 8A, therefore the groundwater depth is 209'. There are no iWATERS data points located in the area as indicated on the TOPO Map. The hydro geologic analysis indicates the groundwater depth and the Nacimiento formation will create a stable area for this new location.

#### Hydrogeological Report for Newberry 8B

#### Regional Geological context:

The Nacimiento Formation is of Paleocene age (Baltz, 1967, p. 35). It crops out in a broad band inside the southern and western margins of the central basin and in a narrow band along the west face of the Nacimiento Uplift. The Nacimiento is a nonresistant unit and typically erodes to low, rounded hills or forms badland topography.

The Nacimiento Formation occurs in approximately only the southern two-thirds of the San Juan Basin where it commformably overlies and intertongues with the Ojo Alamo Sandstone (Fassett, 1974, p. 229). The Nacimiento Formation grades laterally into the main part of the Animas Formation (Fassett and Hinds, 1971, p. 34); thus, in this area, the two formations occupy the same stratigraphic interval.

Strata of the Nacimiento Formation were deposited in lakebeds in the central basin area with lesser deposition in stream channels (Brimhall, 1973, p. 201). In general, the Nacimiento consists of drab, interbedded black and gray shale with discontinuous, white, medium- to very coarse grained arkosic sandstone (Stone e al., 1983, p.30). Stone et al. indicated that the formation may contain more sandstone than commonly reported because some investigators assume the slope-forming strata in the unit area shales, whereas in many places the strata actually are poorly consolidated sandstones. Total thickness of the Nacimiento Formation ranges from about 500 to 1,300 feet. The unit generally thickens from the basin margins toward the basin center (Steven et al., 1974). The sandstone deposits within the Nacimiento Formation are much thinner than the total thickness of the formation because their environment of deposition was localized stream channels (Brimhall, 1973, p. 201). The thickness of the combined San Jose, Animas, and Nacimiento Formations ranges from 500 to more than 3.500 feet.

#### **Hydraulic Properties:**

Reported well yields for 53 wells completed in either the Animas or Nacimiento Formations range from 2 to 90 gallons per minute and the median yield is 7.5 gallons per minute. The primary use of water from Nacimiento and Animas Formations is domestic and livestock supplies. There are no known aquifer tests for the Animas or Nacimiento Formations, but specific capacities reported for six wells range from 0.24 to 2.30 gallons per minute per foot of drawdown (Levings et al., 1990).

The Animas and Nacimiento Formations are in many ways hydrologically similar to the San Jose Formation because sands in both units produce approximately the same quantities of water. However, the greater percentage of fine materials in the Animas and Nacimiento Formations may restrict downward vertical leakage to the Ojo Alamo Sandstone or Kirtland Shale. The poorly cemented fine material is highly erodible, forms a badland terrain, and supports only spotty vegetation. These conditions are more conductive to runoff than retention of precipitation.

#### References:

Baltz, E.H., 1967, Stratigraphy and regional tectonic implications of part of Upper Cretaceous rocks, east-central San Juan Basin, New Mexico: USGS Professional Paper

552, 101 p.

Brimhall, R.M., 1973, Ground-water hydrology of Tertiary rocks of the San Juan Basin, New Mexico, in Fassett, J.E., ed., Cretaceous and Tertiary rocks of the Southern Colorado Plateau: Four Corners Geological Society Memoir, p. 197-207.

Fassett, J.E., 1974, Cretaceous and Tertiary rocks of the eastern San Juan Basin, New Mexico and Colorado, in Guidebook of Ghost Ranch, central-northern New Mexico: New Mexico Geological Society, 25th Field Conference, p. 225-230.

Fassett, J.E., and Hinds, J.S., 1971, Geology and fuel resources of the Fruitland Formation and Kirtland Shale of the San Juan Basin, New Mexico and Colorado: USGS Professional Paper 676, 76 p.

Levings, G.W., Craigg, S.d., Dam, W.L., Kernodle, J.M., and Thorn, C.R., 1990, Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan structural basin, New Mexico, Colorado, Arizona, and Utah: USGS Hydrologic Investigations Atlas HA-720-A, 2 sheets.

Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T., 1983, Hydrogeology and water resources of San Juan Basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Hydrologic Report 6.

#### Busse, Dollie L

From:

Busse, Dollie L

Sent:

Wednesday, December 02, 2009 8:29 AM

To:

Mark\_Kelly@blm.gov

Cc:

Jaramillo, Marie E; Sessions, Tamra D; Tafoya, Crystal

Subject:

**Surface Owner Notification** 

The following locations will have a temporary pit closed on-site:

Newberry 8B Mansfield 2M Gobernador Com 100 San Juan 29-7 Unit 84B Newberry A 4N San Juan 30-6 Unit 35B San Juan 30-6 Unit 40N San Juan 32-8 Unit 22B

Please let me know if you have any questions or need additional information.

Thank you,

### Dollie L. Busse

ConocoPhillips Company-SJBU
Regulatory
Staff Regulatory Tech
505-324-6104
505-599-4062 (fax)
Dollie.L.Busse@conocophillips.com

<sup>&</sup>quot;Before someone's tomorrow has been taken away, cherish those you love, appreciate them today"

DISTRICT I 1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II 1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III 1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, N.M. 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, N.M. 87505

Form C-102 Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

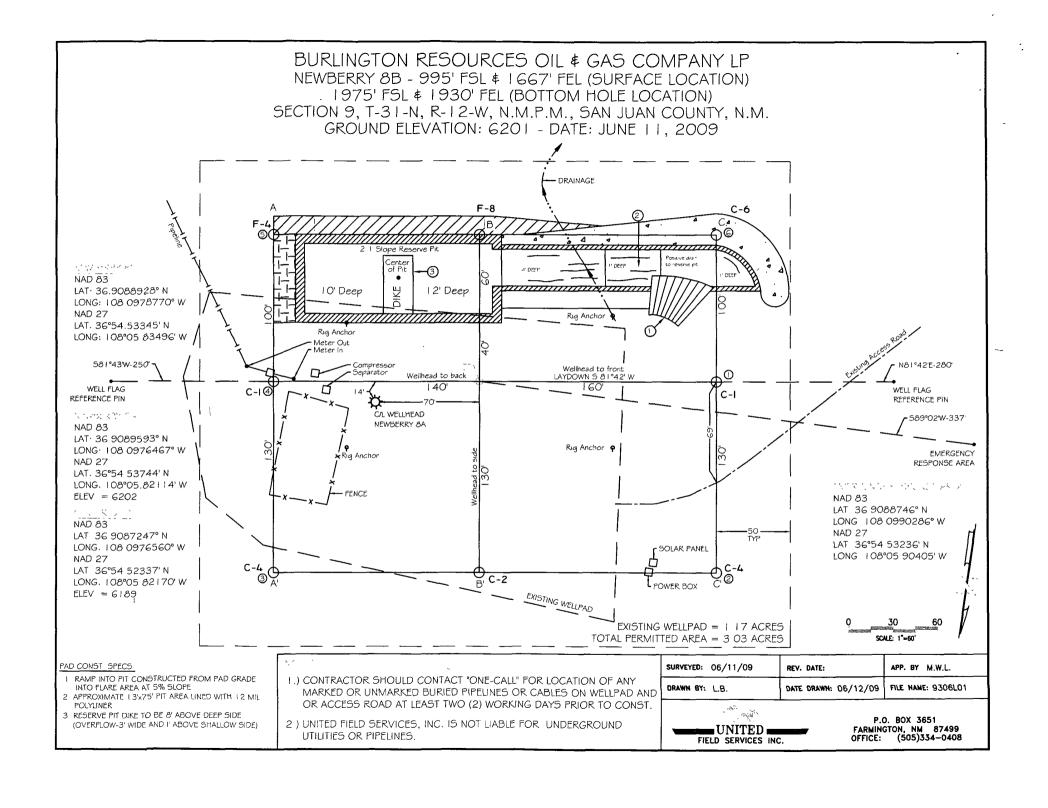
<sup>1</sup> API Number			<sup>2</sup> Pool Code			Pool Name MESA VERDE			
<sup>4</sup> Property C	ode			Property Name Well Number NEWBERRY 8B					
OGRID N	70GRID No.					*Operator Name SOURCES OIL & GAS COMPANY LP 6201			
					10 Surface	Location			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	9	31 N	12 W	}	995	SOUTH	1667	EAST	SAN JUAN
0	9	31 N		om Hole	L	SOUTH f Different Fro		EAST	SAN JU

UL or lot no. Section Township Feet from the North/South line East/West line Range County 1930 1975 **EAST** SAN JUAN 9 31 N 12 W SOUTH

Dedicated Acres Joint or Infill Consolidation Code | 15 Order No. 320.00 (E/2)

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED

	OR A NON-SIA	MIDINED CIVIL INIO DE	EEN APPROVED B	1 1110 01/10/01/
2595.19' 19	S 88°35'34" E 2641.84'  O = SURFACE LOCATION  • = BOTTOM HOLE LOCATION	S 88°36'45" E  NOTE: BEARINGS & DIS' SHOWN ARE REF TO THE NEW ME: COORDINATE SYS WEST ZONE, NAD	ERENCED Z: XICO 9 STEM, 8	17 OPERATOR CERTIFICATION  I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organisation either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
N 1°24'20" E	USA SF-078146	USA SF-0	78120-A	Signature Date Printed Name
2605.67	NAD 83 LAT: 36.9116153° N LONG: 108.0986938° W NAD 27 LAT: 36°54.69680' N LONG: 108°05.88397' W		3°23'09* W 99	18 SURVEYOR CERTIFICATION  I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my bettef.  6/11/09  Date of Survey  Signature and Secret recommendations are feet.
N 1°33'II" E	NAD 83 LAT: 36.9088928° N LONG: 108.0978770° W NAD 27 LAT: 36°54.53345' N LONG: 108°05.83496' W	N 87°27'23' W	1667' ★	17078 Certificate Number



BURLINGTON RESOURCES OIL & GAS COMPANY LP NEWBERRY 8B - 995' FSL & 1667' FEL (SURFACE LOCATION) 1975' FSL & 1930' FEL (BOTTOM HOLE LOCATION) SECTION 9, T-31-N, R-12-W, N.M.P.M., SAN JUAN COUNTY, N.M. GROUND ELEVATION: 6201 - DATE: JUNE 11, 2009

ELEVATION A-A'				€.		
6210						
6200					(; 11/; 17)	71.77
6190						
6180		·				
B-B'				ē		
6210			. ,			·
6200					1 111 1	7 1 7 7 7
6190						
6180						
c-c'				<u>ૄ</u>		
6210						
6200	. 7.	77 - 17 M	11 11 1	1 11 11		11111
6190						
6180			· · · · · · · · · · · · · · · · · · ·			

I'' = 50' - HORIZONTALI'' = 20' - VERTICAL

I ) CONTRACTOR SHOULD CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONST.

2.) UNITED FIELD SERVICES, INC IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES

SURVEYED: 06/11/09	REV. DATE:	APP. BY M.W.L.
DRAWN BY: L.B.	DATE DRAWN: 06/12/09	FILE NAME: 9306C01



P.O. BOX 3651 FARMINGTON, NM 87499 OFFICE: (505)334-0408

# Burlington Resources Oil & Gas Company, LP San Juan Basin Pit Design and Construction Plan

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

- BR will design and construct a properly sized and approved temporary pit which will contain liquids and solids and should prevent contamination of fresh water and protect public health and environment.
- Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration.
- 3. BR will sign the well location in compliance with 19.15.3.103 NMAC.
- 4. BR shall construct all new fences around the temporary pit utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post. Temporary pits will be fenced at all times excluding drilling or workover operations, when the front side of the fence will be temporarily removed for operational purposes.
- 5. BR shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure.
- BR shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot.
- 7.1 Pit walls will be walked down by a crawler type tractor following construction.
- 8. All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
- Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided.
- All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep.
- 11. BR will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used whenever possible. BR will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. BR will minimize the number of field seams in corners and irregularly shaped areas.
- 12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
- 13. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
- 14. The volume of the pit shall not exceed 10 acre-feet, including freeboard.
- 15. Temporary blow pits will be constructed to allow gravity flow to discharge into lined drill pit.
- 16. The lower half of the blow pit (nearest lined pit) will be lined with a 20-mil, string reinforced, LLDPE liner. The upper half of the blow pit will remain unlined as allowed in Rule 19.15.17.11 F.11.
- 17. BR will not allow freestanding liquids to remain on the unlined portion of a temporary blow pit.

### Burlington Resources Oil & Gas Company, LP San Juan Basin Maintenance and Operating Plan

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

- BR will operate and maintain a temporary pit to contain liquids and solids and maintain the integrity of the liner and liner system to prevent contamination of fresh water and protect public health and environment.
- 2. BR will conserve drilling fluids by transferring liquids to pits ahead of the rigs whenever possible. All other drilling fluids will be disposed at Basin Disposal Inc., permit # NM-01-005.
- 3. BR will not discharge or store any hazardous waste in any temporary pit.
- 4. If any pit liner's integrity is compromised, or if any penetration of the liner occurs above the liquid's surface, then BR shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner.
- 5. If a leak develops below the liquid's level, BR shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. BR shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks less than 25 barrels. BR shall notify the Aztec Division office 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.
- 6. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
- 7. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
- 8. BR shall immediately remove any visible layer of oil from the surface of the temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from the pit's surface. An oil absorbent boom will stored on-site until closure of pit.
- Only fluids generated during the drilling or workover process may be discharged into a temporary pit.
- 10. BR will maintain the temporary pit free of miscellaneous solid waste or debris.
- 11. During drilling operations, BR will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged in the IADC reports. BR will file this log with the Aztec Division office upon closure of the pit.
- 12. After drilling operations, BR will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at BR's office electronically and will be filed with the Aztec Division office upon closure of the pit.
- 13. BR shall maintain at least two feet of freeboard for a temporary pit.
- 14. BR shall remove all free liquids from a temporary pit within 30 days from the date the operator releases the drilling rig.
- 15. BR shall remove all free liquids from a cavitation pit within 48 hours after completing cavitation. BR may request additional time to remove liquids from the Aztec Division office if it is not feasible to remove liquids within 48 hours.

#### Burlington Resources Oil & Gas Company, LP San Juan Basin Closure Plan

In accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of temporary pits on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

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 pit closure. Closure report will be filed on C-144 and incorporate the following:

- Details on Capping and Covering, where applicable.
- Plot Plan (Pit Diagram)
- Inspection Reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

- 1. All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division—approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011).
- 2. The preferred method of closure for all temporary pits will be on-site burial, assuming that all the criteria listed in sub-section (B) of 19.15.17.13 are met.
- 3. The surface owner shall be notified of BR's closing of the temporary pit prior to closure as per the approved closure plan via certified mail, return receipt requested.
- Within 6 months of the Rig Off status occurring BR will ensure that temporary pits are closed, re-contoured, and reseeded.
- 5. 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
  - Location by Unit Letter, Section, Township, and Range. Well name and API number.
- 6. Liner of temporary pit shall be removed above "mud level" after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove "All" of the liner i.e., edges of liner entrenched or buried. All excessive liner will be disposed of at the San Juan County Landfill located on CR 3100.
- 7. Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.
- 8. A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul.

Components	Tests Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	` EPA 300.1	1000/500

- 9. Upon completion of solidification and testing standards being passed, the pit area will be backfilled with compacted, non-waste containing, earthen material. 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. If standard testing fails BR will dig and haul all contents pursuant to 19.15.17.13.i.a. After doing such, confirmation sampling will be conducted to ensure a release has not occurred.
- 10. During the stabilization process if the liner is ripped by equipment the Aztec OCD office will be notified within 48 hours and the liner will be repaired if possible. If the liner can not be repaired then all contents will be excavated and removed.
- 11. Dig and Haul Material will be transported to the Envirotech Land Farm located 16 miles south of Bloomfield on Angel Peak Road, CR 7175. Permit # NM010011
- 12. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Reshaping 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.
- 13. Notification will be sent to OCD when the reclaimed area is seeded.
- 14. 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 federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

Туре	Variety or Cultivator	PLS/A		
Western wheatgrass	Arriba	3.0		
Indian ricegrass	Paloma or Rimrock	3.0		
Slender wheatgrass	San Luis	2.0		
Crested wheatgrass	Hy-crest	3.0		
Bottlebrush Squirreltail	Unknown	2.0		
Four-wing Saltbrush	Delar	.25		

Species shall be planted in pounds of pure live seed per acre: Present Pure Live Seed (PLS) = Purity X Germination/100 Two lots of seed can be compared on the basis of PLS as follows:

Source No. One (poor quality) Source No. two (better quality) Purity 50 percent Purity 80 percent Germination 40 percent Germination 63 percent Percent PLS 20 percent Percent PLS 50 percent 5 lb. bulk seed required to make 2 lb. bulk seed required to make

1 lb. PLS 1 lb. PLS

15. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

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

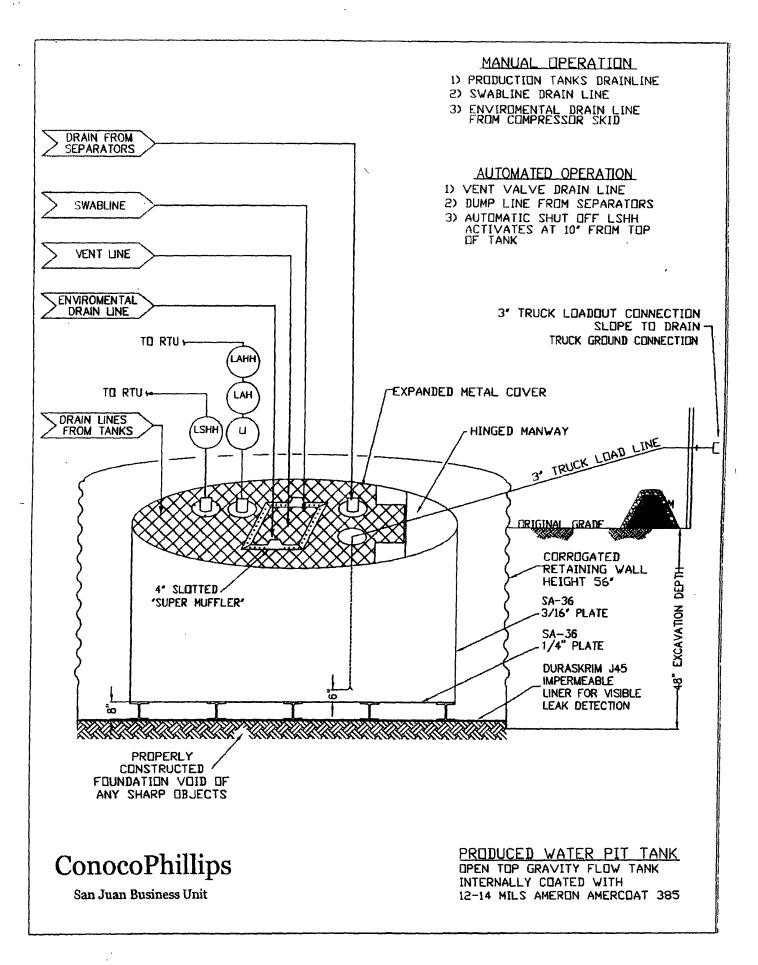
In accordance with NMAC 19.15.17 the following information describes the design and construction of below grade tanks on Burlington Resources Oil & Gas Company, LP (BR) locations. This is BR's standard procedure for all below grade tanks (BGT). A separate plan will be submitted for any BGT which does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

#### General Plan:

- BR will design and construct a properly sized and approved BGT which will
  contain liquids and should prevent contamination of fresh water to protect the
  public health and environment.
- 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.
- 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.

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- 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.



# DURA-SKRIM®

## 130,136 & 145

PROPERTIES	TEST METHOD	J30BB J36BB			J458 <b>B</b>			
		Min. Roll Averages	Typical Roll Averages	Min, Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages	
Appearance		Black/Black		Black/Black		Black/Black		
Thickness:	ASTM D 5199	27 mil	30 mil	32 mt	36 mil	40 mil	45 mil	
Weight Lbs Fer MSF (ozyd²)	ASTM D 5261	126 lbs (18,14)	140 lbs (20.16)	151 lbs (21.74)	168 lbs (24.19)	189 lbs (27.21)	210 lbs (30.24)	
Construction		**Extrusion laminated with encapsulated tri-directional scrim reinforcement						
Ply Adriesion	ASTM D 413	16 lbs	20 lbs	19 lbs	24 lbs	25 lbs	31 lbs	
1" Tanalla Strength	ASTM D 7003	88 lbf MD 63 lbf DD	110 lbf MD 79 lbf DD	90 lbf MD 70 lbf DD	113 lbf MD 87 lbf DD	110 lbf MD 84 lbf DD	138 lbf MD 105 lbf DD	
L Tensile Eigntation @ Break % (Film Break), c	ASTM D 7003	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	
1 Tensile Elongation @ Peak % (Scrim Break)	ASTM D 7003	20 MD 20 DD	33 MD 33 DD	20 MD 20 DD	30 MD 31DD	20 MD 20 DD	36 MD 36 DD	
Tongue Tear Strength	ASTM D 5884	75 lbf MD 75 lbf DD	97 (bf MD 90 lbf DD	75 lbf MD 75 lbf DD	104 lbf MD 92 lbf DD	100 lbf MD 100 lbf DD	117 lbf MD 118 lbf DD	
Grab Tensile	ASTM D 7004	180 lbf MD 180 lbf DD	218 lbf MD 210 lbf DD	180 lbf MD 180 lbf DD	222 lbf MD 223 lbf DD	220 lbf MD 220 lbf DD	257 lbf MD 258 lbf DD	
rapezoid Tear	ASTM D 4533	120 lbf MD 120 lbf DD	146 (bf MD 141 (bf DD	130 lbf MD 130 lbf DD	189 lbf MD 172 lbf DD	160 lbf MD 160 lbf DD	193 lbf MD 191 lbf DD	
Dimensional Stability	ASTM D 1204	<1	<0.5	<1	<0.5	<1	<0.5	
Puncture Resistance	ASTM D 4833	50 lbf	64 lbf	65 lbf	83 lbf	80 lbf	99 lbf	
Maximum Use Temperature		180° F	180° F	180° F	180° F	180° F	180° F	
Minimum Use Temperature		-70° F	-70° F	-70° F	-70° F	-70° F	-70° F	

MD = Machine Direction DD = Diagonal Directions



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

\*Dimensional Stability Maximum Value

\*\*DURA-SKRIM J308B, J368B & J458B 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 J308B, J368B & J458B are reinforced with a 1300 denier (minimum) tri-directional scrim reinforcement.

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



08/06

### RAVEN INDUSTRIES INC. EXPOSED GEOMEMBRANE LIMITED WARRANTY

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

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

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

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

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

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

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

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

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

RAVEN INDUSTRIES' WARRANTY RECOMES 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.

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

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

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

#### General Requirements:

- 1. BR shall close a below-grade tank within the time periods provided in Subsection A of 19.15.17.13 NMAC. This will include a) below-grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) permitted below-grade tanks within 60 days of cessation of the below-grade tank's operation., or c) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, BR will file the C144 Closure Report as required.
- 2. BR shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.
- 3. BR will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. Documentation of how the below-grade tank was disposed of or recycled will be provided in the closure report.
- 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 100 mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. 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.
- 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