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

State of New Mexico Energy Minerals and Natural Resources

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

July 21, 2008 For temporary pits, closed-loop sytems, and below-grade

Form C-144

tanks, submit to the appropriate NMOCD District Office.

For permanent pits and exceptions submit to the Santa Fe

District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505	appropriate NMOCD District Office.
1.211	Pit, Closed-Loop System, Below-Grade Tank, or
U 54 A Propo	osed 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
Type of action.	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 ap	pplication (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request
	f this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the eve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
Operator: Burlington Resources Oi	l & Gas Company, LP OGRID#: 14538
Address: PO Box 4289, Farmington	on, NM 87499
Facility or well name: SAN JUAN 2	27-4 UNIT 101P
API Number:	30-039- 3097\ OCD Permit Number:
U/L or Qtr/Qtr: O(SW/SE) Section	on: 28 Township: 27N Range: 4W County: Rio Arriba
Center of Proposed Design: Latitude	
Surface Owner: X Federal	State Private Tribal Trust or Indian Allotment
Permanent Emergency C  X Lined Unlined Li  X String-Reinforced  Liner Seams: X Welded X Fi  Closed-loop System: Subsect  Type of Operation: P&A  Drying Pad Above Ground Lined Unlined Line	Cavitation P&A iner type: Thickness 20 mil X LLDPE HDPE PVC Other  actory Other Volume: 7700 bbl Dimensions L 120' x W 55' x D 12'  tion H of 19.15.17.11 NMAC Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)  and Steel Tanks Haul-off Bins Other  trype: Thickness mil LLDPE HDPE PVD Other
X   Below-grade tank: Subsection   Volume: max 120   b     Tank Construction material:   Secondary containment with leak de   Visible sidewalls and liner   Liner Type: Thickness   45	telection X Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  Visible sidewalls only Other
Alternative Method: Submittal of an exception request is rec	quired. 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)  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.					
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)					
Signs: Subsection C of 19.15.17.11 NMAC  12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers  Signed in compliance with 19.15.3.103 NMAC					
Administrative Approvals and Exceptions:  Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.  Please check a box if one or more of the following is requested, if not leave blank:  X Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval.  (Fencing/BGT Liner)  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.					
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.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes	XNo			
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	Yes	XNo			
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	Yes	XNo			
(Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	□NA				
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	Yes X NA	No			
Within 500 horizonal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.	Yes	XNo			
<ul> <li>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site.</li> <li>Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended</li> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> </ul>	Yes	XNo			
Within 500 feet of a wetland US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	Yes	XNo			
Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division	Yes	X No			
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	Yes	X No			
Within a 100-year floodplain - FEMA map	Yes	XNo			

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				
X Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9				
X Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC				
X Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC				
X Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 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				
12				
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark 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 Operating and Maintenance Plan API				
13				
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 (I) 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.				
Trease inaccure, by a cineck mark in the box, that 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				
X   Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)				
X Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC				
Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC				
X Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC				

Form C-144 Oil Conservation Division Page 3 of 5

16 Waste Removal Closure For Closed-loop Systems That Utilize Above G	round Steel Tanks or Haul-off Bins Only:(19.15.17.13.D NMAC)					
Instructions: Please identify the facility or facilities for the disposal of liquid facilities are required.	ss, drilling fluids and drill cuttings. Use attachment if more than two	9				
Disposal Facility Name:	Disposal Facility Permit #:					
Disposal Facility Name:						
Will any of the proposed closed-loop system operations and associa Yes (If yes, please provide the information No	ted activities occur on or in areas that will nbe used for future	e service and				
Soil Backfill and Cover Design Specification - based upon the Re-vegetation Plan - based upon the appropriate requirements	Required for impacted areas which will not be used for future service and operations:  Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC  Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC					
17 Siting Criteria (Regarding on-site closure methods only: 19.15.17. Instructions: Each siting criteria requires a demonstration of compliance in the closur certain siting criteria may require administrative approval from the appropriate distructions for consideration of approval. Justifications and/or demonstrations of equivalents.	re plan. Recommendations of acceptable source material are provided belov ict office or may be considered an exception which must be submitted to the S					
Ground water is less than 50 feet below the bottom of the buried wa	ste.	Yes X No				
- NM Office of the State Engineer - iWATERS database search; USGS	: Data obtained from nearby wells	N/A				
Ground water is between 50 and 100 feet below the bottom of the bo	uried waste	Yes X No				
- NM Office of the State Engineer - iWATERS database search; USGS;	Data obtained from nearby wells	□N/A				
Ground water is more than 100 feet below the bottom of the buried	waste.	X Yes No				
- NM Office of the State Engineer - iWATERS database search; USGS;	Data obtained from nearby wells	N/A				
Within 300 feet of a continuously flowing watercourse, or 200 feet of any of (measured from the ordinary high-water mark).	her significant watercourse or lakebed, sinkhole, or playa lake	Yes XNo				
- Topographic map; Visual inspection (certification) of the proposed site	e					
Within 300 feet from a permanent residence, school, hospital, institution, or - Visual inspection (certification) of the proposed site; Aerial photo; sate	• •	Yes X No				
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the time of the initial application.  - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site  Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.						
<ul> <li>Written confirmation or verification from the municipality; Written ap</li> <li>Within 500 feet of a wetland</li> <li>US Fish and Wildlife Wetland Identification map; Topographic map;</li> </ul>	Yes X No					
Within the area overlying a subsurface mine.  - Written confirantion or verification or map from the NM EMNRD-Mi	Yes X No					
Within an unstable area Engineering measures incorporated into the design; NM Bureau of Geo		Yes XNo				
Topographic map Within a 100-year floodplain FEMA map		Yes X No				
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instruction by a check mark in the box, that the documents are attached.	rs: Each of the following items must bee attached to the clo	osure plan. Please indicate,				
X Siting Criteria Compliance Demonstrations - based upon the	appropriate requirements of 19.15.17.10 NMAC					
Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC						
Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC						
Construction/Design Plan of Temporary Pit (for in place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC						
X Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC						
Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC						
X Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC						
X   Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)						
X   Soil Cover Design - 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						

19 Onewater Application Conditions
Operator Application Certification:  I hereby certify that the information submitted with this application is true, against the best of my knowledge and belief.
Name (Print):    Marie E. Jarganillo   / Title: Staff Regulatory Technician,
Signature: Date: Date: Comparison of the compari
e-mail address:
20
OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)
OCD Representative Signature: Bransfor Fought Approval Date: 1/6/11
Approval Date: 175/1
OCD Representative Signature:   Suanglon Vonell   Approval Date: 1/5/11  Title: Ewino / Spec OCD Permit Number:
21
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure
report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.
Closure Completion Date:
22
Closure Method:
Waste Excavation and Removal On-site Closure Method Alternative Closure Method Waste Removal (Closed-loop systems only)
If different from approved plan, please explain.
23
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:  Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities
were utilized.
Disposal Facility Name: Disposal Facility Permit Number:
Disposal Facility Name: Disposal Facility Permit Number:
Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?
Yes (If yes, please demonstrate complilane to the items below)
Required for impacted areas which will not be used for future service and operations:
Site Reclamation (Photo Documentation)
Soil Backfilling and Cover Installation  Revergetation Application Rates and Seeding Technique
Re-vegetation Application Rates and Seeding Technique
24 <u>Closure Report Attachment Checklist:</u> Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in
the box, that the documents are attached.
Proof of Closure Notice (surface owner and division)
Proof of Deed Notice (required for on-site closure)
Plot Plan (for on-site closures and temporary pits)
Confirmation Sampling Analytical Results (if applicable)
Waste Material Sampling Analytical Results (if applicable)
Disposal Facility Name and Permit Number
Soil Backfilling and Cover Installation
Re-vegetation Application Rates and Seeding Technique
Site Reclamation (Photo Documentation)
On-site Closure Location: Latitude: Longitude: NAD 1927 1983
25
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is ture, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.
Name (Print): Title:
Signature: Date:
e-mail address: Telephone:



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

300255

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

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

(In feet)

Sub QQQ Depth Depth Water
POD Number basin Use County 6416 4 Sec Tws Rng X Y Well WaterColumn

SJ 01205 OIL RA 4 4 4 34 27N 04W

4044335\* 3054 750 2304

Average Depth to Water: 750 feet

Minimum Depth: 750 feet

Maximum Depth: 750 feet

**Record Count: 1** 

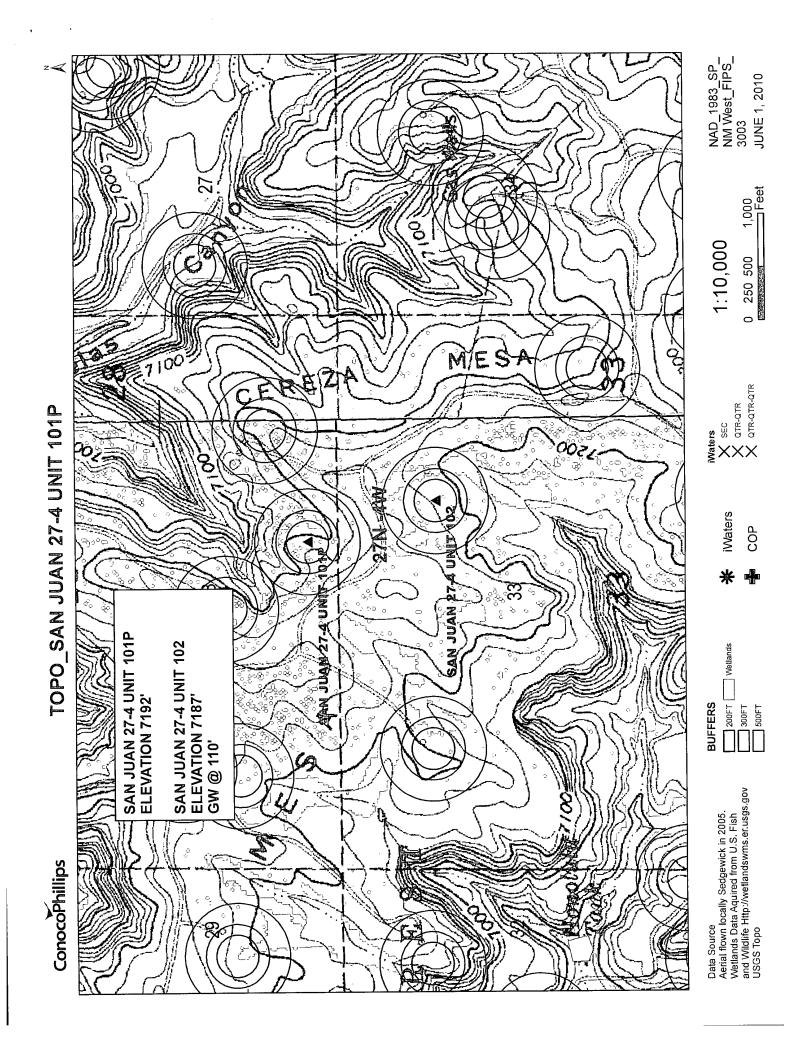
PLSS Search:

**Section(s):** 22, 21, 20, 29, 28, 27, 34, 33,

Township: 27N

Range: 04W

32



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

Operator Mekidian Oil Co Location: Unit B Sec. 33 Twp 27 Rng 4
Name of Well/Wells or Pipeline Serviced
SAN JUAN 27-4 CINIT 4/02
Elevation 7/87 Completion Date 10-5.92 Total Depth 440 Land Type F
Casing Strings, Sizes, Types & Depths Set 100 Of 8" PVC CASING
No Boulders, WATER, OF GAS WERE ENCOUNTERED During CASING 9133
If Casing Strings are cemented, show amounts & types used CemenTed  WITH 23 SACKS
If Cement or Bentonite Plugs have been placed, show depths & amounts used $NON\ell$
Depths & thickness of water zones with description of water: Fresh, Clear
Salty, Sulphur, Etc. Fresh water at 110'
Depths gas encountered: NONC
Ground bed depth with type & amount of coke breeze used: 440 65 Sacks  Of Loresco Type Sw.
Depths anodes placed: 390, 380, 370, 355, 310, 298, 288, 235, 225, 215, 205, 180, 140, 130, 17
Depths vent pipes placed: 336 on bottom (2) 5 0 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1
Vent pipe perforations: 325 on bottom
Remarks: JAN 31 1994
Oli Cora. DIV
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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.

### WELL LOCATION AND ACREAGE DEDICATION PLAT

alas

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

All distances must be from the outer boundaries of the Section Operator Well No. EL PASO NATURAL GAS COMPANY SAN JUAN 27-4 UNIT (SF-080675) 102 Unit Letter Section Township Ronge County 33 В 27-N L-W RIO ARRIBA Actual Footage Location of Well: 890 NORTH 1745 EAST line and feet from the Producing Formation Ground Level Elev. Dedicated Acreage 7187 320.00 -320.00 gres BASIN DAKOTA - BLANCO MESA VERD DAKOTA & MESA VERDE 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc? Unitization ☐ No If answer is "yes," type of consolidation If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.). No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commis-THIS PLAT IS REISSUED TO SHOW DUAL DEDICATION. 6-29-78 CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. 1745 11200 Drilling Clerk Elipaso Natural Gas Co. Mayen 12, 1979 I hereby certify that the well location THIS PLAT IS REISSUE NOTE: shown on this plat was plotted from field TO SHOW CORRECTED DAKOTA SF-080675 notes of actual surveys made by me or DEDICATION. 3-9-79 under my supervision, and that the same (N/2 DAKOTA E/2 MESA VERD is true and correct to the best of my knowledge and belief. Date Surveyed

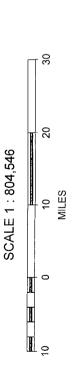
1500

2000

1320 1650

1980 2310

NAD\_1983\_SP\_ NM West\_FIPS\_ 3003 JUNE 1, 2010 1,000 \_\_\_Feet 1:10,000 0 250 500 AERIAL\_SAN JUAN 27-4 UNIT 101P 300FT SJB Tri City Outlines
1000FT CITY NAME
22 AZTEC
22 BLOOMFIELD
300FT CITY NAME
300FT CITY BUFFERS Data Source Aerial flown locally Sedgewick in 2005. Wetlands Data Aquired from U.S. Fish and Wildlife Http://wetlandswms.er.usgs.gov USGS Topo ConocoPhillips



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

The San Juan 27-4 unit 101P 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 FEMA Map for the subject well is unavailable due to its location being in the forest. FEMA does not provide floodplain information for Forest Service land. This well is not located near a wash or watercourse and is not in 100 year floodplain as visible on the topographic map. The Cathodic well data from the San Juan 27-4 Unit 102 has an elevation of 7187' and groundwater depth of 110'. The subject well has an elevation of 7192' which is greater than the San Juan 27-4 Unit 102, therefore the groundwater depth is greater than 115'. 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 San Jose formation will create a stable area for this new location.

#### Hydrogeological report for San Juan 27-4 Unit 101P

#### 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.

#### Jaramillo, Marie E

From:

Jaramillo, Marie E

Sent:

Wednesday, June 02, 2010 1:02 PM

To:

'jimmy\_dickerson@nm.blm.gov'; 'jreidinger@fs.fed.us'; 'mark\_kelly@nm.blm.gov' SURFACE OWNER NOTIFICATION 06/02/10 (2)

Subject:

Importance:

High

The subject well will have a temporary pit that will be closed on site. Please let me know if you have any questions. Thanks

#### SAN JUAN 27-4 UNIT 101P

Marie Jaramillo Staff Regulatory Tech. **ConocoPhillips** Office # (505) 326-9865 Fax # (505) 599-4062 mailto:marie.e.jaramillo@conocophillips.com District I

1625 N. French Dr., Hobbs, NM 88240

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410 District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

# State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 7 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> A	PI Number		2 Pool Code 3 Pool Name DAKOTA / MESAVERDE				DE .			
<sup>4</sup> Property Cod	e	5 Property Name SAN JUAN 27-4 UNIT						6 Well Number 101P		
7 OGRID No	).	8 Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP						<sup>9</sup> Elevation 7192		
					<sup>10</sup> SURFACE	LOCATION				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West 1	ine	County
0	28	27-N	4-W		255	SOUTH	2150	EAST	•	RIO ARRIBA
			<sup>11</sup> F	Bottom H	ole Location	If Different Fro	m Surface	-		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West 1	ine	County
Dedicated Acres 320.00	13 Joint	or Infill	4 Consolidation	a Code	Order No.			i		· · · · · · · · · · · · · · · · · · ·

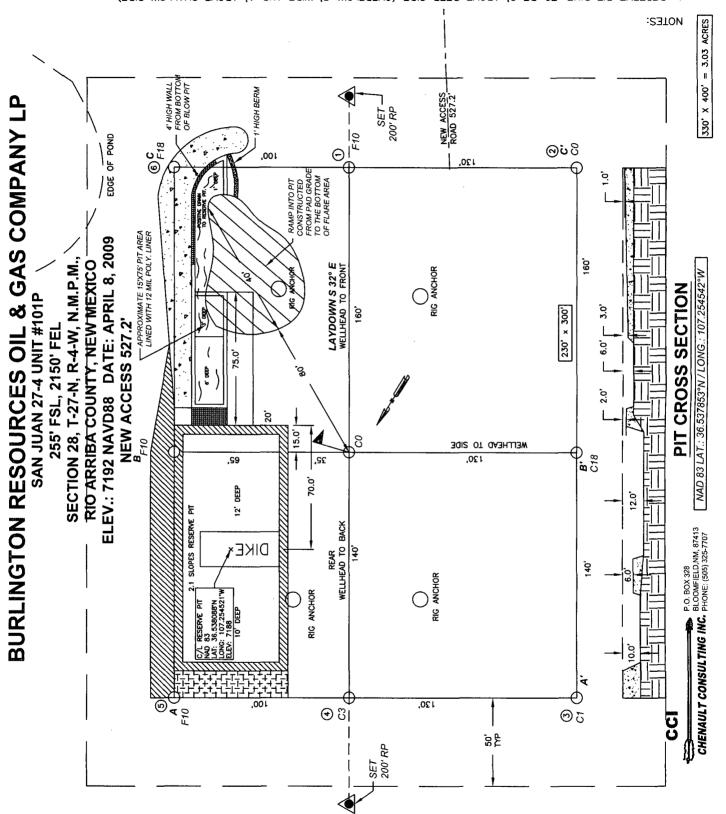
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16			5280.0' (R)	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 organization 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 .  Signature  Printed Name  Title and E-mail Address
				Date  18 SURVEYOR CERTIFICATION
		E/2 DEDICATED ACREAGE USA SF-080675 SECTION 28, T-27-N, R-4-W	·	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 belief.  Date of Survey: 4/8/09 Signature and Seal of Professional Surveyor
L EAST	WELL FLAG NAD 83 LAT: 36.537853° N LONG: 107.254542° W NAD 27 LAT: 36°32.270586' N ONG: 107°15.236611' W	255'	원 <b>2150'</b> 5260.2' (R)	Certificate Number: NM 11393

2. C.C.I. SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CALL ONE—CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED
PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

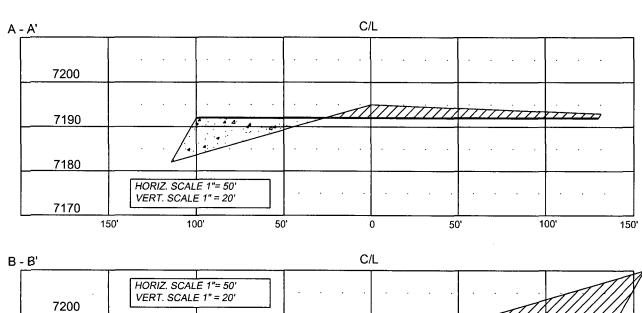
1. RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW-3' WIDE AND 1' ABOVE SHALLOW SIDE).

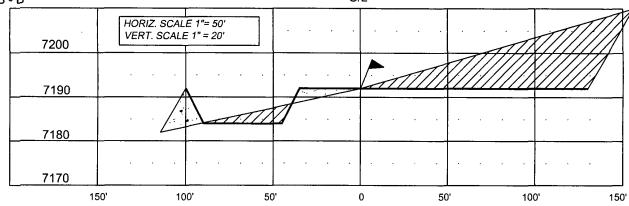


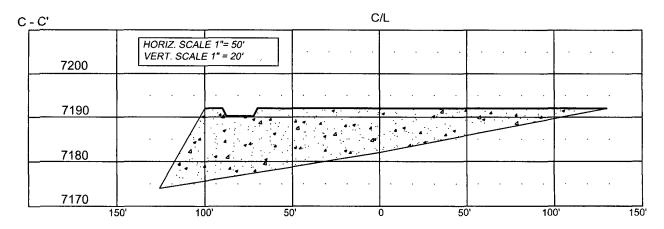
#### **BURLINGTON RESOURCES OIL & GAS COMPANY LP**

**SAN JUAN 27-4 UNIT #101P** 255' FSL, 2150' FEL SECTION 28, T-27-N, R-4-W, N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO

**ELEV.: 7192 NAVD88** 







NOTE: CCI IS NOT LIABLE FOR UNDERGROUND UTILITIES

CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD PRIOR TO CONSTRUCTION.

	REVIS	SIONS	
NO.	DESCRIPTION	REVISED BY	DATE
1	ISSUED FOR REVIEW	LH	4/23/09
$\neg \uparrow$			<del>                                     </del>
$\vdash$			<b>↓</b>

CCI

P.O. BOX 328 BLOOMFIELD,NM, 87413 PHONE: (505) 325-7707

CHENAULT CONSULTING INC.

# 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.

- 1. 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.
- 6. BR shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot.
- 7. 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.
- 9. 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) <del>500</del> ~		

- 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:

	ou oun no companda	on the back of	<b>E</b> 0 0 . 0 . 10 11 0 1			
Source No. On	e (poor quality)	Source No. tw	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 see	d 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

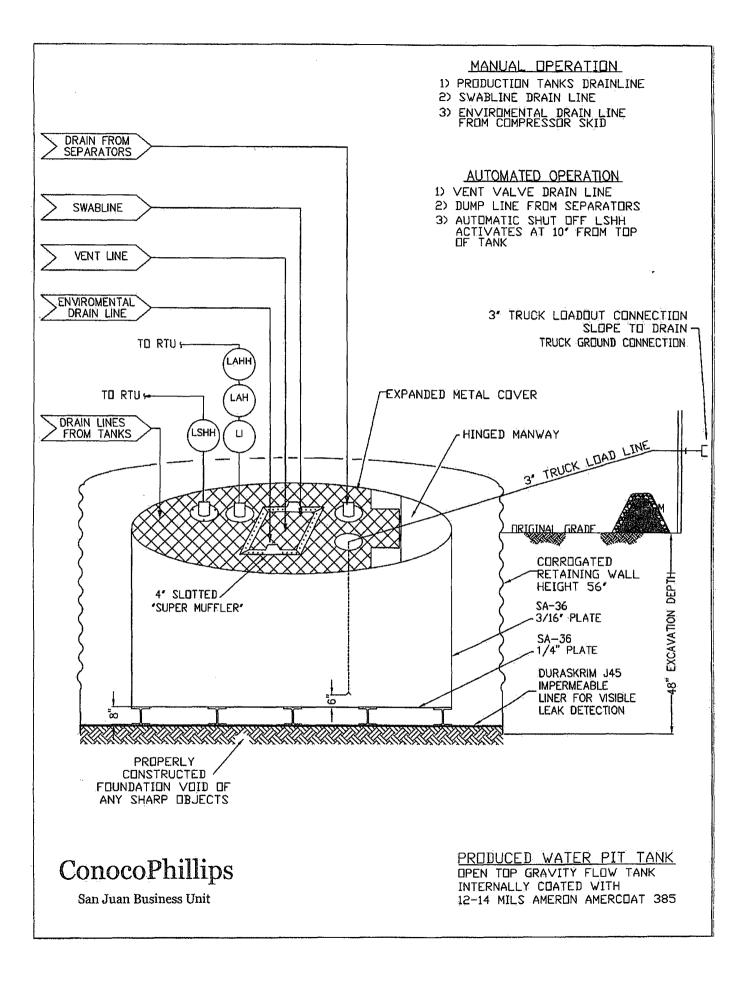
onsite burial location.

#### 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.

- 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.
- The general specification for design and construction are attached in the BR document.



### DURA-SKRIM®

## J30, J36 & J45

PROPERTIES	TEST METHOD	J30BB		J36BB		: J45BB -	
	,	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 mil	36 mil	40 mil	45 rail
Weight Lbs Per MSF (oz/yd²)	ASTM D 5261	126 lbs (18.14)	140 lbs (20.16)	151 lbs (21.74)	168 lbs (24.19)	189 lbs (27.21)	210 lbs (30.24)
Construction		**Extrusion laminated with encapsulated tri-directional scrim reinforcement					
Ply Adhesion	ASTM D 413	16 lbs	20 lbs	19 lbs	24 lbs	25 lbs	31 lbs
1" Tensile Strength	ASTM D 7003	88 lbf MD 63 lbf DD	110 lbf MD 79 lbf DD	90 lbf MD 70 lbf DD	113 lbf MD 87 lbf DD	110 lbf MD 84 lbf DD	138 lbf MD 105 lbf DD
1" Tensile Elongation @ Break % (Film Break)	ASTM D 7003	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD
1 Tensile Elongation @ Reak % (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 (bf DD	75 lbf MD 75 lbf DD	104 lbf MD 92 lbf DD	100 lbf MD 100 lbf DD	117 lbf MD 118 lbf DD
Grab Tensile	ASTM D 7004	180 lbf MD 180 lbf DD	218 lbf MD 210 lbf DD	180 lbf MD 180 lbf DD	222 lbf MD 223 lbf DD	220 lbf MD 220 lbf DD	257 lbf MD 258 lbf DD
Trapezoid Tear	ASTM D 4533	120 lbf MD 120 lbf DD	146 lbf MD 141 lbf DD	130 lbf MD 130 lbf DD	189 lbf MD 172 lbf DD	160 lbf MD 160 lbf DD	193 lbf MD 191 lbf DD
* Dimensional Stability	ASTM D 1204	<1	<0.5	<1	<0.5	<1	<0.5
Puncture Resistance	ASTM D 4833	50 lbf	64 lbf	65 lbf	83 lbf	80 lbf	99 lbf
Maximum Use Temperature		180° F	180° F	180° F	180° F	180° F	180° F
Minimum Use Temperature		-70° F	-70° F	-70° F	-70° F	-70° F	-70° F

MD = Machine Direction DD = Diagonal Directions



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

\*Dimensional Stability Maximum Value

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

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

PLANT LOCATION

Sioux Falls, South Dakota

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

SALES OFFICE

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. These dates will be updated prior to December 31, 2008.

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

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

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

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

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

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

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

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

- 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.
- 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 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
  - Location by Unit Letter, Section, Township, and Range. Well name and API number.
- 9. The surface owner shall be notified of BR's closing of the below-grade tank prior to closure as per the approved closure plan via certified mail, return receipt requested.
- 10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 11. BR shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will used on federally jurisdicted lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. BR will repeat seeding or planting will be continued until successful vegetative growth occurs.
- 12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
- 13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the belowgrade tank. Closure report will be filed on C-144 and incorporate the following:
  - Soil Backfilling and Cover Installation
  - Re-vegetation application rates and seeding techniques
  - Photo documentation of the site reclamation
  - Confirmation Sampling Results
  - Proof of closure notice.