Bale II     State of New Mexco     July 21, 00       Bis N. Francisz, M. Statu     Department     July 21, 00       Bis M. Den B. A. Anex, MM 1940     Department     Status The New Mexco       Dig Den Barnes M. A. Anex, MM 1940     Status The, NM 87505     For transcent pict data backgrade       Dig Den Barnes M. A. Anex, MM 1940     Status The, NM 87505     For transcent pict and receptions status to the Sanz The Environmental Manace affect and provide any in the environmental Manace affect and provide affect and any interview of the environmental Manace affect and provide affect and provide affect and any environmental manace affect and provide affect any environmental manace affect and provide affect any environmental manace affect and provide any environmental manace affect and provide affect any environmental manace affect and provide affect any environmental manace affect and provide affect any environmental manaffect and provide affect any envinte			
Bardier Are, Anera, NM 8210     Bardier Are, Anera, Aner	District I	State of New Mexico	Form C-144
	District II	Energy Minerals and Natural Resources	For temporary pits, closed-loop sytems, and below-grade
instant       1220 South St. Francis Dr. Santa Fe, NM 87305         DB Rb Borts Ad. Amer. NN 8740       Fer permanent pits and exceptions submit to the Sama Fe Excitonmental libera affec and provide a ceypt to be reperture NROCO During Office and provide a ceypt to be provide a NROCO State Fe. NM 87305         DB Rb Borts Ad. Amer. NN 8740       Fit. Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application         Type of action:       Bermit 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 of a pit. closed-loop system, below-grade tank, or proposed alternative method Modification on an existing permited or nan-permitted pit, closed-loop system, below-grade tank, or proposed alternative method         Instructions:       Plants and exceptions within production scolin political of the search and accord a discretion request without the search and accord alternative method         Instructions:       Rese to should alternative discretion scolin political of these wate, grand wate or the environmet. No dost appoint alternative method search and accord alternative method method political as appoint alternative method.         Instructions:       Bud 12805       OCD Permit Number:         More 4289.       Formigneton, NM 87499         hacklifty or well name:       EAST 20         PM Number:       300452055       OCD Permit Number:         More 4289.       Statis [Privata] [Trill NMAC	1301 W. Grand Ave., Artesia, NM 88210	Oil Conservation Division	tanks, submit to the appropriate NMOCD District Office.
D00 Rule Ruse Ref. Are: NMS 37400       Santa Fe, NM 87505       Prepresentation and exception addite the Stars Fe for information at a matching the stars for discontensistic additional fragments and the stars additional additional fragments and the stars additional discontensistic additional discontensisti additionaddis additional discontensistic additional di	District III	1220 South St. Francis Dr.	
	1000 Rio Brazos Rd., Aztec, NM 87410	Santa Fe, NM 87505	For permanent pits and exceptions submit to the Santa Fe
Parkes Inf. stature Vision       Pit. Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application         Type of action:       Permit of a pit. (closed-loop system, below-grade tank, or proposed alternative method	District IV		appropriate NMOCD District Office.
Proposed Alternative Method Permit or Closure Plan Application         Type of action:	220 S. St. Halles DL, Salita Pe, NM 87505	Pit Closed-Loon System Below-Grad	e Tank or
Thype of action: <pre></pre>	Propo	sed Alternative Method Permit or Closur	e Plan Application
Type of action:       X       Yer method         Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method       Oddification to an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method         Instruction::       Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank, or proposed alternative method         Instruction::       Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request         Please ta absized tank, or proposed alternative method       Construction: Please submit one applicate generator of tability-shaded generators result in policities (sequence) and water of the environments have for the sequence) and water of the environment stark or adjustment.         Operator:       Burlington Resources Oil & Gas Company, LP       OGRID#: 14538         uddress:       To Bast 2289. Farmington, NM 87499       County: San Juan         actility or well name:       EAST 20         PFI Number:       3004520555       OCD Permit Number:         Jor of QU(2):       G       Section:       26         Jor of QU(2):       G       Section:       26       Township:         Jor of QU(2):       G       Section:       26       Township:         Jor of QU(2):       G       Section:       26       Township:       JN       Range:	11000		
Gosare of a pic. closed-foop system, below-grade tank, or proposed alternative method     Gosare of a pic. closed-foop system, below-grade tank, or proposed alternative method     Gosare of a only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method     Instructions: Flease submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request     Paese is adviated that append to this request does not relieve the operator of lubitly thod operators result in pollution of sufficiency of the applicable performance of automative request     perator:     Burlington Resources OII & Gas Company, LP     OGRID#: 14538     OGRID#: 14538     defense:	Type of action:	<b>X</b> Permit of a pit, closed-loop system, below-grade ta	ink, or proposed alternative method
		Closure of a pit, closed-loop system, below-grade	ank, or proposed alternative method
		Modification to an existing permit	
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request         Please bashed that approval of this request dues not relieve the operator of thisling should operators result in pollution of universe.         OGRID#: 14538		Closure plan only submitted for an existing permit below-grade tank, or proposed alternative method	ted or non-permitted pit, closed-loop system,
Please be advected that approval of this requests due not relieve the operator of the billity should operations treat in treat in the due supervalue and vector the environment. Not due support of the requestor of its responsibility to couply with any other applicable governmental authority's rules, regulations or ordinances.         Operator:       Burlington Resources Oil & Gas Company, LP       OGRID#:       14538         otheress:       PO Box 4239, Farmington, NM 87499       County:       San Juan         actility or well name:       EAST 20       County:       San Juan         VPI or Qtr/Qtr:       C       Section:       26.70 wnship:       31N       Range:       12W       County:       San Juan         Planter of Proposed Design:       Latitude:       36.87219*N       Longitude:       108.06342*W       NAD       NAD       ND [9127]       1983         urface Owner:       IX       Federal       State       Private       Tribal Trust or Indian Allotment         Enter of Proposed Design:       Latitude:       36.87219*N       Longitude:       108.06342*W       NAD       Indian         State:       Prederal       State:       Private:       Tribal Trust or Indian Allotment         Enter of or O of 19.15.17.11 NMAC       Temporary:       Dolling:       Liner type:       Thickness:       miii       LUDPE       PVC       Other <td>Instructions: Please submit one</td> <td>application (Form C-144) per individual pit, closed-loo</td> <td>p system, below-grade tank or alternative request</td>	Instructions: Please submit one	application (Form C-144) per individual pit, closed-loo	p system, below-grade tank or alternative request
envienment. Nor des approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.           Deprator:       Surflington Resources Oil & Gas Company, LP       OGRID#:       14538         OBCN 4259, Farmington, NM 87499       acility or well name:       EAST 20         PI Number:       3004520555       OCD Permit Number:         J. or Qirt/Qit:       G       Section:       26         Torophysical Design:       Latitude:       36.87219"N       Longitude:       108.06342"W       NAD:       X 1927       1983         urface Owner:       X       Federal       State       Private       Tribal Trust or Indian Allotment         PHL       Subsection P or G of 19.15.17.11 NMAC       Trust or Indian Allotment       String-Reinforced         Liner Stams:       Welded       Factory       Other	Please be advised that approval	of this request does not relieve the operator of liability should operations re-	esult in pollution of surface water, ground water or the
operator:       Burlington Resources Oil & Gas Company, LP       OGRID#:       14533         oddress:       PO Box 4289, Farmington, NM 87499         acility or well name:       EAST 20         PN Number:       3004520555       OCD Permit Number:         .//L or Qtr/Qtr:       G       Section:       26         .//L or Qtr/Qtr:       G       Section:       26       Township:       31N       Range:       12W       County:       San Juan         enter of Proposed Design:       Latitude:       36.87219°N       Longitude:       108.06342°W       NAD:       NAD:       N1927       1983         urface Owner:       Image:       Federal       State       Private       Tribal Trust or Indian Allotment         PH:       Issection F or G of 19.15.17.11 NMAC       Energencay:       Closed-Joop System:       Subsection H of 19.15.17.11 NMAC         Ppermaent:       Energencay:       Other	environment. Nor does approval re	lieve the operator of its responsibility to comply with any other applicable	governmental authority's rules, regulations or ordinances.
deferse:       Deferse: <td< td=""><td>nerator: Burlington Resources O</td><td>hil &amp; Gas Company, LP</td><td>OGRID# 14538</td></td<>	nerator: Burlington Resources O	hil & Gas Company, LP	OGRID# 14538
APPL Decomposition       Image: 1000000000000000000000000000000000000	Address: PO Boy 4289 Farmingt	on NM 87499	1400
Acting to Work match:       DENDT 20         API Number:       3004520555       OCD Permit Number:         J. or Qtr/Qtr:       G       Section:       26         J. or Qtr/Qtr:       G       Section:       12W       County:         Subsection F or G of 19.15.17.11 NMAC       Trust or Indian Allotment         Permanent       Emergency       Cavitation       P&A         Lined       Unlined       Liner type:       Thickness       mil       LLDPE       HDPE       PVC       Other	Facility or well name: EAST 20		
Yer Number:	A DI Number	2004F20FFFF	
7/L or QITCQIT:			
Achter of Proposed Design:       Latitude:       36.8/219*N       Longutude:       108.46.542*W       NAD:       X[1927]       [1927]       [1983]         wirface Owner:       X       Federal       State       Private       Tribal Trust or Indian Allotment         Pits       Subsection F or G of 19.15.17.11 NMAC         Temporary:       Drilling       Workover         Permanent       Emergency       Cavitation       P&A         Subsection H or G of 19.15.17.11 NMAC       Increases:       mil       LLDPE       HDPE       PVC       Other         Subsection B or G of Operation:       P&A       mil       LLDPE       HDPE       PVC       Other	D/L or Qtr/Qtr: <u>G</u> Sect	ion: <u>26</u> Township: <u>31N</u> Range: <u>1</u>	2W County: San Juan
utrace OWner:       X       Pederal       State       Private       Infloat Trust of Holian Anothemi         Pit:       Subsection F or G of 19.15.17.11 NMAC         Temporary:       Drilling       Workover         Permanent       Energency       Cavitation       P&A         Lined       Unlined       Liner type:       Thickness       mil       LLDPE       HDPE       PVC       Other         String-Reinforced       String-Reinforced       Image: Subsection H of 19.15.17.11 NMAC       trust of rules       bbl       Dimensions L       x W       x D         Closed-loop System:       Subsection H of 19.15.17.11 NMAC       Type of Operation:       P&A       Drilling a new well       Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)         Drying Pad       Above Ground Steel Tanks       Haul-off Bins       Other	Lenter of Proposed Design: Latitud	e: <u>36.87219°N</u> Longitude:	108.06342°W NAD: X 1927 1983
Pft:       Subsection F or G of 19.15.17.11 NMAC         Temporary:       Drilling       Workover         Permanent       Emergency       Cavitation       P&A         Lined       Unlined       Liner type:       Thickness       mil       LLDPE       HDPE       PVC       Other         String-Reinforced	Surface Owner: X Federal	State Private India Trust of India	
Closed-loop System:       Subsection H of 19.15.17.11 NMAC         Type of Operation:       P&A       Drilling a new well       Morkover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)         Drying Pad       Above Ground Steel Tanks       Haul-off Bins       Other         Lined       Unlined       Liner type:       Thickness       mil       LLDPE       HDPE       PVD       Other         Liner Seams:       Welded       Factory       Other	Temporary:       Drilling       Wo         Permanent       Emergency       Image: Compare the second seco	orkover Cavitation P&A Liner type: Thickness mil LLDPE Factory Other Volume:	HDPE PVC Other bbl Dimensions Lx Wx D
X       Below-grade tank:       Subsection I of 19.15.17.11 NMAC         Volume:       120       bbl       Type of fluid:       Produced Water         Tank Construction material:       Metal         Secondary containment with leak detection       X Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off         Visible sidewalls and liner       Visible sidewalls only       Other         Liner Type:       Thickness       mil       HDPE       PVC       X Other       Unspecified         Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.         Form C-144       Oil Conservation Division       Page 1 of 5	Closed-loop System: Subsection: P&A Closed-loop System: Subsection: P&A Drying Pad Above Gro Lined Unlined Line Liner Seams: Welded I	ction H of 19.15.17.11 NMAC Drilling a new well Workover or Drilling (Applies to notice of intent) und Steel Tanks Haul-off Bins Other ter type: Thickness mil LLDPE H Factory Other	activities which require prior approval of a permit or
Alternative Method:     Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.     Form C-144     Oil Conservation Division     Page 1 of 5	4       X       Below-grade tank:       Subsection         Volume:       120         Tank Construction material:	h I of 19.15.17.11 NMAC bbl Type of fluid: <u>Produced Water</u> <u>Metal</u> detection X Visible sidewalls, liner, 6-inch lift and auto Visible sidewalls only Other mil HDPE PVC X Other U	omatic overflow shut-off
Form C-144 Oil Conservation Division Page 1 of 5	5 Alternative Method: Submittal of an exception request is re	equired. Exceptions must be submitted to the Santa Fe Environ	nmental Bureau office for consideration of approval.
	Form C-144	Oil Conservation Division	Page 1 of 5

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<ul> <li>6</li> <li>Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pit, temporary pits, and below-grade tanks)</li> <li>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, in         Four foot height, four strands of barbed wire evenly spaced between one and four feet         X Alternate. Please specify <u>4' hog wire fencing topped with two strands barbed wire.</u> </li> </ul>	stitution or clu	(rch)
7       Netting:       Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open-top tanks)         X       Screen       Netting       Other        Monthly inspections (If netting or screening is not physically feasible)		
8         Signs:       Subsection C of 19.15.17.11 NMAC         12" X 24". 2" lettering, providing Operator's name, site location, and emergency telephone numbers         X Signed in compliance with 19.15.3.103 NMAC		
9 <u>Administrative Approvals and Exceptions:</u> Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance. <i>Please check a box if one or more of the following is requested, if not leave blank:</i> X         Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for contended (Fencing/BGT Liner)         Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	sideration of a	pproval.
10 <u>Siting Criteria (regarding permitting)</u> : 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	<b>NA</b>	
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 XNA	No
Within 500 horizonal feet of a private, domestic fresh water well or spring that less than five bouseholds use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.	Yes	XNo
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site.		
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended	Yes	XNo
<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>	Yes	XNo
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division	Yes	XNo
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society: Topographic map	Yes	XNo
Within a 100-year floodplain - FEMA map	Yes	XNo

11 <u><b>Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Checklist:</b></u> 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	
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	
Solution Plan has adjunce the appropriate requirements of 10.15.17.11 NMAC	
Design that - based upon the appropriate requirements of 19.15.17.11 NMAC	
Operating and Manierance Fian - 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	
Previously Annroved Design (attach conv of design)	
Previously Approved Design (attach copy of design)     AP1	
Interiously Approved Operating and Maintenance Plan 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 (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         Quality Control/Quality Assurance Construction and Installation Plan         Operating and Maintenance 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	
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:       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)         On-site Closure Method (only for temporary pits and closed-loop systems)         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 Conturnation 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	
X Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC	

16 <u>Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Ta</u> Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluid are required.	anks or Haul-off Bins Only: (19.15.17.13.D NMAC) Is and drill cuttings. Use attachment if more than two fe	icilities					
Disposal Facility Name: Di	sposal Facility Permit #:						
Disposal Facility Name: Di	sposal Facility Permit #:						
Will any of the proposed closed-loop system operations and associated activities or Yes (If yes, please provide the information No	cur on or in areas that will not be used for future se	ervice and operations?					
Required for impacted areas which will not be used for future service and operations: Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	equirements of Subsection H of 19.15.17.13 NMAG 1 of 19.15.17.13 NMAC tion G of 19.15.17.13 NMAC						
17 <u>Siting Criteria (Regarding on-site closure methods only:</u> 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recon- certain siting criteria may require administrative approval from the appropriate district office or ma- for consideration of approval. Justifications and/or demonstrations of equivalency are required. Plan for consideration of approval.	nmendations of acceptable source material are provided belo whe considered an exception which must be submitted to the lease refer to 19.15.17.10 NMAC for guidance.	w. Requests regarding changes to Santa Fe Environmental Bureau office					
Ground water is less than 50 feet below the bottom of the buried waste.		Yes No					
<ul> <li>NM Office of the State Engineer - iWATERS database search: USGS: Data obtained</li> </ul>	from nearby wells	N/A					
Ground water is between 50 and 100 feet below the bottom of the buried waste		Yes No					
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained	from nearby wells						
Ground water is more than 100 feet below the bottom of the buried waste.							
- 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 significant (measured from the ordinary high-water mark).	watercourse or lakebed, sinkhole, or playa lake	Yes No					
- Topographic map; Visual inspection (certification) of the proposed site							
Within 300 feet from a permanent residence, school, hospital, institution, or church in existe - Visual inspection (certification) of the proposed site: Aerial photo: satellite image	ence at the time of initial application.	Yes No					
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than fiv purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence • NM Office of the State Engineer - iWATERS database: Visual inspection (certification	e households use for domestic or stock watering at the time of the initial application. a) of the proposed site	Yes No					
<ul> <li>Within incorporated municipal boundaries or within a defined municipal fresh water well for pursuant to NMSA 1978, Section 3-27-3, as amended.</li> <li>Written confirmation or verification from the municipality: Written approval obtained</li> </ul>	eld covered under a municipal ordinance adopted	Yes No					
Within 500 feet of a wetland		Yes No					
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspectio	n (certification) of the proposed site						
Within the area overlying a subsurface mine.		Yes No					
- whiten contraintion or ventication or map from the NM EMNRD-Mining and Miner.	al Division						
<ul> <li>Engineering measures incorporated into the design: NM Bureau of Geology &amp; Mineral Topographic map</li> </ul>	Resources; USGS; NM Geological Society;						
Within a 100-year floodplain. - FEMA map		Yes No					
18 On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of th by a check mark in the box, that the documents are attached.	e following items must bee attached to the closure	plan. Please indicate,					
Siting Criteria Compliance Demonstrations - based upon the appropriate requ	uirements 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 app	propriate requirements of 19.15.17.11 NMAC						
Construction/Design Plan of Temporary Pit (for in place burial of a drying pa Protocols and Procedures - based upon the appropriate requirements of 19.15	ad) - based upon the appropriate requirements of 19 5.17.13 NMAC	15.17.11 NMAC					
Confirmation Sampling Plan (if applicable) - based upon the appropriate requ	irements of Subsection F of 19.15.17.13 NMAC						
Waste Material Sampling Plan - based upon the appropriate requirements of	Subsection F of 19.15.17.13 NMAC						
Disposal Facility Name and Permit Number (for liquids, drilling fluids and dr	rill cuttings or in case on-site closure standards can	not be achieved)					
Soil Cover Design - based upon the appropriate requirements of Subsection H	Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC						
I Re-vegetation Plan - based upon the appropriate requirements of Subsection	Lot 19 15 17 13 NMAC						

19			
Operator Application C	ertification:		
Hereby certify that the info	rmation submitted with this application is true, acc	rurate and complete to the	best of my knowledge and belief.
Name (Print):	Crystal Fafoya	Title:	Regulatory Technician
Signature:	Crotal Talena	Date:	12/22/2008
e-mail address:	ny stat tamvasiknonecophillus opr	Telephone:	505-326-9837
20			
OCD Approval: Pe	rmit Application (including closure plan)	Closure Plan (only)	OCD Conditions (see attachment)
OCD Representative Sig	,nature:		Approval Date:
Title:		OCD Pern	nit Number:
21			
Closure Report (require	ed within 60 days of closure completion); Su	bsection K of 19.15.17.13 NMAC	c
Instructions: Operators are	required to obtain an approved closure plan prior	to implementing any close	ure activities and submitting the closure report. The closure
report is required to be sub-	nitted to the division within 60 days of the complet	ion of the closure activitie	s. Please do not complete this section of the form until an
approved closure plan has b	een obtained and the closure activities have been i	completed.	
		Closure	e Completion Date:
77	<u></u>		
Closure Method:			
Waste Excavation ar	ad Removal On-site Closure Method	Alternative Closure	Method Waste Removal (Closed-loop systems only)
If different from ann	roved plan, please explain		
	Tored plan, praze explain.		
23			
Closure Report Regarding	Waste Removal Closure For Closed-loop System	ns That Utilize Above Gr	round Steel Tanks or Haul-off Bins Only:
were utilized.	The factury of facturies for where the liquids, art	uing jiulas ana artii cum	ngs were alsposea. Use allachment if more than two facilities
Disposal Facility Name:		Disposal Facility	Permit Number:
Disposal Facility Name:		Disposal Facility	Permit Number
Were the closed-loon sys	tem operations and associated activities performed	on or in areas that will no	t be used for future service and opeartions?
Yes (If yes, please de	emonstrate complilane to the items below)	No	
Required for impacted at	rais which will not be used for future service and a	mentions	
Site Reclamation (P)	noto Documentation)	<i>perunna.</i>	
Soil Backfilling and	Cover Installation		
Re-vegetation Applic	cation Rates and Seeding Technique		
Closure Report Attac	hment Checklist: Instructions: Each of the fol	lowing items must be atta	ched to the closure report. Please indicate by a check mark in
the box, that the docume	nis are attached.		the control of the control of the case indicate, by a check mark in
Proof of Closure N	otice (surface owner and division)		
Proof of Deed Noti	ce (required for on-site closure)		
Plot Plan (for on-si	te closures and temporary pits)		
Confirmation Same	oling Analytical Results (if applicable)		
Waste Material Sar	moling Analytical Results (if applicable)		
Disposal Facility N	ame and Permit Number		
Soil Backfilling and	d Cover Installation		
Be vegetation Appl	lication Pates and Seeding Technique		
	Photo Documentation		
	-noto Documentation)	t and the tax	
Un-site Closure Lo	cation: Lamude:	Longitude:	NAD [ 1927 [ 1983
25			
Operator Closure Certifi	cation:		
I hereby certify that the infor	mation and attachments submitted with this closur	e report is ture, accurate a	and complete to the best of my knowledge and belief. I also certify that
the closure complies with all	applicable closure requirements and conditions sp	pecified in the approved cli	osure plan.
Name (Print):		Title:	
Signature:		Date:	
e-mail address:		Telephone:	

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· New Mexico Office of the State Engineer



### WATER COLUMN REPORT 12/08/2008

(สุน	arter	s are	e 1=ì	W	2=	=NE	3=SW 4=SE)					
(qu	arter	s are	e big	gge	st	to to	smallest)			Depth	Depth	Wate
POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Well	Water	Colu
SJ 03488	31N	12W	01	3	3	2				150		
SJ 03738 POD1	31N	12W	01	4	1	3				115	50	٤
SJ 02034	31N	12W	01	4	3					85	5.5	3
SJ 03134	31N	12W	01	4	3	2				80	20	E
SJ 03022	31N	12W	01	4	3	2				490	250	24
SJ 01660	31N	12W	01	4	3	3				320	275	Ĺ
SJ 01649	31N	12W	01	4	3	4				220	161	Ę
SJ 03660	31N	12W	01	4	3	4				70	42	2
SJ 02099	31N	12.W	01	4	4					95		
SJ 02904	31N	12W	08	4	4	4				325	142	18
SJ 03026	31N	12W	24	4	3	4				140	85	Ę
SJ 01477	31N	12W	25	2						565	505	E
SJ 01163	31N	12W	25	2	1	3				200	90	11
SJ 01108	31N	12W	25	2	1	4				245	90	15
SJ 01303	31N	12W	2,5	2	2	3				210		
SJ 01180	31N	12W	25	2	2	4				200	120	5
SJ 00968	31N	12W	25	2	4					170	100	7
SJ 03204	31N	12W	31	4	3	1				40	20	2
SJ 02021 X	31N	12W	35	4	2					290	250	Ļ
SJ 02021	31N	12W	35	4	2					115		
SJ 03309	31N	12W	35	4	4	4				240	210	2

Record Count: 21

Page 1 of 1





Data Source Aerial flown locally Sedgewick in 2005. Wetlands Data Aquired from U.S. Fish and Wildlife Http://wetlandswms.er.usgs.gov USGS Topo

Wet	lands
 City	Limits

0200	520	780	
	and the second se		
	1:7,	658	

NAD\_1983\_SP\_ NM West\_FIPS\_ 3003 Sep 26, 2008

# **MMQonline Public Version Map**





### **EAST 20**

### Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'EAST 20', which is located at 36.87219 degrees North latitude and 108.06342 degrees West longitude. This location is located on the Flora Vista 7.5' USGS topographic quadrangle. This location is in section 26 of Township 31 North Range 12 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in San Juan County, New Mexico. The nearest town is Aztec, located 5.2 miles to the southeast. The nearest large town (population greater than 10,000) is Farmington, located 12.4 miles to the southwest (National Atlas). The nearest highway is State Highway 574, located 1.3 miles to the east. The location is on BLM land and is 1,389 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Animas. Colorado, New Mexico, Sub-basin. This location is located 1838 meters or 6028 feet above sea level and receives 12.5 inches of rain each year. The vegetation at this location is classified as Colorado Plateau Mixed Bedrock Canyon and Tableland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 175 feet. This estimation is based on the data published on the New Mexico Engineer's iWaters Database website and water depth data from ConocoPhillips' cathodic wells. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest stream is named Hedges Arroyo and is 684 feet to the west and is classified by the USGS as an intermittent stream. The nearest perennial stream is named Hedges Arroyo and is 1,092 feet to the southwest. The nearest water body is 1,149 feet to the south. It is classified by the USGS as an intermittent lake and is 0.2 acres in size. The nearest spring is 31,150 feet to the northeast. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 3,460 feet to the southeast. The nearest wetland is a 0.7 acre Freshwater Emergent Wetland located 6,932 feet to the east. The slope at this location is 6 degrees to the southeast as calculated from USGS 30M National Elevation Dataset. This information is also discerned from the aerial and topographic map included. The surface geology at this location is NACIMIENTO FORMATION -- Shale and sandstone with a Shale dominated formations of all ages substrate. The soil at this location is 'Blancot-Fruitland association, gently sloping' and is well drained and not hydric with moderate erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 6.9 miles to the north as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

#### **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 conformably 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, eastcentral 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.

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

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

### General Plan:

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

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



# DURA-SKRIM®

# 130, 136 a 145

TEST METHOD		3088	J.	688	J45BE		
	Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll	
-	Bla	ck/Black	Blac	k/Black	Blac	k/Black	
ASTM D 5199	27 mil	30 mil	32 mil	36 mil	40 mil		
ASTM D 5261	126 lbs (18.14)	140 lbs (20.16)	151 lbs (21 74)	168 lbs	189 lbs	45 mil 210 lbs	
	**Ex	rusion laminate	d with openaul	(24.19)	(27.21)	(30.24)	
ASTM D 413	16 11-2		a with encapsul	aled in-direction	nal scrim reinfor	cement	
3 NOTIN D 413	TOIDS	20 lbs	19 lbs	24 lbs	25 lbs	31 lbs	
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	
ASTM D 7003	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	550 MD	750 MD	
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	
ASTM D 5884	75 lbf MD 75 lbf DD	97 lbf MD 90 lbf DD	75 lbf MD 75 lbf DD	104 lbf MD 92 lbf DD	100 lbf MD 100 lbf DD	117 lbf MD 118 lbf DD	
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	
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	
ASTM D 1204	<1	<0.5	<1	<0.5		101 101 00	
ASTM D 4833	50 lbf	GAIL	05.04	-0.5	<1	<0.5	
	4000 =	04 101		83 lbf	80 lbf	99 lbf	
	180° F	180° F	180° F	180° F	180° F	180° F	
	-70° F	-70° F	-70° F	-70° F	-70° F	-70° F	
	Image: rest method         ASTM D 5199         ASTM D 5261         ASTM D 5261         ASTM D 413         ASTM D 7003         ASTM D 7003         ASTM D 7003         ASTM D 7003         ASTM D 7004         ASTM D 4533         ASTM D 4833	TEST METHOD       Min. Roll         Min. Roll       Averages         Bla       Bla         ASTM D 5199       27 mil         ASTM D 5261       126 lbs (18.14)         ASTM D 5261       126 lbs (18.14)         ASTM D 413       16 lbs         ASTM D 7003       88 lbf MD 63 lbf DD         ASTM D 7003       550 MD 550 DD         ASTM D 7003       20 MD 20 DD         ASTM D 7003       20 MD 20 DD         ASTM D 7004       180 lbf MD 120 DD         ASTM D 7004       180 lbf MD 120 lbf DD         ASTM D 4533       120 lbf MD 120 lbf DD         ASTM D 4833       50 lbf         ASTM D 4833       50 lbf	TEST METHOD         J30BB           Min. Roll Averages         Typical Roll Averages           ASTM D 5199         27 mil         30 mil           ASTM D 5199         27 mil         30 mil           ASTM D 5261         126 lbs (18.14)         140 lbs (20.16)           **Extrusion laminate         30 mil           ASTM D 5261         126 lbs (18.14)         140 lbs (20.16)           ASTM D 5261         126 lbs (18.14)         140 lbs (20.16)           ASTM D 7003         88 lbf MD 63 lbf DD         110 lbf MD 79 lbf DD           ASTM D 7003         550 MD 550 DD         750 MD 750 DD           ASTM D 7003         20 MD 20 DD         33 MD 33 DD           ASTM D 7003         20 MD 20 DD         33 MD 33 DD           ASTM D 7004         180 lbf MD 210 lbf DD         97 lbf MD 90 lbf DD           ASTM D 4533         120 lbf MD 120 lbf DD         146 lbf MD 141 lbf DD           ASTM D 4533         50 lbf         64 lbf           ASTM D 4833         50 lbf         64 lbf           ASTM D 4833         50 lbf         64 lbf	IEST METHOD         J30BE         J30BE           Min. Roll Averages         Typical Roll Averages         Min. Roll Averages         Min. Roll Averages           Black/Black         Black         Black         Black           ASTM D 5199         27 mil         30 mil         32 mil           ASTM D 5261         126 lbs (18.14)         140 lbs (20.16)         151 lbs (21.74)           ASTM D 5261         126 lbs (18.14)         140 lbs (20.16)         151 lbs (21.74)           ASTM D 5261         126 lbs (18.14)         140 lbs (20.16)         151 lbs (21.74)           ASTM D 5261         126 lbs         140 lbs (21.74)         151 lbs (21.74)           ASTM D 7003         88 lbf MD (31 lbf DD         19 lbs         19 lbs           ASTM D 7003         550 MD 550 DD         750 MD 750 DD         550 MD 70 lbf DD           ASTM D 7003         20 MD 20 DD         33 MD 20 DD         20 MD 20 DD           ASTM D 5884         75 lbf MD 75 lbf DD         97 lbf MD 75 lbf DD         75 lbf MD 75 lbf DD           ASTM D 7004         180 lbf DD         218 lbf MD 210 lbf DD         180 lbf DD           ASTM D 4533         120 lbf MD 120 lbf DD         146 lbf MD 130 lbf DD         130 lbf MD 130 lbf DD           ASTM D 4833         50 lbf         64 lbf	TEST METHOD         J30BB         J30BB         J30BB           Min. Roll Averages         Min. Roll Averages         Min. Roll Averages         Typical Roll Averages         Min. Roll Averages         Typical Roll Averages           ASTM D 5199         27 mil         30 mil         32 mil         36 mil           ASTM D 5261         126 lbs (18.14)         140 lbs (20.16)         151 lbs (21.74)         168 lbs (24.19)           **Extrusion laminated with encapsulated tri-direction         **Extrusion laminated with encapsulated tri-direction           ASTM D 413         16 lbs         20 lbs         19 lbs         24 lbs           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           ASTM D 7003         550 MD 550 DD         750 MD 750 DD         550 MD 750 DD         30 MD 31 DD           ASTM D 7003         20 MD 30 DD         33 MD 30 D         20 MD 31 DD         30 MD 31 DD           ASTM D 7004         180 lbf MD 120 lbf DD         218 lbf MD 140 lbf DD         180 lbf MD 180 lbf DD         222 lbf MD 223 lbf DD           ASTM D 7004         180 lbf MD 120 lbf DD         146 lbf MD 130 lbf DD         189 lbf MD 172 lbf DD           ASTM D 4533         120 lbf MD 120 lbf DD         146 lbf MD 130 lbf DD         180 lbf MD 172 lbf DD	TEST METHOD         J30BB         J36BB         J36BB	

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.

# RAVEN Industries

# PLANT LOCATION

Sioux Falls, South Dakota

# SALES OFFICE

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

# RAVEN INDUSTRIES INC. EXPOSED GEOMEMBRANE LIMITED WARRANTY

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

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

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

Any claim for any alleged breach of this warranty must be made in writing, by certified mail, to the General Manager of Engineered Films Division of Raven Industries Inc. within ten (10) days of becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have any rights under this warranty. Raven Industries Inc. shall not be obligated to perform repairs or replacements under this warranty unless and until the area to be 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

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

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

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

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

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

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

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

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

### General Plan:

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

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

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

### General Requirements:

- BR shall close a below-grade tank within the time periods provided in Subsection A of 19.15.17.13 NMAC. This will include a) below-grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I 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 50 mg/kg; the TPH division approves, does not exceed 100 mg/kg; and the chloride concentration, as determined by EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. BR shall notify the division of its results on form C-141.
- 6. If BR or the division determines that a release has occurred, then BR shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

- 7. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, then BR shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.
- Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following:
  - i. Operator's name
  - ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.
- The surface owner shall be notified of BR's closing of the below-grade tank prior to closure as per the approved closure plan via certified mail, return receipt requested.
- 10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 11. BR shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will used on federally jurisdicted lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. BR will repeat seeding or planting will be continued until successful vegetative growth occurs.
- 12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
- 13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
  - Soil Backfilling and Cover Installation
  - Re-vegetation application rates and seeding techniques
  - Photo documentation of the site reclamation
  - Confirmation Sampling Results
  - Proof of closure notice