	State of New Maxico	Form C 144
<u>14strict 1</u> 1625 N. French Dr., Hobbs, NM 88240	Energy Minerals and Natural Resources	July 21, 2008
District II	Department	For temporary pits, closed-loop sytems, and below-grade
1301 W. Grand Ave., Artesia, NM 88210	Oil Conservation Division	tanks, submit to the appropriate NMOCD District Office.
District III	1220 South St. Francis Dr.	For example, the and examples submit to the Sente Fo
District IV	Santa Fe, NM 87505	Environmental Bureau office and provide a copy to the
1220 S. St. Francis Dr., Santa Fe, NM 87505		appropriate NMOCD District Office.
Propose	Pit, Closed-Loop System, Below-Graded Alternative Method Permit or Closur	e Tank, or e Plan Application
<u>110pose</u>		e man Application
Type of action:	X Permit of a pit, closed-loop system, below-grade ta	ank, or proposed alternative method
l	Closure of a pit, closed-loop system, below-grade	tank, or proposed alternative method
l	Modification to an existing permit	
l	Closure plan only submitted for an existing permit below-grade tank, or proposed alternative method	ted or non-permitted pit, closed-loop system,
Instructions: Please submit one app	plication (Form C-144) per individual pit, closed-loo	p system, below-grade tank or alternative request
Please be advised that approval of t	his request does not relieve the operator of liability should operations re	sult in pollution of surface water, ground water or the
environment. Nor does approval reliev	e the operator of its responsibility to comply with any other applicable	governmental authority's rules, regulations or ordinances.
Operator: Burlington Resources Oil	& Gas Company, LP	OGRID#: 14538
Address: PO Box 4289, Farmington	, NM 87499	
Facility or well name: <b>PIERCE SRC</b>	1A	
API Number: 30	04521796 OCD Permit Number	r.
U/L or Otr/Otr: 0 Section	: 30 Townshin: 31N Range: 1	0W County: San Juan
Center of Proposed Design: Latitude:	<b>36.86514°N</b> Longitude:	-107.91945°W NAD: X 1927 1983
Surface Owner: X Federal	State Private Tribal Trust or Indian	n Allotment
		an a transformer an and a second and a second a
$^2$ <b>Pit:</b> Subsection F or G of 19 15 17	ΠΝΜΑΓ	
Lined Unlined Line	er type: Thickness mil LLDPE	HDPE PVC Other
String-Reinforced		
Liner Seams: Welded Fac	topy Other Volume	bbl Dimensions I y W y D
3		
Turne of Origentian Def. A	n Hof 19.15.17.11 NMAC Deilling a now well	estivities which maying prior approval of a permit or
	notice of intent)	activities which require proc approval of a permit of
Drying Pad Above Ground	I Steel Tanks Haul-off Bins Other	
Lined Unlined Liner	ype: Thickness mil LLDPE H	DPE PVD Other
Liner Seams: Welded Fac	tory Other	
<b>X</b> Below-grade tank: Subsection I c	of 19.15.17.11 NMAC	
Volume: 120 bbl	Type of fluid: <b>Produced Water</b>	
Tank Construction material:	 Metal	<u></u>
Secondary containment with leak deter	ection <b>X</b> Visible sidewalls, liner, 6-inch lift and auto	matic overflow shut-off
Visible sidewalls and liner	Visible sidewalls only Other	
Liner Type: Thickness	mil HDPE PVC X Other U	nspecified
Alternative Method:		
Submittal of an exception request is requ	rred. Exceptions must be submitted to the Santa Fe Environ	nmental Bureau office for consideration of approval.
······································		

Encing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pit, temporary pits, and helow-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, instands four foot height, four strands of barbed wire evenly spaced between one and four feet     XAlternate. Please specify 4' hog wire fencing topped with two strands barbed wire.	titution or chui	wh)
7         Netting:       Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)         X       Screen       Netting         Other		
8     Signs:     Subsection C of 19.15.17.11 NMAC       1     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 con (Fencing/BGT Liner) Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	sideration of a	oproval.
10 <u>Siling 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	Tes	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	X No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to temporary, emergency, or cavitation pits and below-grade tanks)	Yes	XNo
<ul> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>(Applied to permanent pits)</li> </ul>	Yes XNA	□No
• visual inspection (certification) of the proposed site, Actual photo, Saterine thage 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	X No
<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	X No
within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division Within an unstable area		X No
<ul> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>		
Within a 100-year floodplain - FEMA map	Yes	XNo

It <u>Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment</u> Instructions: Each of the following items must be attached to the application. Please indicate, by a chec.	Checklist: Subsection B of 19.15.17.9 NMAC k 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 F	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 19.15.17.1	12 NMAC
X Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appro	opriate 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 <u>Closed-loop Systems Permit Application Attachment Checklist:</u> Subsection B of 19.15.17.9 N Instructions: Each of the following items must be attached to the application. Please indicate, by a check	MAC mark in the box, that the documents are attached.
Cologic and Hydrogeologic Data (only for on-site closure) - oased upon the requirement	s of Paragraph (3) of Subsection B of 19.15 17.9
Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the app	propriate requirements of 19.15.17.10 NMAC
Usign Plan - based upon the appropriate requirements of 19.15.17.11 NMAC	
Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.1	12 NMAC
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appro NMAC and 19.15.17.13 NMAC	opriate requirements of Subsection C of 19.15.17.9
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 che	ck mark in the box, that the documents are attached.
Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of	19.15.17.9 NMAC
Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of	19.15.17.10 NMAC
Climatological Factors Assessment	
Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.1	7.11 NMAC
Leak Detection Design - based upon the appropriate requirements of 19,15,17,11,NMAC	0119.15.17.11 NMAC
Liner Specifications and Compatibility Assessment - based upon the appropriate requirements	nents of 19-15-17-11 NMAC
Quality Control/Quality Assurance Construction and Installation Plan	
Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.1	2 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	
Closure Plan	
Closure Plan - hased upon the appropriate requirements of Subsection C of 19.15.17.9 NM	MAC and 19.15.17.13 NMAC
14 Proposed Closures 10 15 17 13 NB(AC	
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed clo	osure plan.
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit	X Below-grade Tank Closed-loop System
Proposed Closure Method: X Waste Excavation and Removal (Below-Grade Tank)	
Waste Removal (Closed-loop systems only)	
On-site Closure Method (only for temporary pits and closed-loop st	ystems)
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 Please indicate, by a check mark in the box, that the documents are attached	ch of the following items must be attached to the closure plan.
X Protocols and Procedures - based upon the appropriate requirements of 19.15.17 13 NMA	с
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	of Subsection H of 19.15.17.13 NMAC
X Re-vegetation Plan - based upon the appropriate requirements of Subsection 1 of 19.15.17.	13 NMAC
x Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15	5.17 13 NMAC
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b)		
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and are required.	<u>* Haul-off Bins Only:</u> (19.15.17.13.D NMAC) drill cottings. Use attachment if more than two facilities	
Disposal Facility Name: Disposal	Facility Permit #:	
Disposal Facility Name: Disposal	Facility Permit #:	
Will any of the proposed closed-loop system operations and associated activities occur or Yes (If yes, please provide the information No	) or in areas that will not be used for future service 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 require         Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 1         Site Reclamation Plan - based upon the appropriate requirements of Subsection G	ements of Subsection H of 19.15.17.13 NMAC 19.15.17.13 NMAC 19.15.17.13 NMAC	
17 <u>Siting Criteria (Regarding on-site closure methods only:</u> 19.15.17.10 NMAC Instructions: Fach siting criteria requires a demonstration of compliance in the closure plan. Recommend correction with a criteria may require a administrative annerand from the numerative district office or may be c	ations of acceptable source material are provided below. Requests regarding ch ousidered as excention which must be submitted to the South Fe Fusicommental (	anges to Boreau attice
for consideration of approval. Instifications and/or demonstrations of equivalency are required. Please re-	fer to 19.15.17.10 NMAC for guidance.	
Ground water is less than 50 feet below the bottom of the buried waste.	Yes N	lo
- NM Office of the State Engineer - iWATERS database search; USGS: Data obtained from	nearby wells	
Ground water is between 50 and 100 feet below the bottom of the buried waste	Yes N	10
<ul> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from it</li> </ul>	hearby wells	
Ground water is more than 100 feet below the bottom of the buried waste.	Ycs N	ю
- 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 waterc (measured from the ordinary high-water mark).	ourse or lakebed, sinkhole, or playa iake	lo
- Topographic map; Visual inspection (certification) of the proposed site	·	
Within 300 feet from a permanent residence, schoot, hospital, institution, or church in existence a	t the time of initial application.	lo
<ul> <li>visual inspection (certification) of the proposed site; Aerial photo: satellite image</li> </ul>		la
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five hou purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the state engineer - iWATERS database; Visual inspection (certification) of the	seholds use for domestic or stock watering time of the initial application.	10
Within incorporated municipal boundaries or within a defined municipal fresh water well field co pursuant to NMSA 1978, Section 3-27-3, as amended.	vered under a municipal ordinance adopted Yes N	io
<ul> <li>Written confirmation or verification from the municipality; Written approval obtained from</li> <li>Witten 500 foot of a workend.</li> </ul>	the municipality	_
<ul> <li>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (cer</li> </ul>	tification) of the proposed site	0
Within the area overlying a subsurface mine.		ío
- Written confirantion or verification or map from the NM EMNRD-Mining and Mineral Div	ision	
Within an unstable area.		ío
<ul> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Reso Topographic map</li> </ul>	urces; USGS: NM Geological Society;	
Within a 100-year floodplain. - FEMA map		0
18 <u>On-Site Closure Plan Checklist:</u> (19.15.17.13 NMAC) Instructions: Each of the following the box, that the documents are attached.	owing items must bee attached to the closure plan. Please indica	ite,
Siting Criteria Compliance Demonstrations - based upon the appropriate requirem	ents of 19.15.17.10 NMAC	
Proof of Surface Owner Notice - based upon the appropriate requirements of Subs	ection F of 19.15.17.13 NMAC	
Construction/Design Plan of Burial Trench (if applicable) based upon the appropr	iate 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	
Protocols and Procedures - based upon the appropriate requirements of 19.15.17.1	3 NMAC	
Confirmation Sampling Plan (if applicable) - based upon the appropriate requirem	ents of Subsection F of 19.15.17.13 NMAC	
Waste Material Sampling Plan - based upon the appropriate requirements of Subset	ection F of 19.15.17.13 NMAC	
Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cu	ittings or in case on-site closure standards cannot be achieved)	
Re-vegetation Plan - based upon the appropriate requirements of Subsection I of I	9.15.17.33 NMAC	

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

hereby certify that the infor	ertification: mation submitted with this application is true, accurate and	complete to the best of my	knowledge and beticf.
Name (Print):	Crystal Fafoya	Title: Re	gulatory Technician
Signature:	to Talma	Date:	12/22/2008
e mail address:	The tale of the second bos carry T	elephone:	505-326-9837
0 DCD Approval: Po DCD Representative Sig Title: Exymptot	mit Application (including closure plan) If Close mature:	OCD Permit Numb	D Conditions (see altachment) _Approval Date:
1 <u>Source Report (require</u> instructions: Operators are eport is required to be subm pproved closure plan has b	d within 60 days of closure completion); Subsection K required to obtain an approved closure plan prior to implet nitted to the division within 60 days of the completion of the een obtained and the closure activities have been complete	n 19.15.17.13 NMAC menting any closure activitie e closure activities. Please o d. Closure Complet	es and submitting the closure report. The closure to not complete this section of the form until an tion Date:
12			· · · · · · · · · · · · · · · · · · ·
Waste Excavation ar           If different from app	nd Removal On-site Closure Method Al roved plan, please explain.	ternative Closure Method	Waste Removal (Closed-loop systems only)
Iosure Report Reparding istructions: Please identify ere utilized. Disposal Facility Name: Disposal Facility Name: Were the closed-loop sys Yes (If yes, please do	Waste Removal Closure For Closed-loop Systems That I the facility or facilities for where the liquids, drilling flui tem operations and associated activities performed on or in emonstrate compliane to the items below)	Utilize Above Ground Stee dr and drill cuttings were d Disposal Facility Permit Nu Disposal Facility Permit Nu areas that will not be used t	I Tanks or Haul-off Bins Only: isposed. Use attachment if more than two facilities mber: mber: for future service and opeartions?
Regulated for impacted an Site Reclamation (Pi Soil Backfilling and Recurrentation Appli	was which will not be used for future service and operation soto Documentation) Cover Installation covers States and Section Technicate	5.	
	anon Aates and Scenarg recuraque		
Closure Report Attac	hment Checklist: Instructions: Each of the following it	ems must be attached to the	e clasure report. Please indicate, by a check mark in
the box, that the docume	nis are attached.		
Proof of Deed Noti	ice (remited for on-site closure)		
Plot Plan (for on-si	te closures and temporary pits)		
Confirmation Sam	pling Analytical Results (if applicable)		
Waste Material Sar	mpling Analytical Results (if applicable)		
Disposal Facility N	ame and Permit Number		
Soil Backfilling and	d Cover Installation		
Re-veretation Ann	lication Rates and Seeding Technique		
	Photo Documentation)		
Site Reclamation ()		ny mude:	NAD   1927   1983
Site Reclamation () On-site Closure Luc	cation: Latitude:l.o		
Site Reclamation () On-site Closure Lu	catikm: Latitude: Lo		
Site Reclamation () On-site Closure Lu perator Closure Certifi	cation: Latitude: Lo		
Site Reclamation (1)     On-site Closure La  perator Closure Certifit bereby certify that the infor e closure councilies with all	cation: Latitude: Lo ication: mation and attachments submitted with this closure report applicable closure requirements and conditions specified i	is ture, accurate and comple	ete to the best of my knowledge and belief. I also certify the
Site Reclamation () On-site Closure Lo perator Closure Certifit hereby certify that the infor e closure complies with all ame (Print):	cation: <u>ication:</u> mation and attachments submitted with this closure report applicable closure requirements and conditions specified i	is ture, accurate and comple n the approved closure plan Title:	ete to the best of my knowledge and belief. I also certify the
Site Reclamation (1) On-site Closure Lo  Separator Closure Certific hereby certify that the infur e closure complies with all ame (Print):	cation: Latitude: Lo ication: mation and attachments submitted with this closure report applicable closure requirements and conditions specified i	is ture, accurate and comple in the approved closure plan Title:	ete to the best of my knowledge and belief. I also certify the
Site Reclamation (1) On-site Closure Lo  perator Closure Certifi hereby certify that the infor e closure complies with all ame (Print): ignature:	cation: Latitude: Lo ication: mation and attachments submitted with this closure report applicable closure requirements and conditions specified i	is ture, accurate and comple in the approved closure plan Title: Datc:	ete to the best of my knowledge and belief. I also certify the

# New Mexico Office of the State Engineer POD Reports and Downloads

	Town	nship:	31N R	ange:	10W	Sections	:				
	NAD27	X:		Y:		Zone:			Search Radius	S:	
County:			Basin:					Num	iber:	Suffix:	
Owner Na	ame: (Fir	st)			(Last)			<u></u>	Non-Domestic	Domestic	(•) All
[P(	DD / Surfac	e Data	Report		Avg	Depth to V	Vater R	eport	Wate	er Column Repor	t
				lear Fo	orm	iWATER	S Men	<b></b> [	Help		

#### WATER COLUMN REPORT 08/20/2008

	(•	quarter	s are	1=	NW 2	-NE	3=SW 4=5	SE)						
	(4	quarter	s are	bi bi	gges	it to	smalles	st)		Depth	Depth	Water	(in	feet)
POI	) Number	Twe	Rng	Sec	<b>a</b> 9	D I	Zone	x	Y	Well	Water	Column		
SJ	00498	31N	10W	04	1 2	2				26	8	18		
SJ	03062 CLW26357	<b>8</b> 31N	10W	04	1 2	2				47	40	7		
SJ	03062	31N	10W	04	1 2	2				55	46	9		
<u>SJ</u>	02844	31N	10W	04	12	4				37	21	16		
SJ	00573	31N	10W	04	1 4	2				37	12	25		
SJ	00595	31N	10W	04	14	. 2				90	12	78		
<u>SJ</u>	00595 S	31N	10W	04	14	2				70	10	60		
SJ	00175	31N	10W	04	2					28	13	15		
SJ	01563	31N	1.0W	04	2 1					44	28	16		
SJ	02089	31N	10W	04	2 1	. 1				55	40	15		
SJ	03033	31N	10W	04	2 1	. 1				52	30	22		
SJ	03034	31N	10W	04	2 1	. 2				45	23	22		
SJ	01564	31N	10W	04	2 2	2				34	10	24		
SJ	00128	31N	10W	04	2 2	2				70	21	49		
SJ	02044	31N	10W	05	1 3	3				22	12	10		
SJ	01370	31N	10W	05	1 3	2				48	28	20		
SJ	01967 X	31N	10W	05	1 3	3 2				25	10	15		
<u>SJ</u>	02843	31N	10W	05	13	2				25	10	15		
SJ	02044 X	31N	10W	05	13	3 4				28	14	14		
SJ	02083	31N	10W	05	2 2	21				23	10	13		
SJ	02069	31N	10W	05	2 2	2 1				22	9	13		
SJ	03013	31N	10W	05	2 2	3				19	7	12		
SJ	03109	31N	10W	05	22	2 3				21	2	19		
SJ	03004	31N	10W	05	2 2	24				18	6	12		
SJ	02945	_ 31N	10W	05	2 2	24				17	5	12		
SJ	03368	31N	10W	05	2 2	2 4				19	б	13		
SJ	03549	31N	10W	05	2 4	4				42	35	7		
SJ	02884	31N	10W	05	24	4				75				
SJ	00304	31N	10W	05	3 4	ļ				18	5	13		
SJ	02399	31N	10W	05	34	l 1				40	14	26		
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20	02027		21N 21N	100 05	1	3				39	11	28
50	02057		2 I M	10M 05	Ā	1	2			61	30	31
50	02226		2110	1.010 0.05		1	2			58	28	30
50	03330		2115 2117	100 05	4	A	3			65	15	50
50	03240		⊋±n 24m	100 00	4 う	4	J			103	83	20
SJ	01958		5±N 31 N	100 00	2	2				- <u>1</u> 03	55	20 60
<u>SJ</u>	01977	<u></u> .		1010 00	2	.) А	3			100	50	10
<u>SJ</u>	03308		3⊥N 24N	100 00	2	4	3			100	00	10
<u>SJ</u>	02150		31N	100 07	2	2	2			41	23	17 17
SJ	02389		31N	100 07	2	2	3			48	31	17
SJ	03079		3⊥N	100 07	2	2	3			50		
<u>SJ</u>	03330		31N	100 07	3	3	T			400	~~	1.0
<u>sj</u>	01521		31N	10W 07	4		-			45	29	10
SJ	03802	POD1	31N	10W 07	4	3	2	269793	2149984	41	24	1/
<u>SJ</u>	00585		31N	10W 08		_				40	23	1/
<u>SJ</u>	02304	· · ·	31N	10W 08	1	2				35	29	5
<u>SJ</u>	03057		31N	100 08	1	3	4			19	6	13
<u>sj</u>	03714	POD1	31N	100 08	3	1	1			21	б	15
SJ	00054		31N	10W 10	2					455		
SJ	00830	-EXPLOR	31N	10W 15	د د					550		<i>c</i> <b>1</b>
<u>SJ</u>	01198	·	31N	10W 17	5	4				158	97	170
<u>SJ</u>	02624		31N	31 WOL	T	1				295	125	1/0
ŝj	01616		31N	10W 18	1	3				18	8	10
<u>SJ</u>	01534	·	31N	100 18	1	3	1			34	23	10
SJ	03345		31N	100 18	1	<u> </u>	4			21	11 1	10
<u>SJ</u>	01796		31N	LOW 18	1	3	3			32	20	12
នភ	01598		31N	10W 18	1	4				30	5	20
sa	01587		31N	100 10	1	4	7			35	5	14
<u>SJ</u>	03163		31N 31N	100 10	1	4	3			19	- -	14
<u>SJ</u>	01747		3⊥N 21M	10W 10	エ ン	- <del>1</del>	Л			20	1	26
SJ	01718		3⊥N D1nt	100 10	່ 4 	1	4	260770	0140045	30 16	4	20 10
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50	01500		21N 21M	10W 10	ר ו	1				20		15
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<u>оо</u> с.т	03114	·	31N	100 18	3	2	1			16	8	8
<u>50</u>	02749		31N	10W 18	3	2	2			16	10	6
<u>50</u> S.T	03722	PODI	31N	100 18	3	2	3			20		14
5.T	03721	PODI	31N	10W 18	3	$\frac{-}{2}$	3			25	10	15
SJ	03435	1001	31N	10W 18	3	2	3			10	6	4
5.T	03622	· ···· · ·	31N	10W 18	3	2	3			20	6	14
<u>55</u> 5.7	00611	S	31N	100 18	3	3	2			65	25	40
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S.T	02909		31N	10W 19	) 1	1	1			60	47	13
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<u>50</u> 9.7	02979	-	31N	100 19	) 1	1	1			57	43	14
<u>с.</u> т	03103		31N	100 10	) 1	1	1			53	33	20
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SJ	03086		31N	10W	19	ì	2	3
SJ	03486		31N	10W .	19	1	ì	3
SJ	01428		31N	10W .	í9	1	3	
SJ	01349		31N	10W (	19	î	3	3
ŞJ	03285		31N	10W 1	19	3	1	1
SJ	02084		31N	10W 2	25	4	4	2
ŞJ	00967		31N	10W 2	27	4	3	
SJ	00990		31N	10W 0	27	4	3	
SJ	01483		31N	10W 2	27	4	4	1
SJ	02960		31N	10W 3	27	4	4	2
SJ	03178		31N	10W 2	27	4	4	2
SJ	03539		31N	10W 2	27	4	4	3
SJ	00163		31N	10W 3	28	1	4	1
SJ	00163	EXPL	31N	10W 2	28	1	4	3
SJ	03459		31N	10W 3	32	3	3	2
sJ	00981		31N	10W 3	34	2	1	
SJ	01480		31N	10W 3	34	2	1	
SJ	03624		31N	10W 0	34	2	1	2
<u>sj</u>	03387		31N	10W 3	34	2	2	1
$\mathbf{SJ}$	03728	POD1	31N	10W 3	35	1	3	3
SJ	03545		31N	10W 3	35	1	4	3
SJ	03544		31N	10W 0	35	1	4	4
8J	03571		31N	10W 🔅	35	1	4	4
SJ	03576		31N	10W 3	35	2	3	3
SJ	03570		31N	10W 0	35	2	4	4
SJ	03554		31N	10W 3	35	4	2	1

61	44	17
65	45	20
65	45	20
78	67	11
40		
315		
130	90	40
162	110	52
195	150	45
200	150	50
235	150	85
205	124	81
1538		
1538		
185	175	10
164	118	46
245	125	120
165	65	100
250	200	50
365	230	135
455	317	138
325	220	105
250		
450	137	313
250		
454	317	137

Record Count: 117





# Mines, Mills and Quarries Web Map

# PIERCE SRC 1A

Unit Letter: O, Section: 30, Town: 031N, Range: 010W









### PIERCE SRC 1A

#### Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'PIERCE SRC 1A', which is located at 36.86514 degree, North latitude and 107.91945 degree, West longitude. This location is located on the Aztec 7.5' USGS topographic quadrangle. This location is in section 30 of Township 31 North Range 10 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 5.1 miles to the southwest. The nearest large town (population greater than 10,000) is Farmington, located 18.3 miles to the southwest (National Atlas). The nearest highway is US Highway 550, located 1.3 miles to the northwest. The location is on BLM land and is 1,881 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 1825 meters or 5986 feet above sea level and receives 12.5 inches of rain each year. The vegetation at this location is classified as Colorado Plateau Pinon-Juniper Woodland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 96 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 205 feet to the south and is classified by the USGS as an intermittent stream. The nearest perennial stream is 5,339 feet to the northeast. The nearest water body is 5,327 feet to the northeast. It is classified by the USGS as an intermittent lake and is 0.2 acres in size. The nearest spring is 19.452 feet to the east. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 5,732 feet to the southeast. The nearest wetland is a 15.4 acre Ravine located 10,264 feet to the southwest. The slope at this location is 5 degree, to the southwest 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 'Haplargids-Blackston-Torriorthents complex, very steep' and is well drained and not hydric with severe 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. - 1O

#### 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.

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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 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 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®

# **J30, J36 & J45**

Min. Roll AveragesTypical Roll AveragesMin. Roll AveragesTypical Roll AveragesMin. Roll AveragesTypical Roll AveragesMin. Roll AveragesTypical Roll AveragesMin. Roll AveragesTypical Roll AveragesAppearanceBlack/BlackBlack/BlackBlack/BlackBlack/BlackBlack/BlackBlack/BlackThicknessASTM D 519927 mil30 mil32 mil36 mil40 mil45 mWeight Lbs Per MSF (oz/yd²)ASTM D 5261126 lbs (18.14)140 lbs (20.16)151 lbs (21.74)168 lbs (24.19)189 lbs (27.21)210 ll (30.2Construction**Extrusion laminated with encapsulated tri-directional scrim reinforcementPly AdhesionASTM D 41316 lbs 88 lbf MD110 lbf MD90 lbf MD113 lbf MD440 lbf MD	al Roll ages mil Ibs 24)
AppearanceBlack/BlackBlack/BlackBlack/BlackThicknessASTM D 519927 mil30 mil32 mil36 mil40 mil45 mWeight Lbs Per MSF (oz/yd²)ASTM D 5261126 lbs (18.14)140 lbs (20.16)151 lbs (21.74)168 lbs (24.19)189 lbs (27.21)210 ll (30.2Construction**Extrusion laminated with encapsulated tri-directional scrim reinforcementPly AdhesionASTM D 41316 lbs20 lbs19 lbs24 lbs25 lbs31 lb1" Toppile StripethASTM D 700088 lbf MD110 lbf MD90 lbf MD112 lbf MD440 lbf MD430 lbf MD	mil Ibs 24)
Thickness         ASTM D 5199         27 mil         30 mil         32 mil         36 mil         40 mil         45 mil           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 ll (30.2           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 lb           1" Topelle Stremet         ASTM D 7000         88 lbf MD         110 lbf MD         90 lbf MD         113 lbf MD         440 lbf MD         430 lbf MD         430 lbf MD	mil Ibs 24)
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 ll (30.2)           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 lb           1" Topelle Stripeth         ASTM D 7000         88 lbf MD         110 lbf MD         90 lbf MD         112 lbf MD         440 lbf MD         430 lbf MD	lbs 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 lb           1"         Toppile Strength         ASTM D 400         88 lbf MD         110 lbf MD         90 lbf MD         112 lbf MD         440 lbf MD         430 lbf MD	
Ply Adhesion         ASTM D 413         16 lbs         20 lbs         19 lbs         24 lbs         25 lbs         31 lb           1" Toppile Strength         ASTM D 7000         88 lbf MD         110 lbf MD         90 lbf MD         113 lbf MD         440 lbf MD         430 lbf MD	
1" Toppile Strongth 40TH D 7000 88 lbf MD 110 lbf MD 90 lbf MD 112 lbf MD 440 lbf MD	bs
ASTM D 7003 63 lbf DD 79 ibf DD 70 lbf DD 87 lbf DD 84 lbf DD 105 lbf	f MD f DD
1" Tensile Elongation @ Break % (Film Break)         ASTM D 7003         550 MD 550 DD         750 MD 750 DD         550 MD         750 DD         750 DD	UD DD
1" Tensile Elongation @ Peak % (Scrim Break)         ASTM D 7003         20 MD 20 DD         33 MD 33 DD         20 MD 20 DD         30 MD 31 DD         20 MD 20 DD         36 MD 36 DD	ID D
Tongue Tear Strength         ASTM D 5884         75 lbf MD 75 lbf DD         97 lbf MD 90 lbf DD         75 lbf MD 75 lbf DD         104 lbf MD 92 lbf DD         100 lbf MD 100 lbf DD         117 lbf lbf lbf 118 lbf	MD 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 ID	MD 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 M 191 lbf DD	MD 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	of
Maximum Use Temperature 180° F	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 taminate 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

# SALES OFFICE

Sioux Falls, South Dakota



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. 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.

#### General Plan:

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

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

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

## General Requirements:

- BR shall close a below-grade tank within the time periods provided in Subsection A of 19.15.17.13 NMAC. This will include a) below-grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I o f19.15.17.11 NMAC within five years, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) permitted below-grade tanks within 60 days of cessation of the below-grade tank's operation., or c) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, BR will file the C144 Closure Report as required.
- 2. BR shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.
- 3. BR will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. Documentation of how the below-grade tank was disposed of or recycled will be provided in the closure report.
- 4. If there is any on-site equipment associated with a below-grade tank, then BR shall remove the equipment, unless the equipment is required for some other purpose.
- 5. BR shall test the soils beneath the below-grade tank to determine whether a release has occurred. BR shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 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 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.
- 9. The surface owner shall be notified of BR's closing of the below-grade tank prior to closure as per the approved closure plan via certified mail, return receipt requested.
- 10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 11. BR shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will used on federally jurisdicted lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. BR will repeat seeding or planting will be continued until successful vegetative growth occurs.
- 12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
- 13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
  - Soil Backfilling and Cover Installation
  - Re-vegetation application rates and seeding techniques
  - Photo documentation of the site reclamation
  - Confirmation Sampling Results
  - Proof of closure notice

- Signed C-144 (Page 5 of C-144)
- Site Specific Hydrogeology

# **19.15.17.10 NMAC SITTING REQUIREMENTS**

- ✓ New Mexico Office of State Engineer attachment
- USGS TOPO map
- 🖌 Aerial Map
- ☑ Mines, Mills and Quarries Map
- FIRM map (flood insurance rate map from Federal Emergency Agency)

# **19.15.17.11 NMAC DESIGN PLAN CONTENTS**

Below Grade Tank Design and Construction Plan

# **19.15.17.12 NMAC OPERATING AND MAINTENCE PLAN**

Below Grade Tank Operating and Maintenance Plan

# 19.15.17.13 NMAC CLOSURE PLAN

Below Grade Tank Closure Plan

# **REGISTRATION DATE:**

09/30/2015

# NOTES: