District I 1625 N. French Dr., Hobbs, NM 88240	State of New Mexico Energy Minerals and Natural Resources	Form C-144 July 21, 2008 For temporary pits, closed-loop sytems, and below-grade
District II 1301 W. Grand Ave., Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410	Department Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505	tanks, submit to the appropriate NMOCD District Office.
District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505	Salita Pe, NW 87505	Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.
	Pit, Closed-Loop System, Below-Grad	e Tank, or
Propo	sed Alternative Method Permit or Closur	e Plan Application
Type of action:	X Permit of a pit, closed-loop system, below-grade t	ank, or proposed alternative method
	Closure of a pit, closed-loop system, below-grade	tank, or proposed alternative method
	Modification to an existing permit	
	Closure plan only submitted for an existing permit below-grade tank, or proposed alternative method	
Please be advised that approval	application (Form C-144) per individual pit, closed-loc of this request does not relieve the operator of liability should operations r lieve the operator of its responsibility to comply with any other applicable	esult in pollution of surface water, ground water or the
1 Operator: Burlington Resources C	Dil & Gas Company, LP	OGRID#: 14538
Address: PO Box 4289, Farming		
Facility or well name: MURPHY	D 3	
API Number:	3004526475 OCD Permit Numbe	r:
U/L or Qtr/Qtr: D Sect	ion: 27 Township: 30N Range: 1	1W County: San Juan
Center of Proposed Design: Latitud	de: 36.78875°N Longitude:	-107.98274°W NAD: X 1927 1983
Surface Owner: X Federal	State Private Tribal Trust or Indian	n Allotment
Permanent Emergency Lined Unlined I String-Reinforced Liner Seams: Welded	rkover Cavitation P&A	HDPE         PVC         Other
Type of Operation:     P&A       Drying Pad     Above Group	ction H of 19.15.17.11 NMAC Drilling a new well Workover or Drilling (Applies to notice of intent) ound Steel Tanks Haul-off Bins Other trype: Thickness mil LLDPE H	activities which require prior approval of a permit or
	Factory Other	
4       X       Below-grade tank:       Subsection         Volume:       120         Tank Construction material:	bbl Type of fluid: Produced Water  Metal  detection X Visible sidewalls, liner, 6-inch lift and auto Visible sidewalls only Other	omatic overflow shut-off
5 Alternative Method:		
Submittal of an exception request is r	equired. Exceptions must be submitted to the Santa Fe Enviro	nmental Bureau office for consideration of approval.

Fencing: 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, institution or church) Four foot height, four strands of barbed wire evenly spaced between one and four feet									
X Alternate. Please specify 4' hog wire fencing topped with two strands barbed wire.									
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	5.77 <u> </u>								
Administrative Approvals and Exceptions: Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance. Please check a box if one or more of the following is requested, if not leave blank: X Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval. (Fencing/BGT Liner) Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.									
<sup>10</sup> <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	X No							
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)	□ NA								
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image									
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applied to permanent pits)	Yes XNA	No							
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image									
Within 500 horizonal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering 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>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> <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							
<ul> <li>Within the area overlying a subsurface mine.</li> <li>Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division</li> </ul>	Yes	XNo							
Within an unstable area.	[]Yes	XNo							
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	_	_							
Within a 100-year floodplain - FEMA map	Yes	<b>V</b> No							

	orary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
	tions: 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
X	Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
X	Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
X	Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Pre	viously Approved Design (attach copy of design) API or Permit
12	d-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
	tions: 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
П	Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
П	Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
H	Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
H	
	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
Pre	viously Approved Design (attach copy of design) API
Pre	viously Approved Operating and Maintenance Plan API
	anent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instru	ctions: 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
Ц	Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
Ц	Dike Protection and Structural Integrity Design: based upon the appropriate requirements of 19.15.17.11 NMAC
Ц	Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
Ц	Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
H	Quality Control/Quality Assurance Construction and Installation Plan
H	Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
H	Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
H	Nuisance or Hazardous Odors, including H2S, Prevention Plan
H	Emergency Response Plan
Н	Oil Field Waste Stream Characterization
H	Monitoring and Inspection Plan
H	Erosion Control Plan
	Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
14 <b>Propo</b>	sed Closure: 19.15.17.13 NMAC
Instruc	tions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.
Туре:	Drilling Workover Emergency Cavitation P&A Permanent Pit X Below-grade Tank Closed-loop System
Propos	ed 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)
	Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan.
_	indicate, by a check mark in the box, that the documents are attached.
_	Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
_	Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
X	Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
	Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
X	Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
X	Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

J,

16 Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC) Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two fa are required.	acilities									
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 on or in areas that <i>will not</i> be used for future service and operations? Yes (If yes, please provide the information No										
Required for impacted areas which will not be used for future service and operations:         Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC         Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC         Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	с									
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. Recommendations of acceptable source material are provided belo certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.										
Ground water is less than 50 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	∐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	N/A									
Ground water is more than 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	N/A									
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).	Yes No									
- Topographic map; Visual inspection (certification) of the proposed site										
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	Yes No									
- Visual inspection (certification) of the proposed site; Aerial photo; satellite image										
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the time of the initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site										
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.	Yes No									
<ul> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> <li>Within 500 feet of a wetland</li> </ul>										
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site										
Within the area overlying a subsurface mine.	Yes No									
- Written confirantion or verification or map from the NM EMNRD-Mining and Mineral Division Within an unstable area.										
<ul> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	UYes UNo									
Within a 100-year floodplain. - FEMA map	Yes No									
<sup>18</sup> On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closur by a check mark in the box, that the documents are attached.	e plan. Please indicate,									
Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC										
Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC										
Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC										
Construction/Design Plan of Temporary Pit (for in place burial of a drying pad) - based upon the appropriate requirements of 19	9.15.17.11 NMAC									
Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC										
Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC										

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 drill cuttings or in case on-site closure standards cannot be achieved)

Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
 Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

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

•

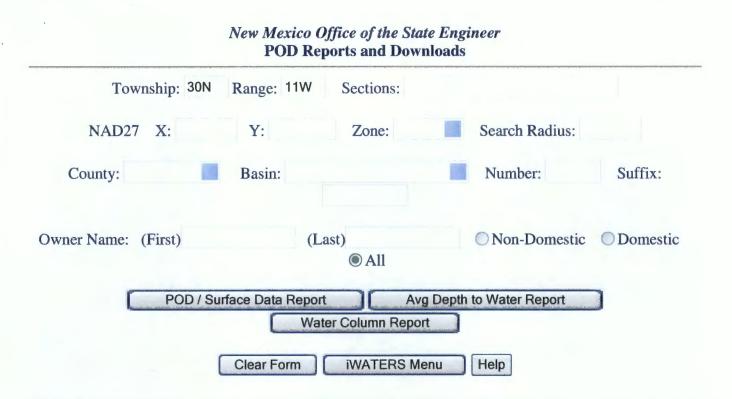
1

19			
Operator Application Ce			Land on Land Land Land Land
	mation submitted with this application is true, acc	•	
Name (Print):	Crystal Tafoya	Title:	Regulatory Technician
Signature:	Captal Topya	Date:	12/22/2008
e-mail address:	crystal.tafoya@conocophillids.com	Telephone:	505-326-9837
20	mit Application (including closure plan)	Closure Plan (only)	OCD Conditions (see attachment)
		A A A A A A A A A A A A A A A A A A A	
OCD Representative Sign	nature:	Ż	Approval Date: 11/25/14
Title: Bureze	- Chief	OCD Parm	nit Number:
The. Done			
Instructions: Operators are r report is required to be subm		to implementing any closu ion of the closure activitie completed.	re activities and submitting the closure report. The closure s. Please do not complete this section of the form until an e Completion Date:
· · · · · · · · · · · · · · · · · · ·			
Closure Method:     Waste Excavation and     If different from appr	d Removal On-site Closure Method	Alternative Closure	Method Waste Removal (Closed-loop systems only)
	Waste Removal Closure For Closed-loop System the facility or facilities for where the liquids, dri		round Steel Tanks or Haul-off Bins Only: ings were disposed. Use attachment if more than two facilities
Disposal Facility Name:		Disposal Facility	Permit Number:
Disposal Facility Name:			Permit Number:
	em operations and associated activities performed		or be used for future service and opeartions?
	1	No	
Site Reclamation (Pho	eas which will not be used for future service and o oto Documentation)	operations:	
Soil Backfilling and C			
Re-vegetation Applic	ation Rates and Seeding Technique		
24			
Closure Report Attack		llowing items must be atta	ched to the closure report. Please indicate, by a check mark in
the box, that the documer			
	otice (surface owner and division)		
	ce (required for on-site closure) e closures and temporary pits)		
	ling Analytical Results (if applicable)		
	npling Analytical Results (if applicable)		
	ame and Permit Number		
Soil Backfilling and			
	ication Rates and Seeding Technique		
	Photo Documentation)		
On-site Closure Loc		Longitude:	NAD 1927 1983
25			
<b>Operator Closure Certify</b> I hereby certify that the inform			and complete to the best of my knowledge and belief. I also certify that losure plan.
Name (Print):		Title:	
Signature:		Date:	
e-mail address:		Telephone:	

,

.

New Mexico Office of the State Engineer



### WATER COLUMN REPORT 09/12/2008

	(quarter	s ar	e 1=1	W	2:	=NE	3=SW 4=5	SE)				
	(quarter	s are	e big	gge	est	t to	smalles	st)		Depth	Depth	Wate
POD Number	Tws	Rng	Sec	q	q	P	Zone	х	Y	Well	Water	Colun
RG 50669	30N	11W	27							360	310	5
SJ 02765	30N	11W	02	1	3					54	20	3
SJ 00975	30N	11W	02	1	3					60	20	4
SJ 01217	30N	11W	02	1	3					60	30	(* )
SJ 02837	30N	11W		3	4	1				150		
SJ 01437	30N	11W	03	1						40	28	1
SJ 03121	30N	11W	03	1	2	4				36	12	2
SJ 02049	30N	11W	03	1	3					26	8	1
SJ 01339	30N	11W	03	1	3	1				40	15	2
SJ 02814	30N	11W	03	1	3	2				31	8	2
SJ 00350	30N	11W		1	3	2				46	12	(*)
SJ 01441	3 0N	11W		1	3	2				48	20	2
SJ 02835	30N	11W		1	3	2				26	8	1
SJ 01387	30N	11W		1	4					40	18	2
SJ 03698 POD1	30N	11W		1	4	1				40	5	(*)
SJ 02785	30N	11W		1	4	2				31	5	2
SJ 01313	30N	11W		2						70	58	1
SJ 01805	30N	11W		2						35	20	1
SJ 01807	30N	11W	03	2	1					50	30	2
SJ 01202	30N	11W	03	2	1	2				35	8	2
SJ 02781	30N	11W	03	2	1	2				48	23	2
SJ 03758 POD1	30N	11W	03	2	1	2	26	8158	2127473	49	21	2
SJ 03765 POD1	30N	11W	03	2	1	2	26	58163	2127605	43	20	2
SJ 03756 POD1	30N	11W	03	2	1	2	26	58179	2127870	41	20	2
SJ 02786	30N	11W	03	2	3	1				51	24	2
SJ 01901	30N	11W	03	2	3	2				60	26	(*)
SJ 00698	30N	11W	03	2	3	3				44	14	(*)
SJ 01261	30N	11W	03	2	3	4					20	

http://iwaters.ose.state.nm.us:7001/iWATERS/WellAndSurfaceDispatcher

6										
SJ 02930	30N	11W 03	2 4	4				81	64	1
SJ 02798	30N	11W 03	2 4	4				80	61	1
SJ 00402	30N	11W 03	3					32	18	1
SJ 01734	30N	11W 03	3 2					33	5	2
SJ 00762	30N	11W 03	3 2					47	22	2
SJ 01440	30N	11W 03		3				41	21	2
SJ 01020	30N	11W 03	3 3	5				27	5	2
		11W 03	3 3	1					9	
SJ 03242	30N							23		1
SJ 03732 POD1	30N	11W 03	3 3	1				38	9	2
SJ 03239	30N	11W 03	3 3	3				33	12	2 5
SJ 01238	30N	11W 03	4 1					95	38	5
SJ 02245	30N	11W 03	4 1					66	30	(*)
SJ 01043	30N	11W 03	4 1	4				50		
SJ 01249	30N	11W 03	4 2					52	22	3
SJ 02563	30N	11W 03	4 2	1				96	60	(*)
SJ 02824	30N	11W 03	4 2	1				70	50	2
SJ 03153	30N	11W 03	4 2	1				80	60	2
SJ 03454	30N	11W 03	4 2	4				100		
SJ 03291	30N	11W 03	4 3	2				38	18	2
SJ 00366	30N	11W 03	4 4	4				33	18	1
SJ 01364	30N	11W 04	2					115	86	2
SJ 03076	30N	11W 04	2 2	3				44	10	(*)
SJ 02903	30N	11W 04	2 3	2				49	31	1
SJ 03039	30N	11W 04	4 1	2				53	40	1
SJ 01450	30N	11W 04	4 3	4				45	20	2
	30N	11W 04	4 3	2				58	37	2
SJ 02941										2
SJ 01367	30N	11W 04	4 4	1	7.7	452700	0104100	48	20	
SJ 03407	30N	11W 04	4 4	4	W	453700	2124100	30	5	2
SJ 03267	30N	11W 05		3				83	60	2
SJ 03245	30N	11W 06	44	4				80	65	. 1
SJ 02194	30N	11W 07						59	22	(*)
SJ 02140	30N	11W 07	1 1					70	60	1
SJ 00689	30N	11W 07		3				78	65	1
SJ 00690	30N	11W 07	1 4	3				60		
SJ 00882	30N	11W 07	1 4	3				60	50	1
SJ 00889	30N	11W 07	14	3				55		
SJ 00806	30N	11W 07	1 4	3				38	20	1
SJ 00739	30N	11W 07	14	3				70	58	1
SJ 00389	30N	11W 07	14	3				53		
SJ 00688	30N	11W 07		3				70	58	1
SJ 00358	30N	11W 07	1 4	3				61	38	2
SJ 00397	30N	11W 07	1 4					56	35	2
SJ 00415	30N	11W 07	1 4					53	40	1
SJ 00387	30N	11W 07	1 4							
SJ 00748	30N	11W 07	1 4					60	41	1
SJ 03271	30N	11W 07	2 3					00	11	-
SJ 01475	30N	11W 07	2 3					49	27	2
SJ 03465	30N	11W 07	2 3					80	21	2
			2 4	4				25	12	1
SJ 00259	30N	11W 07								1
SJ 01492	30N	11W 07	3	2		000000	0110500	60	22	(*) 1
SJ 03794 POD1	30N	11W 07	3 1	3		266272	2119520	44	27	1
SJ 01172	30N	11W 07	3 2					50	30	1 2 3 5 4
SJ 01310	30N	11W 07	3 3					80	50	3
SJ 01484	30N	11W 07	3 3					61	10	Ę
SJ 03630	30N	11W 07	3 3	3				68	24	4
SJ 01425	30N	11W 07	3 4					55	25	(*) (*) (N
SJ 01468	30N	11W 07	3 4					60	25	3
SJ 02006	30N	11W 07	3 4	2				50	24	2
SJ 03484	30N	11W 07	3 4					75		

*								
SJ 02005	30N	11W 07	3	4	4	55	20	3
SJ 02715	30N	11W 07	3	4	4	68	20	4
SJ 00135	30N	11W 07	4	1		180	23	15
SJ 00769	30N	11W 07	4	1		50	14	(*)
SJ 01406	30N	11W 07	4	1		45	12	-
SJ 02936	30N	11W 07	4	1	1	38	30	
SJ 00679	30N	11W 07	4	1	3	48	22	2
SJ 00620	30N	11W 07	4	1	3	52	35	1
SJ 00329	30N	11W 07	4	1	3	63	20	4
SJ 00162	30N	11W 07	4	1	3	58	23	
SJ 02906	30N	11W 07	4	1	4	45	24	2
SJ 00893	30N	11W 07	4	2	T	80	40	Ļ
SJ 01667	30N	11W 07	4	3		41	21	2
SJ 01404	30N	11W 07	4	3		40	15	2
SJ 00919	30N	11W 07	4	3	2	35	12	2
SJ 00604	30N	11W 07	4	3	2	38	22	1
SJ 00601	30N	11W 07	4	3	2	40	22	1
SJ 00918	30N	11W 07	4	3	2	35	14	2
SJ 00918	30N	11W 07		3	2			4
SJ 01567		11W 07	4	4		35	12	
	30N	11W 07	4		2	35	14	2
SJ 00183	30N		1	1	4	360	300	E
SJ 03154	30N	11W 08	1	1	4	40		
SJ 03431	30N	11W 08	1	4		50	24	1
SJ 00332	30N	11W 08	2	2		52	34	1
SJ 01451	30N	11W 08	2	2		64	34	(**)
SJ 01968	30N	11W 08	2	2		40	25	1
SJ 01999	30N	11W 08	2	2		61	45	1
SJ 01814	30N	11W 08	2	2		52	10	4
SJ 03398	30N	11W 08	2	2	1	80	20	E
SJ 03210	30N	11W 08	2	2	2	60	30	3.
SJ 03098	30N	11W 08	2	2	2	63	23	4
SJ 03381	30N	11W 08	2	2	2	50		
SJ 03240	30N	11W 08	2	2	2	50		
SJ 00220	30N	11W 08	2	2	3	60	36	2
SJ 03639	30N	11W 08	2	2	4	60	24	(*)
SJ 01115	30N	11W 08	2	2	4	35	26	
SJ 03653	30N	11W 08	2	2	4	62	26	6.0
SJ 03646	30N	11W 08	2	2	4	61	24	6.0
SJ 00228	30N	11W 08		2	4	67	38	2
SJ 03202	30N	11W 08	2	4	2	45		
SJ 03030	30N	11W 08	2	4	2	56	40	1
SJ 03305	30N	11W 08	2	4	2	50		
SJ 03378	30N	11W 08	2	4	2	50	25	
SJ 02331	30N	11W 08	2	4	2	53	35	1
SJ 03303	30N	11W 08	2	4	2	55	30	2
SJ 02293	30N	11W 08	2	4	2	50	35	1
SJ 00249	30N	11W 08	2	4	2	46	30	1
SJ 01368	30N	11W 08	3	2		59	39	2
SJ 03089	30N	11W 08	3	2	4	48	36	1
SJ 03480	30N	11W 08	3	2	4	50		
SJ 03199	30N	11W 08	3	4	1	40	20	2
SJ 02413	30N	11W 08	3	4	1	40	31	
SJ 02915	30N	11W 08	3	4	1	45		
SJ 03367	30N	11W 08	3	4	4	29	5	2
SJ 01570	30N	11W 08	4	1		59	37	2
SJ 00925	30N	11W 08	4	1	2	32	20	1
SJ 03642	30N	11W 08	4	1	2	58	32	2
SJ 01520	30N	11W 08	4	1	2	58	18	4
SJ 03313	30N	11W 08	4	1	4	58	20	3

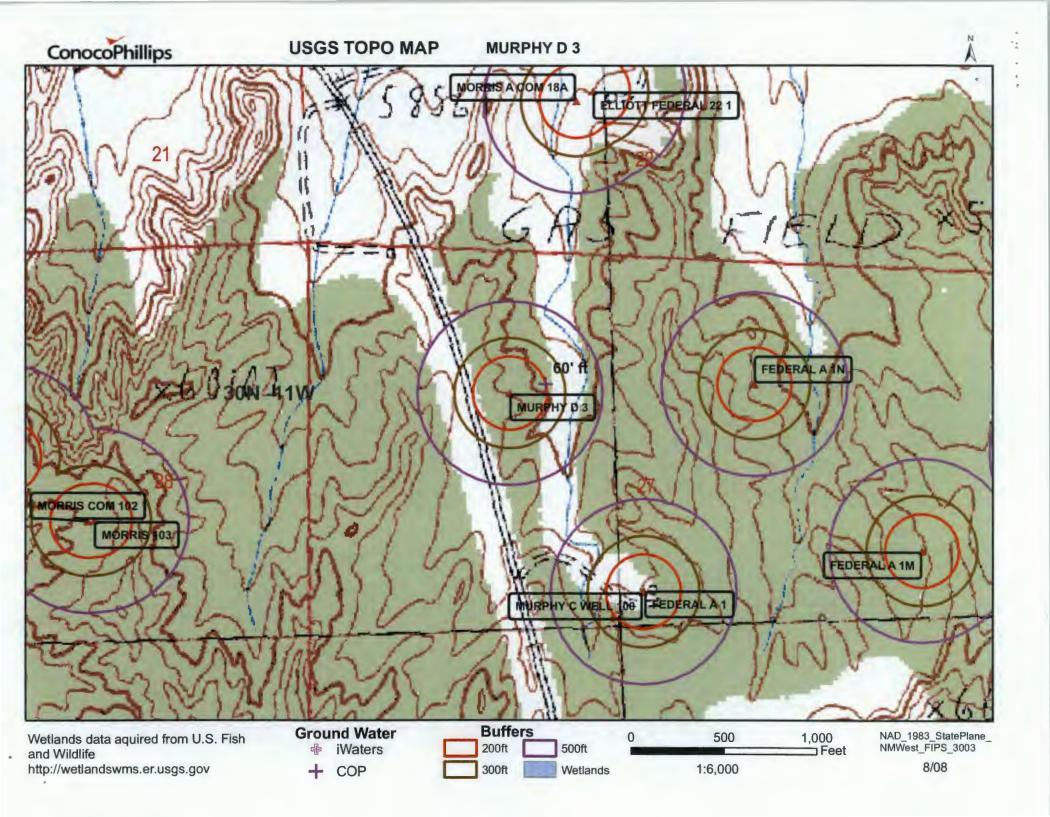
SJ 02485	30N	11W 08	4	1	4	4	49	30	1
SJ 02261	30N	11W 08	4	3	2				
SJ 03419	30N	11W 08	4	4	2		41	9	(*)
SJ 02241	30N	11W 09	1				39	27	1
SJ 01560	30N	11W 09		1			36	26	1
SJ 01585	30N	11W 09	1				40	28	1
SJ 03499	30N	11W 09	1	1	1		53	12	4
SJ 02236	30N	11W 09	1	1	1		35	17	1
SJ 03304	30N	11W 09	1	_	2		55	30	2
SJ 03209	30N	11W 09	1		3				
			1				49	32	1
SJ 03726 POD1	30N	11W 09			3		47	30	1
SJ 03342	30N	11W 09	1	1	3		50	31	1
SJ 03225	30N	11W 09	1	_	4		50		
SJ 03229	30N	11W 09	1	_	4		50		
SJ 00924	30N	11W 09	1		2		46	16	(*)
SJ 00438	30N	11W 09	1		3		29	19	1
SJ 01169	30N	11W 09		3			56	33	2
SJ 01574	30N	11W 09	1				46	27	1
SJ 02237	30N	11W 09	1		1		48	28	2
SJ 03019	30N	11W 09	1	-	1		50	30	2
SJ 02493	30N	11W 09	1	-	1		49	26	2
SJ 03724 POD1	30N	11W 09	1	3	1		47	36	1
SJ 03031	30N	11W 09	1	3	1		55	35	2
SJ 01465	30N	11W 09	1	3	2		47		
SJ 02336	30N	11W 09	1	3	2		46	11	(*)
SJ 03482	30N	11W 09	1	3	2		50		
SJ 03423	30N	11W 09	1	3	3		50	20	5
SJ 00750	30N	11W 09	1	4			26	6	2
SJ 02975	30N	11W 09	2	1	4		37	12	2
SJ 03268	30N	11W 09	2	2	2		61	10	5
SJ 00364	30N	11W 09	2	3	2		50	20	3
SJ 03128	30N	11W 09	2	3	2		50		
SJ 00364 CLW263561	30N	11W 09	2	3	2		33	11	2
SJ 01955	30N	11W 09	2	4			40	11	2
SJ 02528	30N	11W 09	2	4			60	28	(*)
SJ 02290	30N	11W 09	2	4	2		45	15	(*)
SJ 00347	30N	11W 09	4				36	19	1
SJ 01436	30N	11W 09	4	1			210	50	16
SJ 03471	30N	11W 09	4	1	1		20	5	1
SJ 03223	30N	11W 09	4	2	2		59	25	9
SJ 03263	30N	11W 09	4	2	2		63	35	2
SJ 03374	30N	11W 09	4	3	1		44	29	1
SJ 02796	30N	11W 09	4	3	2		100		
SJ 03214	30N	11W 09	4	4	2		93	63	3
SJ 03213	30N	11W 09	4		2		100		
SJ 02176	30N	11W 10		3	_		57	37	2
SJ 03356	30N	11W 10			1		55	30	2
SJ 03258	30N	11W 10		3	3		55	10	4
SJ 03444	30N	11W 10	1		3		60	10	-
SJ 03248	30N	11W 10		3	3		90	30	E
SJ 03354	30N	11W 10	1		3		80	30	E
SJ 00348	30N	11W 10	1		4		72	24	
SJ 03032	30N	11W 10	1		4				4
							80	30	5
SJ 02819	30N	11W 10	2	3	3		140	40	10
SJ 03282	30N	11W 10	2	3	4		70	30	4
SJ 03281	30N	11W 10	2	3	4		62	32	(*)
SJ 03572	30N	11W 10	3	1			70		
SJ 03218	30N	11W 10	3	3	3		50	30	2
SJ 01720	30N	11W 13					225	90	13

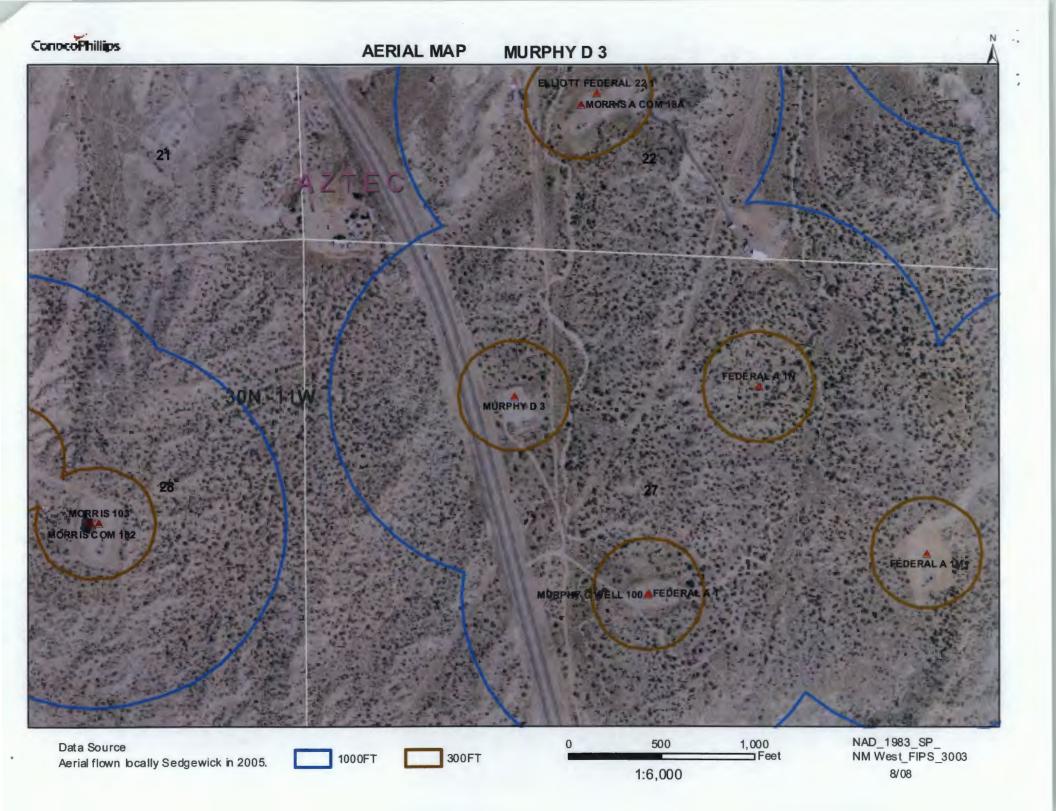
•								
SJ 03745 POD1	30N	11W 13	1 1 2			325	150	17
SJ 01693	30N	11W 13	1 3			225	89	13
SJ 01672	30N	11W 13	1 3			180	80	1(
SJ 01294	30N	11W 13	1 3 3			92	52	4
SJ 02773	30N	11W 16	1 1 3			46	25	2
SJ 00410	30N	11W 16	1 2			61	45	1
SJ 03010	30N	11W 16	1 3 1			80	40	Ţ
	30N	11W 16	1 3 3					
SJ 03257						80	40	4
SJ 02923	30N	11W 16	1 3 3			75	40	(*) (N (*)
SJ 03265	30N	11W 16	1 3 3			90	70	2
SJ 03310	30N	11W 16	1 3 3			55	20	
SJ 01082	30N	11W 16	221			80	34	Ļ
SJ 01722	30N	11W 17	1			20	8	1
SJ 01528	30N	11W 17	1 1			26	10	1
SJ 03373	30N	11W 17	1 1 3			50	35	1
SJ 01948	30N	11W 17	1 2			21	3	1
SJ 02817	30N	11W 17	122			15		
SJ 01722 POD2	30N	11W 17	124	266967	2116417	17	3	1
SJ 01899	30N	11W 17	1 3 2			27	7	2
SJ 03771 POD1	30N	11W 17	1 3 3	266811	211517	20	6	1
SJ 03750 POD1	30N	11W 17	1 3 3	266811	211517	20	6	1
SJ 03319	30N	11W 17	134			55	31	2
SJ 03266	30N	11W 17	143			30	10	2
SJ 03436	30N	11W 17	143			20		_
SJ 00745	30N	11W 17	2			54	30	2
SJ 00665	30N	11W 17	2 1			28	14	1
SJ 01342	30N	11W 17	2 1 1			26	5	
SJ 00166	30N	11W 17	2 3			48	11	(N (?) (?) (?) L) L-
SJ 01057	30N	11W 17	2 3			63	28	
	30N	11W 17	2 3			58		-
SJ 01060	30N	11W 17	233				23	2 F
SJ 03241						75	20	5
SJ 03269	30N	11W 17	234			80	10	1
SJ 01200	30N	11W 17	2 4			50	20	(1) (1) (N
SJ 03219	30N	11W 17	2 4 2			68	38	3
SJ 00159	30N	11W 17	3 1			35	8	
SJ 03276	30N	11W 17	314			60	20	4
SJ 01296	30N	11W 17	3 2			50	10	Ļ
SJ 03249	30N	11W 17	3 2 2			55	12	Ļ
SJ 01810	30N	11W 17	3 4			29	9	2
SJ 00411	30N	11W 17	4 1			60	25	3
SJ 00234	30N	11W 17	4 1			54	23	3
SJ 01847	30N	11W 17	4 1			30	6	01 03 (N 01 01 W
SJ 00457	30N	11W 17	4 1 2			52	18	<b>C ( )</b>
SJ 00650	30N	11W 17	4 1 3			49	18	(°)
SJ 02018	30N	11W 17	4 2			100	40	
SJ 00136	30N	11W 17	4 2			69	35	(7) (N
SJ 03718 POD1	30N	11W 17	4 2 2			68	41	2
SJ 03261	30N	11W 17	4 2 2			88	50	(*)
SJ 03215	30N	11W 18	1 1 3			52	9	4
SJ 01316	30N	11W 18	1 1 3			46	12	(*)
SJ 03152	30N	11W 18	1 1 3			52	22	3
SJ 02805	30N	11W 18	121			60		
SJ 03463	30N	11W 18	1 2 1			70	20	Ę
SJ 02996	30N	11W 18	1 2 1			50	25	2
SJ 00932	30N	11W 18	1 2 4			32	15	1
SJ 01738	30N	11W 18	1 3			33	6	2
								4
SJ 01733	30N	11W 18	13			29	9	2
SJ 01786	30N	11W 18	1 3			35	10	14
SJ 01401	30N	11W 18	1 3			44	12	(*)

, ÷

SJ 03526	30N	11W 18	1	3	1			40		
SJ 03176	30N	11W 18	1	4	1			48	20	2
SJ 03177	30N	11W 18	1	4	2			37	15	2
SJ 03344	30N	11W 18	1	4	2			100	8	ç
SJ 03801 POD1	30N	11W 18	2	2		266702	2116449	21	6	1
SJ 03800 POD1	30N	11W 18	2	2		266718	2116651	21	6	1
SJ 01639	30N	11W 18	2	2	2			40	18	2
SJ 02098	30N	11W 18	2	4				21	7	1
SJ 02109	30N	11W 18	2	4				19	4	1
SJ 02123	30N	11W 18	2	4				22	8	1
SJ 03290	30N	11W 18	2	4	4			40	10	3
SJ 02045	30N	11W 18	4					480	200	28
SJ 03322	30N	11W 18	4	4	1			40	10	3
SJ 03320	30N	11W 18	4	4	3			80		
SJ 03321	30N	11W 18	4	4	3			80		
SJ 02193	30N	11W 19							105	
SJ 03403	30N	11W 19	1	2	2			400		
SJ 00638	30N	11W 19	2	1				130	70	E
SJ 01073	30N	11W 19	2	1				100	38	E
SJ 03615	30N	11W 19	2	1	1			105	35	7
SJ 03434	30N	11W 19	2	1	4			140		
SJ 03088	30N	11W 19	2	1	4			120	80	4
SJ 01636	30N	11W 19	2	2				70	25	4
SJ 02862	30N	11W 19	2	2	3			20		
SJ 00284	30N	11W 19	2	4				200	35	16
SJ 03645	30N	11W 19	3	1	1			60	20	4
SJ 03533	30N	11W 19	3	1	3			20		
SJ 01621	30N	11W 19	3	2				40	38	
SJ 02692	30N	11W 19	3	2	2			52	12	Ę
SJ 02968	30N	11W 19	3	2	2			75	5	7
SJ 02812	30N	11W 19	3	2	2			50		
SJ 01123	30N	11W 19	4	1				40	15	2
SJ 03437	30N	11W 19	4	1	2			30		
SJ 03315	30N	11W 19	4	1	2			60	54	
SJ 00284 CLW222415	30N	11W 19	4	4				200	35	16
SJ 03224	30N	11W 30	1	2	4			80	30	5
SJ 03077	30N	11W 30	2	1	1			75	70	
SJ 03668	30N	11W 30	2	1	2			380	280	10
SJ 03251	30N	11W 32	3	4	4			150	77	7

Record Count: 303

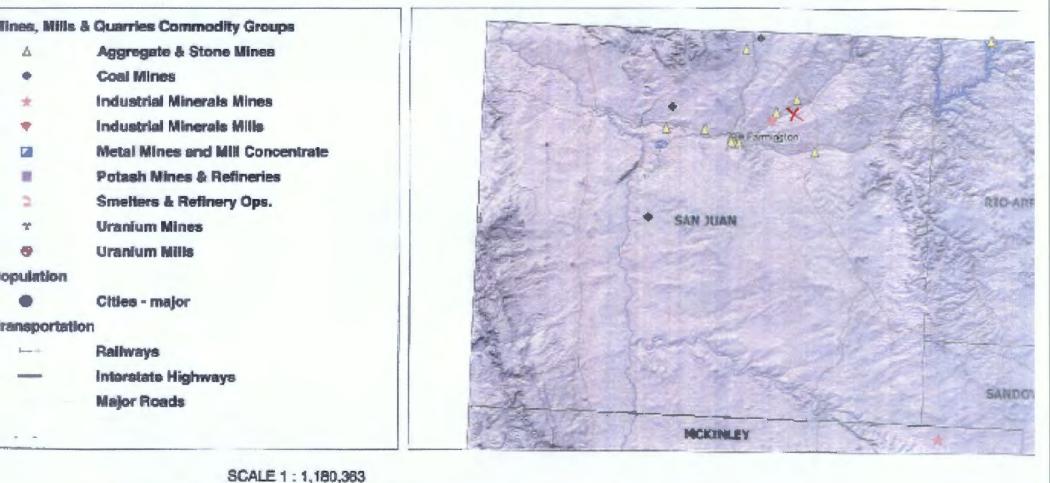


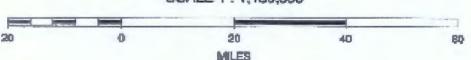


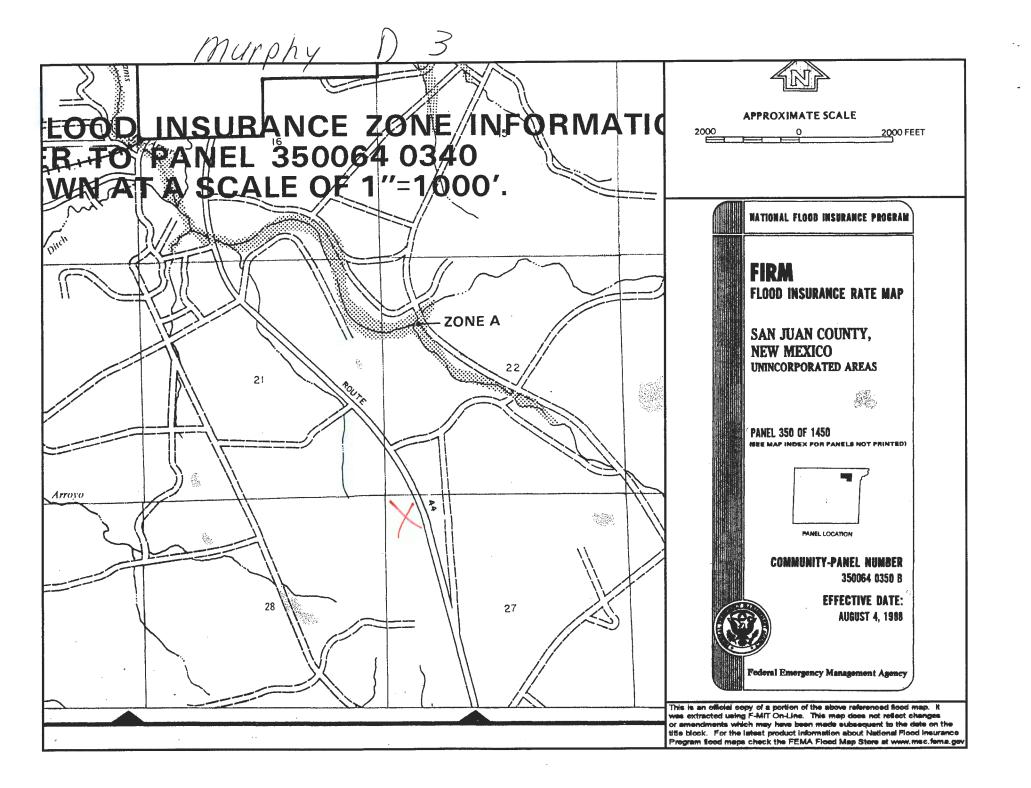
# Mines, Mills and Quarries Web Map

# MURPHY D 3

Unit Letter: D, Section: 27, Town: 030N, Range: 011W







# **MURPHY D 3**

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'MURPHY D 3', which is located at 36.78875 degree, North latitude and 107.98274 degree, West longitude. This location is located on the Aztec 7.5' USGS topographic quadrangle. This location is in section 27 of Township 30 North Range 11 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 2.3 miles to the north. The nearest large town (population greater than 10,000) is Farmington, located 12.9 miles to the west (National Atlas). The nearest highway is US Highway 550, located 0.1 miles to the west. The location is on BLM land and is 681 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 1801 meters or 5907 feet above sea level and receives 11 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 88 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 156 feet to the east and is classified by the USGS as an intermittent stream. The nearest perennial stream is 3,027 feet to the northwest. The nearest water body is 2,982 feet to the northwest. It is classified by the USGS as an intermittent lake and is 0.2 acres in size. The nearest spring is 27,231 feet to the southeast. 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 975 feet to the east. The nearest wetland is a 0.4 acre Freshwater Pond located 11,656 feet to the northwest. The slope at this location is 2 degree, to the northeast 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 'Gypsiorthids-Badland-Stumble complex, moderately steep' and is somewhat excessively drained and not hydric with severe erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 13.0 miles to the northeast 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, east-central San Juan Basin, New Mexico: USGS Professional Paper 552, 101 p.

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

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

Fassett, J.E., and Hinds, J.S., 1971, Geology and fuel resources of the Fruitland Formation and Kirtland Shale of the San Juan Basin, New Mexico and Colorado: USGS Professional Paper 676, 76 p. Levings, G.W., Craigg, S.d., Dam, W.L., Kernodle, J.M., and Thorn, C.R., 1990, Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan structural basin, New Mexico, Colorado, Arizona, and Utah: USGS Hydrologic Investigations Atlas HA-720-A, 2 sheets.

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

# 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.

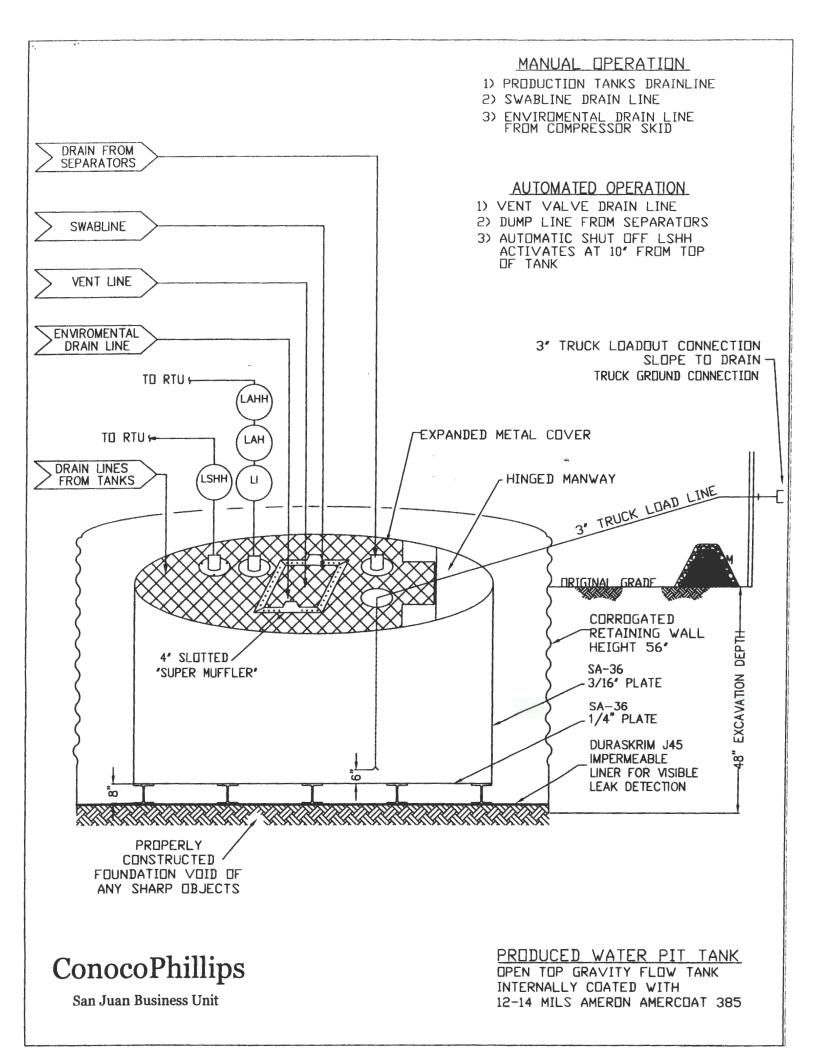
### General Plan:

- 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.
- 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.

۰.

- 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®

HEAR CONTRACT	in the state	HALL HES		- And
X		K		
11	1	L		

PROPERTIES	TEST METHOD	J30BB		J36BB		J45BB	
		Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages
Appearance		Black/Black		Black/Black		Black/Black	
Thickness	ASTM D 5199	27 mil	30 mil	32 mil	36 mil	40 mil	45 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 lbs (30.24)
Construction		**Extrusion laminated with encapsulated tri-directional scrim reinforcement					
Ply Adhesion	ASTM D 413	16 lbs	20 lbs	19 lbs	24 lbs	25 lbs	31 lbs
t* Tensile Strength	ASTM D 7003	88 lbf MD 63 lbf DD	110 lbf MD 79 lbf DD	90 lbf MD 70 lbf DD	113 lbf MD 87 lbf DD	110 lbf MD 84 lbf DD	138 lbf MD 105 lbf DD
1" Tensile Elongation @ Break. % (Film Break)	ASTM D 7003	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD
1" Tensile Elongation @ Peak % (Scrim Break)	ASTM D 7003	20 MD 20 DD	33 MD 33 DD	20 MD 20 DD	30 MD 31DD	20 MD 20 DD	36 MD 36 DD
Tongue Tear Strength	ASTM D 5884	75 lbf MD 75 lbf DD	97 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
Grab Tenslle	ASTM D 7004	180 lbf MD 180 lbf DD	218 lbf MD 210 lbf DD	180 lbf MD 180 lbf DD	222 lbf MD 223 lbf DD	220 lbf MD 220 lbf DD	257 lbf MD 258 lbf DD
Trapezoid Tear	ASTM D 4533	120 lbf MD 120 lbf DD	146 lbf MD 141 lbf DD	130 lbf MD 130 lbf DD	189 lbf MD 172 lbf DD	160 lbf MD 160 lbf DD	193 lbf MD 191 lbf DD
* Dimensional Stability	ASTM D 1204	<1	<0.5	<1	<0.5	<1	<0.5
Puncture Resistance	ASTM D 4833	50 lbf	64 lbf	65 lbf	83 lbf	80 lbf	99 lbf
Maximum Use Temperature		180° F	180° F	180° F	180° F	180° F	180° F
Minimum Use Temperature		-70° F	-70° F	-70° F	-70° F	-70° F	-70° F

MD = Machine Direction

DD = Diagonal Directions



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

\*Dimensional Stability Maximum Value

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

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



# PLANT LOCATION

Sioux Falls, South Dakota

# SALES OFFICE

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

08/06

# RAVEN INDUSTRIES INC. EXPOSED GEOMEMBRANE LIMITED WARRANTY

. .

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

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

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

Any claim for any alleged breach of this warranty must be made in writing, by certified mail, to the General Manager of Engineered Films Division of Raven Industries Inc. within ten (10) days of becoming aware of the alleged defect. Should the required notice not be given, the defect and all 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 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 live 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.
- 8. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following:
  - i. Operator's name

.

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