District I \$\frac{1}{8}\$ 1625 N.A.French Dr.. Hobbs, NM 88240

District II 1301 W Grand Ave , Artesia, NM 88210

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

District IV

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

State of New Mexico
Energy Minerals and Natural Resources
Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-144 July 21, 2008

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

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

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

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

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

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the arrivenment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

environment Nor does approval relieve the operator of its responsibility to comply	with any other appricable governmental authority's rules, regulations of ordinances
Operator: ConocoPhillips Company	OGRID#: <b>217817</b>
Address: PO Box 4289, Farmington, NM 87499	
Facility or well name: Rhoda Abrams 2M	
API Number: 30-045-34406	OCD Permit Number:
U/L or Qtr/Qtr: K(NE/SW) Section: 5 Township: 30N	Range: 11W County: San Juan
Center of Proposed Design: Latitude: 36.84062 °N	Longitude: 108.01838 °W NAD: 1927 X 1983
Surface Owner: X Federal State Private	Fribal Trust or Indian Allotment
Pit: Subsection F or G of 19.15.17.11 NMAC  Temporary: Drilling Workover  Permanent Emergency Cavitation P&A  Lined Unlined Liner type: Thickness mil  String-Reinforced  Liner Seams: Welded Factory Other	Under by the property of the p
Closed-loop System: Subsection H of 19.15.17.11 NMAC  Type of Operation: P&A Drilling a new well Workover notice of in  Drying Pad Above Ground Steel Tanks Haul-off Bins  Lined Unlined Liner type: Thickness mil  Liner Seams: Welded Factory Other	Other
	water Oll CONS. DIV. DIST. 3  Der, 6-inch lift and automatic overflow shut-off Other
5  Alternative Method:  Submittal of an exception request is required. Exceptions must be submitted t	

Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent put, temporary puts, and below-grade tanks)  Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)  Four foot height, four strands of barbed wire evenly spaced between one and four feet  X Alternate. Please specify 4' hogwire fence with a single strand of barbed wire on top.											
Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)  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											
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:  Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval.  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	leration of appi	roval.									
Siting Criteria (regarding permitting) 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau Office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above grade-tanks associated with a closed-loop system.											
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.  NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes	XNo									
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	Yes	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)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	∐ <sup>NA</sup>										
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 X NA	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	<b>X</b> No									
- 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  - Written confirmation or verification from the municipality; Written approval obtained from the municipality	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	Yes	X No									
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	Yes	X No									
Within a 100-year floodplain - FEMA map	Yes	XNo									

Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Checklist Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.    X   Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
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
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of
19.15.17.9 NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design)  API or Permit
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.  Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9
NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design)  API
Previously Approved Operating and Maintenance Plan API
13
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
Hydrogeologic Report - based upon the requirements of Paragraph (I) of Subsection B of 19.15.17.9 NMAC
Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
Climatological Factors Assessment
Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
Dike Protection and Structural Integrity Design: based upon the appropriate requirements of 19.15.17.11 NMAC
Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
Quality Control/Quality Assurance Construction and Installation Plan
Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
Nuisance or Hazardous Odors, including H2S, Prevention Plan
☐ Emergency Response Plan ☐ Oil Field Waste Stream Characterization
Monitoring and Inspection Plan
Erosion Control Plan
Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
14
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit X Below-grade Tank Closed-loop System  Alternative
Proposed Closure Method: X Waste Excavation and Removal
Waste Removal (Closed-loop systems only)
On-site Closure Method (only for temporary pits and closed-loop systems)
In-place Burial On-site Trench
Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
15
Waste Excavation and Removal Closure Plan Checklist (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan.  Please indicate, by a check mark in the box, that the documents are attached.
X   Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
X Confirmation Sampling Plan (if applicable) - 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)
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
Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Form C-144 Oil Conservation Division Page 3 of 5

16		
Waste Removal Closure For Closed-loop Systems That Utilize Above C Instructions. Please identify the facility or facilities for the disposal of liqu	Ground Steel Tanks or Haul-off Bins Only:(19 15.17 13.D NMAC) ads, drilling fluids and drill cuttings—Use attachment if more than tw	o
facilities are required.  Disposal Facility Name:	Disposal Equility Pownit #	
Disposal Facility Name:  Disposal Facility Name:	· · · · · · · · · · · · · · · · · · ·	
Will any of the proposed closed-loop system operations and associ		
Yes (If yes, please provide the information No	•	
Required for impacted areas which will not be used for future service and  Soil Backfill and Cover Design Specification - based upon to  Re-vegetation Plan - based upon the appropriate requirements	the appropriate requirements of Subsection H of 19.15.17.13	NMAC
Site Reclamation Plan - based upon the appropriate requirement		
17 Siting Criteria (Regarding on-site closure methods only: 19.15.1 Instructions: Each siting criteria requires a demonstration of compliance in the clos		w. Requests regarding changes to
certain siting criteria may require administrative approval from the appropriate disi office for consideration of approval Justifications and/or demonstrations of equival	trict office or may be considered an exception which must be submitted to the	
Ground water is less than 50 feet below the bottom of the buried w		Yes No
- NM Office of the State Engineer - iWATERS database search; USG	S Data obtained from nearby wells	∐N/A
Ground water is between 50 and 100 feet below the bottom of the		Yes No
- NM Office of the State Engineer - iWATERS database search; USG	S: Data obtained from nearby wells	∐N/A
Ground water is more than 100 feet below the bottom of the buried		Yes No
- NM Office of the State Engineer - iWATERS database search; USG	•	∐N/A
Within 300 feet of a continuously flowing watercourse, or 200 feet of any (measured from the ordinary high-water mark).	YesNo	
- Topographic map; Visual inspection (certification) of the proposed s		Tyes TNo
Within 300 feet from a permanent residence, school, hospital, institution, c - Visual inspection (certification) of the proposed site; Aerial photo, sa		
Within 500 horizontal feet of a private, domestic fresh water well or spring	that less than five households use for domestic or stock watering	Yes No
purposes, or within 1000 horizontal fee of any other fresh water well or spi - NM Office of the State Engineer - iWATERS database, Visual inspec	ring, in existence at the time of the initial application	
Within incorporated municipal boundaries or within a defined municipal fre pursuant to NMSA 1978, Section 3-27-3, as amended	·	Yes No
Written confirmation or verification from the municipality; Written a Within 500 feet of a wetland     US Fish and Wildlife Wetland Identification map; Topographic map	. ,	Yes No
Within the area overlying a subsurface mine.		Yes No
- Written confiramtion or verification or map from the NM EMNRD-M	lining and Mineral Division	
Within an unstable area Engineering measures incorporated into the design; NM Bureau of G	aclory & Munaral Pascurras: LISCS, NM Caclorical Society.	Yes No
Topographic map	cology & Milleral Resolutess, OSOS, MM declogical Society,	
Within a 100-year floodplain FEMA map		Yes No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instruction	ons: Each of the following items must bee attached to the cl	osure plan. Please indicate,
by a check mark in the box, that the documents are attached.  Siting Criteria Compliance Demonstrations - based upon the	e annronriate requirements of 19 15 17 10 NMAC	,
Proof of Surface Owner Notice - based upon the appropriate	** *	
	ased upon the appropriate requirements of 19.15.17.11 NMA	С
Construction/Design Plan of Temporary Pit (for in place bu	rial of a drying pad) - based upon the appropriate requiremen	ts of 19.15.17.11 NMAC
Protocols and Procedures - based upon the appropriate requ		
	e appropriate requirements of Subsection F of 19.15.17.13 NI	MAC
Waste Material Sampling Plan - based upon the appropriate		rds cannot be achieved)
Disposal Facility Name and Permit Number (for liquids, dri Soil Cover Design - based upon the appropriate requiremen	illing fluids and drill cuttings or in case on-site closure standards of Subsection H of 19.15.17.13 NMAC	ius camiot of achieved)
Re-vegetation Plan - based upon the appropriate requirement		
Site Reclamation Plan - based upon the appropriate require		

Form C-144 Oil Conservation Division Page 4 of 5

Operator Application Certification:			
I hereby certify that the information submitted with this app			
Name (Print): Dollie L Buss	<del></del>	Staff Regulatory	
Signature:	Date: -	11/19/0	
e-mail address: dollie.l.busse@conocor	<u>phillips.com</u> Telephone	: 505-324-	6104
OCD Approval: Permit Application (including OCD Representative Signature:	L BULL	Approval	Date: 1-5-10
Title: Ealin/	spec oci	Permit Number:	
Closure Report (required within 60 days of closur Instructions: Operators are required to obtain an approved report is required to be submitted to the division within 60 approved closure plan has been obtained and the closure and the clos	l closure plan prior to implementing any days of the completion of the closure ac ctivities have been completed	closure activities and submitting	=
Closure Method:  Waste Excavation and Removal On-si If different from approved plan, please explain.	te Closure Method Alternative	Closure Method Waste F	Removal (Closed-loop systems only)
23  Closure Report Regarding Waste Removal Closure For Instructions: Please identify the facility or facilities for wiwere utilized.  Disposal Facility Name:  Disposal Facility Name:	here the liquids, drilling fluids and dril  Disposal		
Were the closed-loop system operations and associated  Yes (If yes, please demonstrate complilane to the in	·	vill not be used for future serve	ce and opeartions?
Required for impacted areas which will not be used for Site Reclamation (Photo Documentation)	future service and operations:		)
Soil Backfilling and Cover Installation			,
Re-vegetation Application Rates and Seeding Tech	nique		
Closure Report Attachment Checklist: Instruct the box, that the documents are attached.  Proof of Closure Notice (surface owner and d Proof of Deed Notice (required for on-site clo Plot Plan (for on-site closures and temporary Confirmation Sampling Analytical Results (if Waste Material Sampling Analytical Results (if Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Site Reclamation (Photo Documentation) On-site Closure Location: Latitude:	ivision) osure) pits) applicable) (if applicable)		rt. Please indicate, by a check mark in
Operator Closure Certification:  I hereby certify that the information and attachments subm the closure complies with all applicable closure requirements.	nts and conditions specified in the appro		of my knowledge and belief. I also certify that
Name (Print):	Title:		
Signature:	Date:		
e-mail address:	Telepho	ne:	

Page 5 of 5



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

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

		(quarte				to larg	jest)	(NAD83 UTN	/l in meters	)	(In feet	<u>)</u>
BOD Nu Washington	Sub	6.5 02	4 10 11 11	Q (			Page	-	dayare.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Depth <sub>e</sub> v	/ .   - <b>!</b>
FOD Number	basin Use		04	10 4	+ Sec	IWS	Kng	<b>X</b>	- Т	vveii	WaterC	olumn
SJ 00135	DOM	SJ		1 4	1 07	30N	11W	229764	4079745*	180	23	157
SJ 00162	DOM	SJ	3	1 4	1 07	30N	11W	229663	4079644*	58	23	35
SJ 00183	/ · · DOM	SJ		1	1 08	30N	11W	230601	4080532*	360	300	60
SJ 00220	DOM	SJ	3	2 2	2 08	30N	11W	231695	4080392*	60	36	24
SJ 00228	DOM	SJ	4	2 2	2 08	30N	11W	231895	4080392*	67	38	29
SJ 00249	DOM	SJ	2	4 2	2 08	30N	11W	231879	4080189*	46	30	16
SJ 00259	DOM	SJ		4 ;	2 07	30N	11W	230184	4080137*	25	12	13
SJ 00329	DOM	SJ	3	1 4	1 07	30N	11W	229663	4079644*	63	20	43
SJ 00332	DOM	SJ		2 2	2 08	30N	11W	231796	4080493*	52	34	18
SJ 00347	, DOM	SJ		4	1 09	30N	11W	233146	4079436*	36	19	17
SJ 00358	DOM	SJ	3	4	07	30N	11W	229289	4080055*	61	38	23
SJ 00364	DOM	SJ	2	3 2	2 09	30N	11W	233071	4080140*	50	20	30
SJ 00387	DOM	SJ	3	4	07	30N	11W	229289	4080055*			
SJ 00389	DOM	SJ	3	4	07	30N	11W	229289	4080055*	53		
SJ 00397	DOM	SJ	3	4	07	30N	11W	229289	4080055*	56	35	21
SJ 00415	DOM	SJ	3	4	07	30N	11W	229289	4080055*	53	40	13
SJ 00438	DOM	SJ	3	2	09	30N	11W	232486	4080362*	29	19	10
SJ 00601	DOM	SJ	2	3 4	07	30N	11W	229844	4079443*	40	22	18
SJ 00604	DOM	SJ	2	3 4	1 07	30N	11W	229844	4079443*	38	22	16
SJ 00620	DOM	SJ	3	1 4	1 07	30N	11W	229663	4079644*	52	35	17
SJ 00679	DOM	SJ	3	1 4	07	30N	11W	229663	4079644*	48	22	26
SJ 00688	DOM	SJ	3	4	07	30N	11W	229289	4080055*	70	58	12
SJ 00689	DOM	SJ	3	4	07	30N	11W	229289	4080055*	78	65	13
SJ 00690	· DOM	SJ	3	4	07	30N	11W	229289	4080055*	60		
SJ 00739	DOM	SJ	3	4	07	30N	11W	229289	4080055*	70	58	12
SJ 00748	DOM	SJ	3 .	4	07	30N	11W	229289	4080055*	60	41	19
SJ 00750	DOM	SJ		4	09	30N	11W	232573	4080059*	26	6	20
SJ 00769	DOM	SJ		1 4	1 07	30N	11W	229764	4079745*	50	14	36
SJ 00806	DOM	SJ	3	4	07	30N	11W	229289	4080055*	38	20	18
location was derived from F	PLSS - see Help											

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

	(quarte				allest	io larg	est)	(NAD83 UTIV	(in feet)				
POD Number	Sub basin Use	County		Q 16		Soc	Twe		M Y de la			Depth	Water Column
SJ 00882	DOM				1								
SJ 00882 SJ 00889	DOM	SJ SJ	3	4	1	07 07		11W 11W		4080055* 4080055*		50	10
SJ 00893	DOM	SJ	J		4	07		11W		4079735*		40	40
SJ 00093 SJ 00918	DOM	SJ	2		4	07		11W		4079443*		14	21
SJ 00919	DOM	SJ	2	3	4	07		11W		4079443*		12	23
SJ 00919 SJ 00920	DOM	SJ	2		4	07		11W		4079443*		12	23
SJ 00920 SJ 00924	DOM	SJ	2	2	1	09		11W		4080562*		16	30
SJ 00925	DOM	SJ	2	1	4	08		11W		4079798*		20	12
SJ 01115	DOM	SJ	4	2	2	08		11W		4080392*		26	9
SJ 01169	DOM	SJ	4	3	1	09		11W		40800392		33	23
SJ 01172	DOM	SJ			3	09		11W		4079755*		30	20
SJ 01172	DOM	SJ		.3	3	07		11W		4079364*		50	30
SJ 01364	DOM	SJ		. 3	2	04		11W		4079304		86	29
SJ 01367	DOM	SJ	1	4	4	04		11W		4080925*		20	28
SJ 01368	DOM	SJ	'	2	3	08		11W		4079711*		39	20
SJ 01300	DOM	SJ		3	4	07		11W		4079344*		15	25
SJ 01406	DOM	SJ		1	4	07		11W		4079745*		12	33
SJ 01425	DOM	SJ		4	3	07		11W		4079353*	55	25	30
SJ 01436	DOM	SJ		1	4	09		11W		4079638*	210	50	160
SJ 01450	DOM	SJ		3	4	04		11W		4080846*	45	20	25
SJ 01451	DOM	SJ			2	08		11W		4080493*	64	34	30
SJ 01465	DOM	SJ	2		1	09		11W		4080177*			
SJ 01468	DOM	SJ		4	3	07		11W	229361	4079353*		25	35
SJ 01475	DOM	SJ	3	3	2	07		11W	229682	4080046*		27	22
SJ 01484	DOM	SJ		3	3	07	30N	11W	228950	4079364*	61	10	51
SJ 01492	DOM	SJ			3	07	30N	11W	229151	4079565*	60	22	38
SJ 01520	DOM	SJ	2	1	4	08	30N	11W	231467	4079798*	58	18	40
SJ 01560	DOM	SJ		1	1	09	30N	11W	232188	4080482*	36	26	10
SJ 01567	DOM	SJ	2	4	4	07	30N	11W	230247	4079431*	35	14	21
SJ 01570	DOM	SJ		1	4	08	30N	11W	231368	4079699*	59	37	22
SJ 01574	DOM	SJ		3	1	09	30N	11W	232174	4080078*	46	27	19
SJ 01585	DOM	SJ		1	1	09		11W		4080482*	40	28	12

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet) Sub QQQ  $R = \{ (0,1), \dots, (1,n) \}$ **Depth Depth Water** Y Well WaterColumn **POD Number** basin Use County 6416 4 Sec Tws Rng Х SJ 01667 DOM SJ 07 30N 11W 229745 4079344\* 41 21 20 3 4 SJ 01814 DOM SJ 2 2 08 30N 11W 231796 4080493\* 52 10 42 SJ 01955 DOM 2 30N 11W SJ 09 233370 4080022\* 40 11 29 4 SJ 01968 DOM 30N 11W 231796 4080493\* 40 25 SJ 2 2 80 15 SJ 01999 2 61 DOM SJ 2 08 30N 11W 231796 4080493\* 45 16 3 20 SJ 02005 DOM SJ 4 07 30N 11W 229460 4079252\* 55 35 11W 24 SJ 02006 DOM SJ 3 07 30N 229460 4079452\* 50 26 4 SJ 02140 DOM SJ 228886 4080666\* 60 1 1 1 07 30N 11W 70 10 22 SJ 02194 DOM SJ 07 30N 11W 229553 4079967\* 59 37 SJ 02236 DOM SJ 1 1 09 30N 11W 232087 4080581\* 35 17 18 28 SJ 02237 DOM SJ 3 1 09 30N 11W 232073 4080177\* 48 20 SJ 02241 DOM SJ 09 30N 11W 232375 4080279\* 39 27 12 SJ 02261 REC SJ 2 3 4 80 30N 11W 231449 4079393\* SJ 02290 DOM SJ 4 2 09 30N 11W 233469 4080121\* 45 15 30 SJ 02293 DOM SJ 4 2 80 30N 11W 231879 4080189\* 50 35 15 SJ 02331 DOM SJ 4 2 08 30N 11W 231879 4080189\* 53 35 18 SJ 02336 DOM SJ 09 30N 11W 232273 4080177\* 46 11 35 3 1 SJ 02413 DOM SJ 3 80 30N 11W 230850 4079406\* 40 31 9 SJ 02485 DOM SJ 4 08 30N 11W 231467 4079598\* 49 30 19 1 SJ 02493 DOM SJ 3 09 30N 11W 232073 4080177\* 49 26 23 1 SJ 02528 DOM SJ 2 09 30N 11W 233370 4080022\* 60 28 32 4 SJ 02715 DOM SJ 4 3 07 30N 11W 229460 4079252\* 68 20 48 SJ 02796 DOM SJ 3 4 09 30N 11W 233044 4079334\* 100 SJ 02903 DOM SJ 3 2 04 30N 11W 233127 4081744\* 49 31 18 SJ 02906 DOM SJ 1 4 07 30N 11W 229863 4079644\* 45 24 21 SJ 02915 DOM SJ 4 3 08 30N 11W 230850 4079406\* 45 SJ 02936 DOM SJ 1 4 07 30N 11W 229663 4079844\* 38 30 8 SJ 02941 DOM SJ 2 3 4 04 30N 11W 233098 4080945\* 58 37 21 SJ 02975 DOM SJ 1 2 09 30N 11W 233084 4080342\* 37 12 25 SJ 03019 DOM SJ 3 09 30N 11W 232073 4080177\* 50 30 20 DOM 2 231879 4080189\* 56 40 16 SJ 03030 SJ 4 08 30N 11W SJ 03031 DOM SJ 1 3 1 09 30N 11W 232073 4080177\* 55 35 20

<sup>\*</sup>UTM location was derived from PLSS - see Help

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

	Sub	(quarte	Q (				~-	(NAD83 UTN			(in fee	- ' -
POD Number	basin Use	County			1.1	Tws	Rng			•	•	olumn
SJ 03039	DOM	SJ	2	1 4	1 04	30N	11W	233112	4081344*	53	40	13
SJ 03076	DOM	SJ	3 2	2 2	2 04	30N	11W	233339	4081916*	44	10	. 34
SJ 03089	DOM	SJ	4 :	2 3	3 08	30N	11W	231067	4079610*	48	36	12
SJ 03098	DOM	SJ	2 2	2 2	2 08	30N	11W	231895	4080592*	63	23	40
SJ 03128	DOM	SJ	2 :	3 2	2 09	30N	11W	233071	4080140*	50		
SJ 03154	DOM	SJ	4	1 1	1 08	30N	11W	230700	4080431*	40		
SJ 03199	DOM	SJ	1 4	4 3	3 08	30N	11W	230850	4079406*	40	20	20
SJ 03202	DOM	SJ	2 4	4 2	2 08	30N	11W	231879	4080189*	45		
SJ 03209	DOM	SJ	3	1 1	l 09	30N	11W	232087	4080381*	49	32	17
SJ 03210	DOM	SJ	2 2	2 2	2 08	30N	11W	231895	4080592*	60	30	30
SJ 03213	DOM	SJ	2 4	4 4	09	30N	11W	233443	4079317*	100		
SJ 03214	DOM	SJ	2 4	4 4	1 09	30N	11W	233443	4079317*	93	63	30
SJ 03223	DOM	SJ	2 2	2 4	1 09	30N	11W	233456	4079719*	59	25	34
SJ 03225	DOM	SJ	4	1 1	I 09	30N	11W	232287	4080381*	50		
SJ 03229	DOM	SJ	4	1 1	I 09	30N	11W	232287	4080381*	50		
SJ 03240	DOM	SJ	2 2	2 2	2 08	30N	11W	231895	4080592*	50		
SJ 03245	DOM	SJ	4 4	4 4	1 06	30N	11W	230318	4080843*	80	65	15
SJ 03263	DOM	SJ	2 2	2 4	1 09	30N	11W	233456	4079719*	63	35	28
SJ 03267	DOM	SJ	3	1 2	2 05	30N	11W	231359	4081993*	83	60	23
SJ 03268	DOM	SJ	2 2	2 2	2 09	30N	11W	233482	4080523*	61	10	51
SJ 03271	. DOM	SJ	2 :	3 2	2 07	30N	11W	229882	4080246*			
SJ 03303	DOM	SJ	2 4	4 2	2 08	30N	11W	231879	4080189*	55	30	25
SJ 03304	DOM	SJ	2	1 1	09	30N	11W	232287	4080581*	55	30	25
SJ 03305	DOM	SJ	2 4	4 2	2 08	30N	11W	231879	4080189*	50		
SJ 03313	DOM	SJ	4	1 4	80	30N	11W	231467	4079598*	58	20	38
SJ 03342	DOM	SJ	3	1 1	09	30N	11W	232087	4080381*	50	31	19
SJ 03367	DOM	SJ	4 4	4 3	3 08	30N	11W	231050	4079206*	29	5	24
SJ 03374	DOM	SJ	1 :	3 4	1 09	30N	11W	232844	4079334*	44	29	15
SJ 03378	DOM	SJ	2 4	4 2	2 08	30N	11W	231879	4080189*	50		
SJ 03381	DOM	SJ	2 2	2 2	2 08	30N	11W	231895	4080592*	50		
SJ 03398	DOM	SJ	1 2	2 2	2 08	30N	11W	231695	4080592*	80	20	60
SJ 03407	EXP	SJ	4 4	4 4	1 04	30N	11W	233168	4081010	30	5	25

\*UTM location was derived from PLSS - see Help

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet) QQQ Sub The Special Labor Depth Depth Water Y Well Water Column POD Number basin Use County 64 16 4 Sec Tws Rng X SJ 03419 EXP SJ 2 4 4 08 30N 11W 231847 4079381\* 41 32 SJ 03423 DOM SJ 3 3 1 09 30N 11W 232073 4079977\* 50 20 30 SJ 03431 DOM 4 1 08 30N 11W 230985 4080115\* 50 SJ SJ 03465 DOM 4 3 2 07 30N 11W 229882 SJ 4080046\* 80 SJ 03471 DOM SJ 1 1 4 09 30N 11W 232857 4079737\* 20 5 15 SJ 03480 DOM 4 2 3 08 30N 11W SJ 231067 4079610\* 50 SJ 03482 30N 11W DOM 2 3 1 09 232273 4080177\* 50 SJ SJ 03484 DOM 3 4 3 07 30N 11W 229260 4079252\* 75 SJ SJ 03499 DOM SJ 1 1 1 09 30N 11W 232087 4080581\* 53 12 41 SJ 03630 DOM 3 3 3 07 30N 11W 228849 4079263\* 68 SJ 24 44 SJ 03639 DOM 4 2 2 08 30N 11W 231895 4080392\* SJ 60 24 36 SJ 03642 DOM 2 1 4 08 30N 11W 231467 4079798\* 58 26 SJ 32 30N 11W 37 SJ 03646 DOM 4 2 2 08 231895 4080392\* 61 SJ 24 30N 11W SJ 03653 DOM SJ 4 2 2 08 231895 4080392\* 62 26 36 SJ 03724 POD1 DOM 1 3 1 09 30N 11W 232073 4080177\* 47 SJ 36 11 DOM 30N 11W 232087 4080381\* SJ 03726 POD1 3 1 1 09 47 30 17 SJ SJ 03794 POD1 30N 11W 17 DOM 3 1 3 07 228894 4079720 27 SJ 44 SJ 03862 POD2 30N 11W **EXP** SJ 2 3 2 09 233126 4080190 18 4 14 SJ 03862 POD3 **EXP** SJ 2 3 2 09 30N 11W 233129 4080168 18 14 4 SJ 03889 POD1 DOL 1 1 2 09 30N 11W 232969 4080501 37 22 SJ 15 Average Depth to Water: 29 feet Minimum Depth: 4 feet

Record Count: 145

PLSS Search:

Section(s): 4, 5, 6, 7, 8, 9 Township: 30N Range: 11W Maximum Depth:

300 feet



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

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

		٠.		(quarte	(quarters are smallest to							/I in meters)	(In feet)			
POD Num <u>ber</u>	anger per ok er en en general en general general en general en g	Ban Ant で	Use	County	S SHOWER	Q 16	_	Sec	Tws	Rng	X	Y	5,075,79	1 Barrella	Water Column	
SJ 01137	1		DOM	SJ	4	4	4	33	31N	11W	233553	4082312*	37	19	18	
SJ 01811			DOM	SJ		2	2	31	31N	11W	230320	4083731*	89	50	39	
SJ 02993	٠, .		DOM	·SJ	2	3	4	33	31N	11W	233155	4082527*	280	160	120	
SJ 02994	,		STK	SJ	2	3	4	33	31N	11W	233155	4082527*	300	200	100	
SJ 03885 POD3			EXP	SJ	2	3	1	33	31N	11W	237547	4087396	25	17	8	
	•	.′	ŧ								Avera	age Depth to	o Water:	89 1	eet	
												Minimun	n Depth:	17 1	feet	
												Maximun	n Depth:	200 1	eet	

**Record Count: 5** 

PLSS Search:

Section(s): 31, 32, 33

Township: 31N

Range: 11W

Submit to Appropriate District Office

### State of New Mexico .

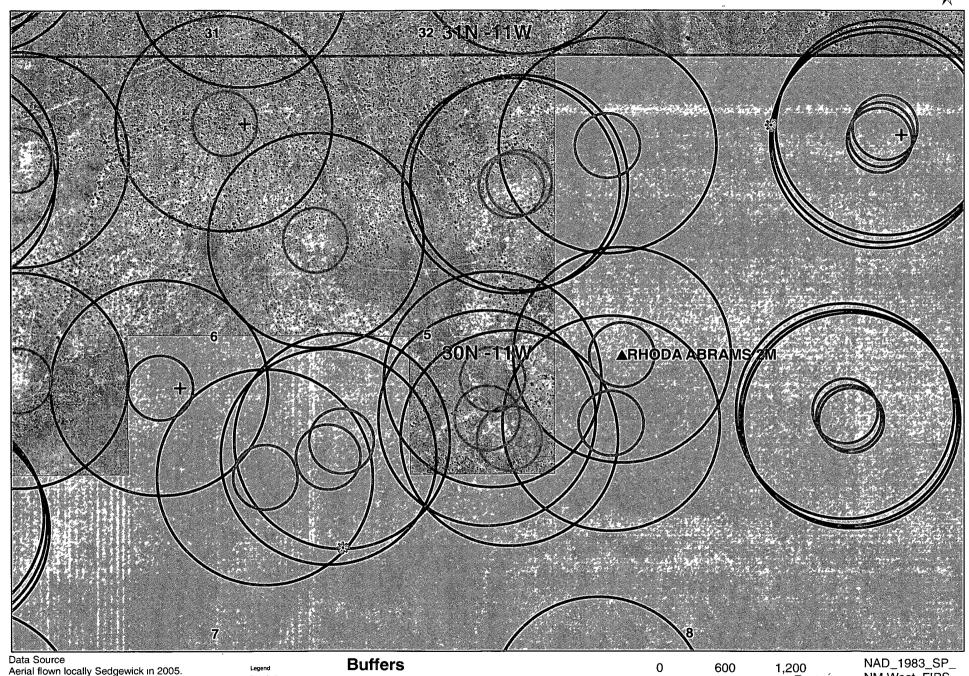
Submit to Appropriate				State of	i New Mexico	ο,								
District Office		Ene	rgy, Minora	ils and Natu	ral Rosourcos	Departme	ani				1			
State Lease - 6 copies Fee Lease - 5 copies DISTRICT I	i.							Use	.Curre	nt	form	Form C-10 Hevised 1-	1-89	
P.O. Box 1980, Hobbs	, NM 692	<sup>240</sup> O	IL CO		ATION D	NVISIO	NC			WELL API NO.				
<u>DISTRICT II</u>	'- AILEG	20010	01	P. O. Bo	•					30-045-34406				
P.O. Drawer DD, Artes	XB, NW o	8210	Sant	a Fe, New	/ Mexico B7	/504-208	88			5 Indica	STATE	FEE X		
DISTRICT (I) 1000 Ric Brazos Rd., .	Astron Mi	M 97410								6. Slate	Oil & Gas Lease No	).		
			o DEC	ARROL E	TION D	EDAE	T ANI	3100						
WELL COM		IOIA O	ח חבט	UNIFLE	SHOW N	EPUN	1 MAI	) LUG			No.			
OIL WELL		gas Weil	X	DRY	OTHER					/. Lens	RCVD JU	N 24'08	3	
► TYPE OF COMP		<u>.                                    </u>		. —								NS. DIV.		
NEW WORK OVER DEEPEN BACK RESVR OTHER Rhoda Abrams DIST. 3														
2 Name of Operato ConocoPhillip	9\$									a. Well	No. 2M			
a Address of Open PO BOX 4289	ilor . Farmi	ngton, Ni	A 87499								name or Wildcat In DK/ Blanco M	V		
4 Well Location	<u> </u>													
Unit Le	tter	<u>K</u> _	2380 Fe	et From The	South		Line and		1930	Feat	From The We	est	Line	
Section		5	To	wnship	30N	Range	11W		NMPM	San	Juan	Coun	lv.	
10. Date Spudded		Date T.D. R	Reached	12. Date (	Compl (Ready			-	RKB, RT, GR		14. Elev. Casingho		<u>'</u>	
1/4/08 15. Total Depth		1/17/0 18. Ph	ue Back T D		0/08 If Multiple Com	nol. How	18. Inte		Rotary Tools		Cable Tools		<del></del>	
6941'/6834'			69341/681		Many Zones?			lied By	1	<b>x</b>		:		
19. Producing Intervi Basin Dakota			on - Top, Bo	ittom, Name			<u></u>		20. Was Dire		rvoy Made	<del></del>		
21. Type Electric and CBL, GR/CCL	i Other L								22. Was We	No II Cared No	<del></del>			
23.			CASIN	G RECO	ORD (Rep	ort all	string	ıs set i	.1			<del></del>		
CASING SIZE	$\overline{}$	WEIGHT			THISET		HOLE SIZ		<del>,,</del>	ENTING	RECORD	AMOUNT	PULLED	
9-5/8"	32.	3# H 40		229			12 1/4"			75 ex (1		2 bbls	<del>`</del>	
7"		L-80		420			8-3/4"			720 sx (	100 bbis			
4-1/2"	11.5	6# L-80	<del></del>	694	40'	<del> </del>	6-1/4"	<del></del>	<del> </del>	200 sx	(405 cf)	TOC @ 38	350'	
	$\dashv$			+		<del> </del>			}			<u> </u>		
24.			LINER R	ECORD		J			25.		TUBING RECO	ORD		
SIZE		TOP		MOTTC	SACKS CE	EMENT	ŠCF	REEN	SIZE		DEPTH SET		SET	
±							<u> </u>		2-3/8"		6809'			
26. Perforation	record	i (intervai	i size, ari	) 'nadmun hi	27. ACID	SHOT.	FRACTU	RE CEN	ENT, SQUE	F7E, E	rc.	L		
#25PF	1000.	111000000	GILUI W.	G (M) (M-		TH INTER					ATERIAL USED			
6810' - 6928' = 60 1	aslon				6740' - 69			Bullhead	10 bbls 15	% HCL	Acid. Frac: pum	ped 10827	8	
@1SPF								gal Slick	cwater w/40	000# 20	40 TLC Sand			
6740' - 6798' = 13 ! total holes = 73					<del>                                     </del>			<b></b>		·				
28.		~~~~			PROD	UCTIC	NC	L						
Date First Production SI W/O Facilit	les	Proc	duction Meth	hod ( <i>Flowing,</i> flowing	, gas litt, pumpii			mp)		l Status (. Si	Prod. or Shut-in)			
Date of Test	Hours To	ested	Choke Size	Prod'n for	Off-	Bb).		- MCF	Water -		Gas	s - Od Ralio		
5/10/08	1	2	1/2"	Test Period			54.71 m		.83 bw	C L Prevene	- API - (Corr )	······································		
Flow Tubing Press. 914#	Casing F 850:		Calculated Hour Rate	24-	Oit - Bb <b>i</b>	1313 ms	- MCF sol/d	wai 20 bwpd		Oil Glavily	-Ari-(Lon )			
29. Disposition of Ga	s (Sold, l		i, vented, el	c.}		11010111		· · F	Test Witness	ad By				
30. List Attachments Th			DK/Bian	co MV well	being DHC	per orde	r#2775A	z	<u> </u>	<del></del>				
31. I hereby ceruly th	*****								owledge and b	elist				
/	ma.	Ky DI	Min	Prin						. 🛥	•••			
Signature	s unc	ry III	round	~< Nan	no Tracey N.	i. Monrot	ð	Title	Regulatory	r Techni	cian	Date 6/	/23/08	

# OCD CATHODIC PROTECTION DEEPWELL GROUNDBED REPORT DATA SHEET: NORTHWESTERN NEW MEXICO.

LOCATION INFORMATION API Number 30-045-3-400
WELL NAME OR PIPELINE SERVED: (Chada Alxans 2M) LEGAL LOCATION: (5, 36, 1) INSTALLATION DATE: 1/6/09
PPCO. RECTHER NO.: ADUNTIONAL WELLS:
TYPE OF LEASE: LEASE NUMBER: 5F-078/38
CROUND BED INFORMATION  TOTAL DEPTH: 296 CASING DIAMETER: 97 TYPE OF CASING: PUC CASING DEPTH: 207 CASING GEMENTED:
TOP ANODE DEPTH: 200 BOTTOM ANODE BEPTH: 200
ANOBE DEPTHS: 290, 280, 270, 260, 250, 240, 230, 220, 210, 200
AMOUNT OF COKE 2,100 fbs
WATER INFORMATION  WATER DEPTH WATER DEPTH (2):  GAS DEPTH: CEMENT PLUGS:
OTHER INFORMATION  TOP OF VENT PERFORATIONS: USE VENT PUE DEPTH: 3000-

IF ANY OF THE ABOVE DATA IS UNAVAILABLE, PLEASE INDICATE SO. COPIES OF ALL LOGS, INCLUDING DRILLERS LOGS, WATER ANALYSIS, AND WELL BORE SCHEMATICS SHOULD BE SUBMITTED WHEN AVAILABLE, UNPLUGGED UNABANDONED WELLS ARE TO BE INCLUDED.

\*- LAND TYPE MAY BE SHOWN: F-FEDERAL; I-INDIAN; S-STATE; P-FEE IF FEDERAL OR INDIAN, ADD LEASE NUMBER.



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

TricityOutlines

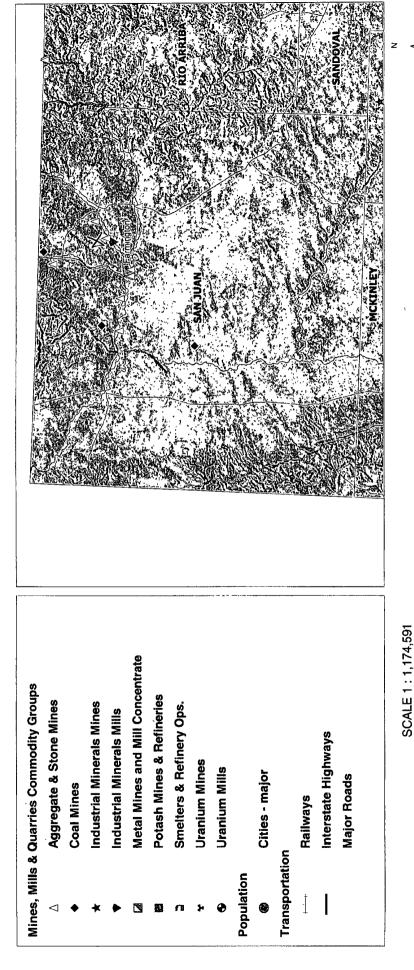
| All other values>
NAME
| AZTEC | BLOOMFIELD |
| FARMINGTON

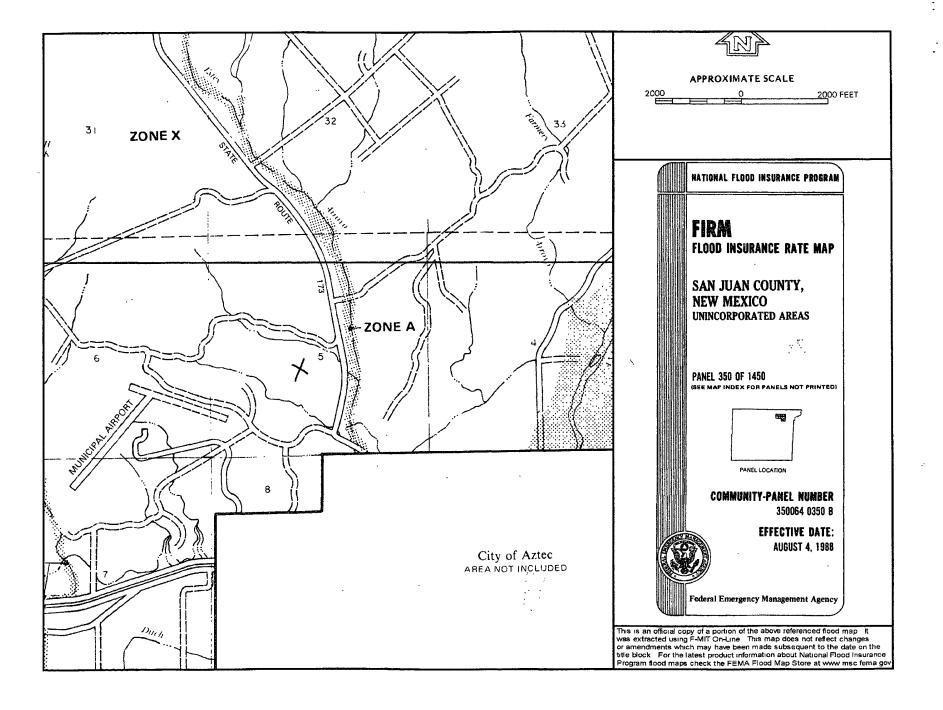
300\_ft

1000\_ft

0 600 1,200 Feet 1:10,000 NAD\_1983\_SP\_ NM West\_FIPS\_ 3003 Nov 19, 2009

# Rhoda Abrams 2M Mines, Mills and Quarries Web Map





### Siting Criteria Compliance Demonstration & Hydro Geologic Analysis

The Rhoda Abrams 2M is not located in an unstable area. The location is not over a mine and is not on the side of a hill as indicated on the Mines, Mills and Quarries Map and Topographic Map. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse as indicated on the Topographic Map. The location is not within a 100-year floodplain area as indicated on the FEMA Map. The subject well has an elevation of 5730' and the groundwater depth is greater than 300'. There are no iWATERS data points located in the area as indicated on the TOPO Map. The hydro geologic analysis indicates the groundwater depth and the Nacimiento formation will create a stable area for this new location.

### Hydrogeological Report for Rhoda Abrams 2M

### **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 comnformably 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.

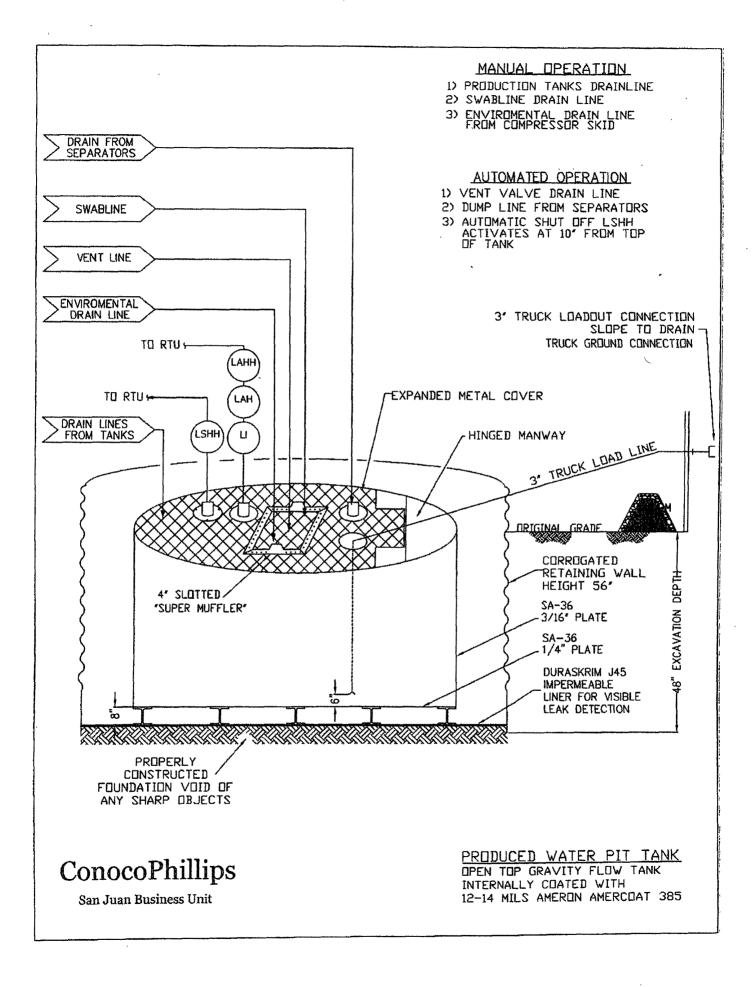
# ConocoPhillips Company San Juan Basin Below Grade Tank Design and Construction

In accordance with NMAC 19.15.17 the following information describes the design and construction of below grade tanks on ConocoPhillips Company (COPC) locations. This is COPC'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:

- COPC 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. COPC signage will comply with 19.15.17.11NMAC. COPC includes Emergency Contact information on all signage.
- 3. COPC has approval to use alternative fencing that provides better protection. COPC 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. COPC ensures that all gates associated with the fence are closed and locked when responsible personnel are not onsite.
- COPC will construct a screened, expanded metal covering, on the top of the BGT.
- COPC shall ensure that a below-grade tank is constructed of materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight as shown on design drawing and specification sheet.
- The COPC 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. COPC shall operate and install the below-grade tank to prevent the collection of surface water run-on. COPC has built in shut off devices that do not allow a below-grade tank to overflow. COPC 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. COPC 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. COPC 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 COPC 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 COPC's compressor skid under normal operating conditions is in the open position. The environmental drain line is in place to capture any collected rain water or spilled lubricants from our compressor skids. The swab drain line is a manually operated drain and by normal operating procedures is in the closed position. The tank drain line is also a manually operated drain and during normal operations it is in the closed position.
- 10. The geomembrane liner consists of a 45-mil flexible LLDPE material manufactured by Raven Industries as J45BB. This product is a four layer reinforced laminated containing no adhesives. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications. The J45BB is reinforced with 1300 denier (minimum) tri-directional scrim reinforcement. It exceeds ASTMD3083 standard by 10%. J45BB has a warranty for 20 years from Raven Industries and is attached. It is typically used in Brine Pond, Oilfield Pit liner and other industrial applications. The manufacture specific sheet is attached and the design attached displays the proper installation of the liner.
- The general specification for design and construction are attached in the COPC document.



# DURA-SKRIM®

# RO, Roal 45

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
1 Tensile Strength	ASTM D 7003	88 lbf MD 63 lbf DD	110 lbf MD 79 lbf DD	90 lbf MD 70 lbf DD	113 lbf MD 87 lbf DD	110 lbf MD 84 lbf DD	138 lbf MD 105 lbf DD
[ Tensile Elongation @	ASTM D 7003	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD
1* Tensile Elongation @ Reak % (Scrim Break)	ASTM D 7003	20 MD 20 DD	33 MD 33 DD	20 MD 20 DD	30 MD 31DD	20 MD 20 DD	36 MD 36 DD
Tongue Tear Strength	ASTM D 5884	75 lbf MD 75 lbf DD	97 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 Tensile	ASTM D 7004	180 lbf MD 180 lbf DD	218 lbf MD 210 lbf DD	180 lbf MD 180 lbf DD	222 lbf MD 223 lbf DD	220 lbf MD 220 lbf DD	257 lbf MD 258 lbf DD
Trapezoid:Tear	ASTM D 4533	120 lbf MD 120 lbf DD	146 lbf MD 141 lbf DD	130 lbf MD 130 lbf DD	189 lbf MD 172 lbf DD	160 lbf MD 160 lbf DD	193 lbf MD 191 lbf DD
* Dimensional Stability	ASTM D 1204	<1	<0.5	<1	<0.5	<1	<0.5
Puncture Resistance	ASTM D 4833	50 lbf	64 lbf	65 lbf	83 lbf	80 lbf	99 lbf
Maximum Use Temperature		180° F	180 <b>°</b> F	180° F	180° F	180° F	180° F
Minimum Use Temperature		-70 <b>°</b> 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

SALES OFFICE

RAVEN INDUSTRIES Sioux Falls, South Dakota

P.O. Box 5107 Sioux Fails, 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.

# ConocoPhillips Company 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 ConocoPhillips Company (COPC) locations. This is COPC's standard procedure for all BGT. A separate plan will be submitted for any BGT which does not conform to this plan.

### General Plan:

- COPC 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.
  COPC 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. COPC will not discharge into or store any hazardous waste in the BGT.
- 3. COPC shall operate and install the below-grade tank to prevent the collection of surface water run-on. COPC has built in shut off devices that do not allow a below-grade tank to overflow. COPC 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, COPC 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, COPC's multiskilled operators (MSOs) are required to visit each well location once per week. If detected on either inspection, COPC 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. COPC 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 COPC shall remove all liquid above the damage or leak line within 48 hours. COPC shall notify the appropriate district office. COPC 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, COPC shall promptly remove and install a below grade tank or pit liner that complies with Subsection I of 19.15.17.11 NMAC. COPC 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.

# ConocoPhillips Company 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 ConocoPhillips Company locations hereinafter known as COPC locations. This is COPC's standard procedure for all BGTs. A separate plan will be submitted for any BGT which does not conform to this plan.

### General Requirements:

- 1. COPC 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 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, COPC will file the C144 Closure Report as required.
- COPC 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.
- COPC will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. Documentation of how the below-grade tank was disposed of or recycled will be provided in the closure report.
- If there is any on-site equipment associated with a below-grade tank, then COPC shall remove the equipment, unless the equipment is required for some other purpose.
- 5. COPC shall test the soils beneath the below-grade tank to determine whether a release has occurred. COPC shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2 mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100 mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. COPC shall notify the division of its results on form C-141.

- 6. If COPC or the division determines that a release has occurred, then COPC 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 COPC 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
  - Location by Unit Letter, Section, Township, and Range. Well name and API number.
- The surface owner shall be notified of COPC'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. COPC 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 (unimpacted) 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. COPC will repeat seeding or planting will be continued until successful vegetative growth occurs.
- 12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
- 13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the belowgrade tank. Closure report will be filed on C-144 and incorporate the following:
  - Soil Backfilling and Cover Installation
  - Re-vegetation application rates and seeding techniques
  - Photo documentation of the site reclamation
  - Confirmation Sampling Results
  - Proof of closure notice