District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, 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

For temporary pits, closed-loop systems, 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.

Pit, Closed-Loop System, Below-Grade Tank, or						
Proposed Alternative Method Permit or Closure Plan Application						
Type of action: Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method  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						
environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.						
Operator: Williams Operating Co, LLC OGRID #: 120782						
Address: PO Box 640 / 721 S Main Aztec, NM 87410						
Facility or well name: Rosa Unit 169D COM						
API Number: OCD Permit Number:						
U/L or Qtr/Qtr J Section 3 Township 31N Range 6W County: Rio Arriba						
Center of Proposed Design:         Latitude         36.92798N         Longitude         -107.44682W         NAD:         □ 1927 ⋈ 1983						
Surface Owner: X Federal X State Private Tribal Trust or Indian Allotment						
2.  Pit: Subsection F or G of 19.15.17.11 NMAC						
Temporary:  Drilling  Workover						
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A						
☐ Lined ☐ Unlined Liner type: Thickness <u>20</u> mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other						
String-Reinforced						
Liner Seams: ⊠ Welded ⊠ Factory ☐ Other Volume: <u>20,000</u> bbl Dimensions: L <u>140'</u> x W <u>70'</u> x D <u>12'</u>						
3.  Closed-loop System: Subsection H of 19.15.17.11 NMAC						
Type of Operation: P&A Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)  Drying Pad Above Ground Steel Tanks Haul-off Bins Other  Lined Unlined Liner type: Thickness mil LLDPE HDPE PVC Other  Liner Seams: Welded Factory Other  4.  Below-grade tank: Subsection I of 19.15.17.11 NMAC						
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other						
□ Drying Pad □ Above Ground Steel Tanks □ Haul-off Bins □ Other □ LLDPE □ HDPE □ PVC □ Other □ Drying Pad □ Unlined						
Liner Seams: Welded Factory Other  4. Below-grade tank: Subsection I of 19.15.17.11 NMAC  Volume: bbl Type of fluid: OIL CONS. DIV. DIST 3  Tank Construction material:						
4. SOUCE VAMP S						
Below-grade tank: Subsection I of 19.15.17.11 NMAC						
Volume:bbl Type of fluid:  Tank Construction material:						
Tank Construction material:						

Alternative Method: Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for

Secondary containment with leak detection 
Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off

\_mil 🔲 HDPE 🗌 PVC 🔲 Other

☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other

Liner type: Thickness

consideration of approval.

6.	
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)	
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, institution or church)	hospital,
Four foot height, four strands of barbed wire evenly spaced between one and four feet	
☐ Alternate. Please specify As per BLM/BOR specifications	
7.	
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	
⊠ Signed in compliance with 19.15.3.103 NMAC	
9.  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 or the Santa Fe Environmental Bureau of the Sa	office for
consideration of approval.  [ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying above-grade tanks associated with a closed-loop system.	priate district pproval.
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 ⊠ No
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).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ⊠ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to temporary, emergency, or cavitation pits and below-grade tanks)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☑ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  (Applies to permanent pits)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☑ NA
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 feet of any other fresh water well or spring, in existence at the time of initial application.  - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ⊠ No
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 ☒ No
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes 🛛 No
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ⊠ No
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ⊠ No
Within a 100-year floodplain FEMA map	☐ Yes ☑ No

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
<ul> <li>attached.</li> <li>☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC</li> <li>☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC</li> <li>☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>☐ Design Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> </ul>
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 Number: or Permit Number:
12.  Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.
Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9  Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC  Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Previously Approved Design (attach copy of design) API Number:
Previously Approved Operating and Maintenance Plan API Number: (Applies only to closed-loop system that use
above ground steel tanks or haul-off bins and propose to implement waste removal for closure)
13.   13.   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 Below-grade Tank Closed-loop System Alternative Proposed Closure Method: 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 Burial Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
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.  □ 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  □ 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  □ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
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 indentify the facility or facilities for the disposal of liquids drilling fluids and drill cuttings. Use attachment if more than two

facilities are required.					
Disposal Facility Name:	Disposal Facility Permit Number:				
Disposal Facility Name:	Disposal Facility Permit Number:				
Will any of the proposed closed-loop system operations and associated activities of Yes (If yes, please provide the information below) \( \subseteq \) No	ccur on or in areas that will not be used for future services.	vice and operations?			
Required for impacted areas which will not be used for future service and operation  Soil Backfill and Cover Design Specifications based upon the appropriate Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	e requirements of Subsection H of 19.15.17.13 NMA( 11 of 19.15.17.13 NMAC	C			
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the provided below. Requests regarding changes to certain siting criteria may requi considered an exception which must be submitted to the Santa Fe Environmenta demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC	re administrative approval from the appropriate dist il Bureau office for consideration of approval.  Justi	rict office or may be			
Ground water is less than 50 feet below the bottom of the buried waste.  NM Office of the State Engineer - iWATERS database search; USGS;	ta obtained from nearby wells	☐ Yes ☑ No ☐ NA			
Ground water is between 50 and 100 feet below the bottom of the buried waste NM Office of the State Engineer - iWATERS database search; USGS; Database search; U	ta obtained from nearby wells	☐ Yes ☑ No ☐ NA			
Ground water is more than 100 feet below the bottom of the buried waste.  NM Office of the State Engineer - iWATERS database search; USGS; Database search;	ta obtained from nearby wells	⊠ Yes □ No □ NA			
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other signake (measured from the ordinary high-water mark).  Topographic map; Visual inspection (certification) of the proposed site	gnificant watercourse or lakebed, sinkhole, or playa	☐ Yes ☒ No			
Within 300 feet from a permanent residence, school, hospital, institution, or church - Visual inspection (certification) of the proposed site; Aerial photo; Satellit		☐ Yes ☑ No			
Within 500 horizontal feet of a private, domestic fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or NM Office of the State Engineer - iWATERS database; Visual inspection	spring, in existence at the time of initial application.	☐ Yes ☑ No			
Within incorporated municipal boundaries or within a defined municipal fresh wat adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approx		☐ Yes ⊠ No			
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visu	al inspection (certification) of the proposed site	☐ Yes ☑ No			
Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD-Minin	g and Mineral Division	☐ Yes ☒ No			
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geolog Society; Topographic map	y & Mineral Resources; USGS; NM Geological	☐ Yes 🖾 No			
Within a 100-year floodplain FEMA map		☐ Yes 🖾 No			
On-Site 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.  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC  Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.13 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  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					

19.		
Operator Application Certification:		
i hereby certify that the information submitted with this applica	ion is true, accurate and complete to the best of my knowledge and belief.	
Name (Print): Michael K. Lane	Title: <u>Sr. EH &amp; S Specialist</u>	
Signature:	Date: 5/5/09	_
e-mail address: <u>myke.lane@williams.com</u>	Telephone: <u>505-634-4219</u>	
OCD Approval: Permit Application (including closure plan	Closure Plan (only) OCD Conditions (see attachment)	
	Approval Date: <u>(0-30-09</u>	
Title: Enviro/spec	OCD Permit Number:	
	sure plan prior to implementing any closure activities and submitting the closure re thin 60 days of the completion of the closure activities. Please do not complete this	ort.
	Closure Completion Date:	
If different from approved plan, please explain.	od Alternative Closure Method Waste Removal (Closed-loop systems onl	y)
	ed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more	than
Disposal Facility Name:	Disposal Facility Permit Number:	
Disposal Facility Name:	Disposal Facility Permit Number:	
Were the closed-loop system operations and associated activities  Yes (If yes, please demonstrate compliance to the items b	performed on or in areas that <i>will not</i> be used for future service and operations?	
Required for impacted areas which will not be used for future se  Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	vice and operations:	
mark in the box, that the documents are attached.  Proof of Closure Notice (surface owner and division)  Proof of Deed Notice (required for on-site closure)  Plot Plan (for on-site closures and temporary pits)  Confirmation Sampling Analytical Results (if applicable)  Waste Material Sampling Analytical Results (required for Disposal Facility Name and Permit Number  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique  Site Reclamation (Photo Documentation)	the following items must be attached to the closure report. Please indicate, by a character on-site closure)  Longitude NAD:   1927  1983	eck
25.		
Operator Closure Certification:  I hereby certify that the information and attachments submitted belief. I also certify that the closure complies with all applicable	with this closure report is true, accurate and complete to the best of my knowledge and closure requirements and conditions specified in the approved closure plan.	
Name (Print):	Title:	_
Signature:	Date:	_
e-mail address:	Telephone:	_

District I 1825 N. French Dr., Hobbs, NM 88240

State of New Mexico Enns C-102 Revised October 12, 2005 Energy, Minerals & Natural Resources Department Instructions on

District 11 1301 W. Grand Avenue, Artesia, NM 89210

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe. NM 87505

Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

District III 1000 Rio Brazos Ad., Aztec. NM 87410 1220 S. St. Francis Or., Santa Fe. NM 87505

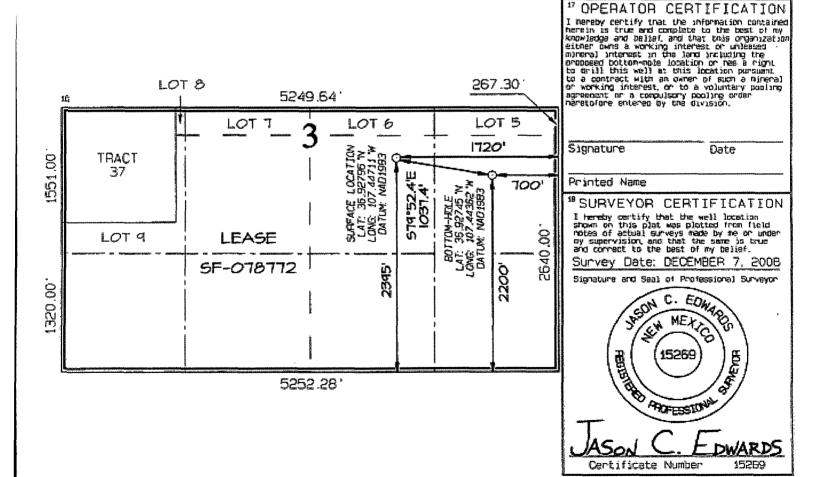
AMENDED REPORT

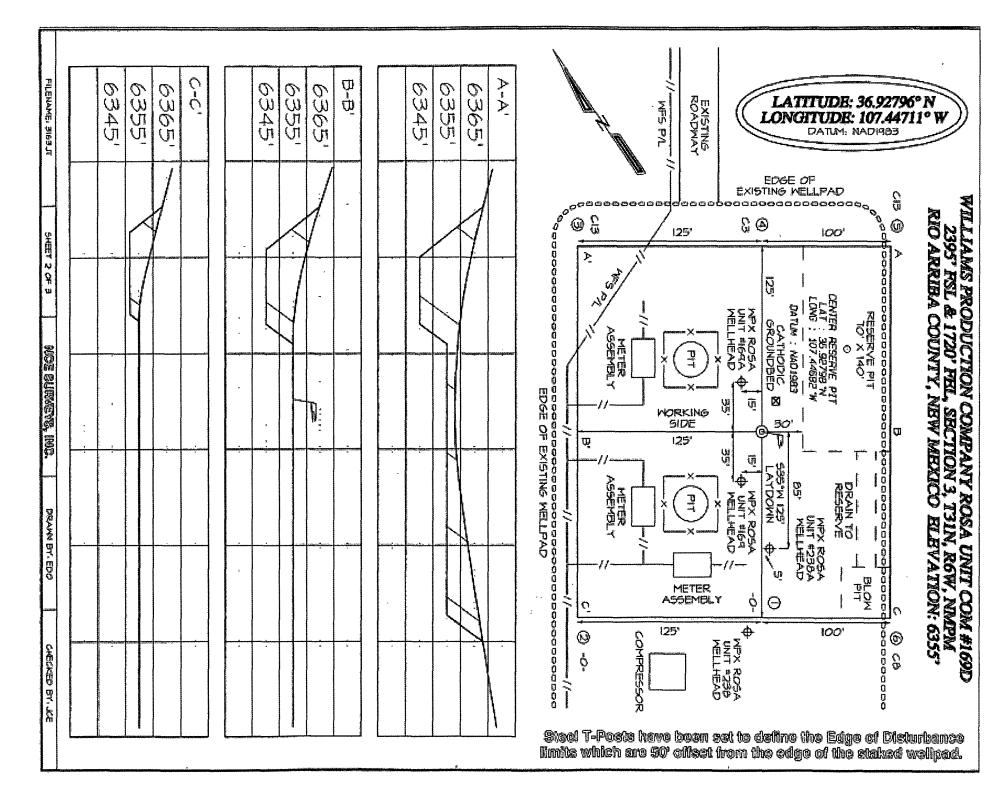
## WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number	'Pool Code	'Pool Name						
	97232 / 72319 / 71599	BASIN MANCOS / BLANCO MESAVERDE	/ BASIN DAKOTA					
*Property Code	*Property Code Property Name Well Number							
17033	ROSA UNIT COM 169D							
'OGAID No. *Operator Name "Elevation								
120782 WILLIAMS PRODUCTION COMPANY 6355								
10 Cuptace Location								

<sup>10</sup> Surface Location M. or lot m. Cart too Feat Iron the North/South line Secture Enversition Flares: Feet from the East/West line RIO 3 31N 6W 2395 SOUTH 1720 EAST J ARRIBA 11 Bottom Different Hole Location From Surface il ne lot no Foot from the Cost Inn Los Ida Feet Importing Mortn/Smuth Jane East/West line RIO 3 SOUTH 700 6W 5500 EAST Т MLE ARRIBA E Opdicated Acres <sup>14</sup> Joint or Infill <sup>ta</sup> Consolisiation Cook <sup>ca</sup> Deaze No. 352.87 Acres - Entire Section

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





## Hydrogeological Report Williams Production Company, LLC Rosa Unit #169D COM

## Regional Hydrological Context

## Referenced Well Location:

The referenced well and pit is located on Bureau of Reclamation lands in Rio Arriba County, New Mexico. This site is positioned in the northeastern portion of the San Juan Basin, an asymmetrical syncline that extends from northwestern New Mexico into southwestern Colorado (Carson National Forest FEIS, 2008). Elevation of the referenced well is approximately 6355 feet MSL.

## **General Regional Groundwater Description:**

As a portion of the San Juan Basin, the BOR administrative area is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifer of potential concern at this location is the Unita-Animas Aquifer, composed primarily of Lower Tertiary rocks in the San Juan Basin. The aquifer consists of the San Jose Formation; the underlying Animas formation and its lateral equivalent, the Nacimiento formation; and the Ojo Alamo Sandstone. The thickness of the Unita-Animas aquifer generally increases toward the central part of the basin. In this region, the maximum thickness of the aquifer is approximately 3500 feet (USGS, 2001). This aquifer contains fresh to moderately saline water.

Groundwater generally flows toward the San Juan River and it tributaries, where it becomes alluvial groundwater or is discharged to stream flow. Additional information regarding the hydrogeologic setting can be found in the provided references.

## **Site Specific Information:**

Surface Hydrology: The pit is located on a mid-elevation southwestern facing bench

approximately ¼ mile east of the San Juan River Arm of Navajo

Reservoir.

1<sup>st</sup> Water Bearing Formation:

Formation Thickness: Underlying Formation: Depth to Groundwater: San Jose, Tertiary

Approximately 1,900 ft. Nacimiento, Tertiary

Depth to groundwater is estimated at greater than 100 feet bgs.

Within a one-mile radius of this location, there were no iWATERS wells with recorded water depth information. However, cathodic data associated with the Rosa Unit Nos. 169 (approximately 78 feet from pit), 169A (approximately 97 feet from pit), and 238 (approximately 523 feet from pit) all show depth to moisture at 200 feet (see Siting Criteria Map I for

details).

## References:

Allen, Erin. Undated. Colorado Plateau Aquifers.

http://academic.emporia.edu/schulmem/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html.

New Mexico Energy, Minerals and Natural Resources Department, Division of Mining and Minerals. Database. 2009. Internet accessed February 2009.

New Mexico Office of the State Engineer. 2009. iWaters database. Internet accessed February 2009.

New Mexico WQCC. 2005. State of New Mexico Water Quality Act and the Water Control Commission Regulations.

United States Department of Agriculture, Forest Service. 2008. Final Environmental Impact Statement for Surface Management of Gas Leasing and Development. Jicarilla Ranger District, Carson National Forest, Rio Arriba County, New Mexico.

United States Department of the Interior. Bureau of Land Management. 2003. Final Farmington Resource Management Plan and Final Environmental Impact Statement. Farmington Field Office, Farmington, New Mexico.

United States Geological Survey. 2001. Ground Water Atlas of the United States: Arizona, Colorado, New Mexico and Utah. USGS Publication HA 730-C; <a href="http://capp.water.usgs.gov">http://capp.water.usgs.gov</a>.

Rosa Unit 169D COM

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

	Township: 31N Range: 66W Sections:	
	NAD27 X: Zone: Search Radius:	
•	County: Basin: Number: Suffix:	
	Owner Name: (First) (Last) C Non-Domestic  Omestic All	
tod	POD / Surface Data ReportAvg Depth to Water ReportWater Column Report	
	WATER COLUMN REPORT 02/20/2009	
	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest) Depth Depth Water (in	feet)
OD Number 00011	Tws Rng Sec q q q Zone X Y Well Water Column 31N 06W 07 1 2 4 460 310 150 31N 06W 32 169D COM	,

Record Count: 2

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

Township: 32N Range: 06W Sections:
NAD27 X: Y: Zone: Search Radius:
County: Basin: Number:
Owner Name: (First) (Last) Non-Domestic  Domestic All
POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

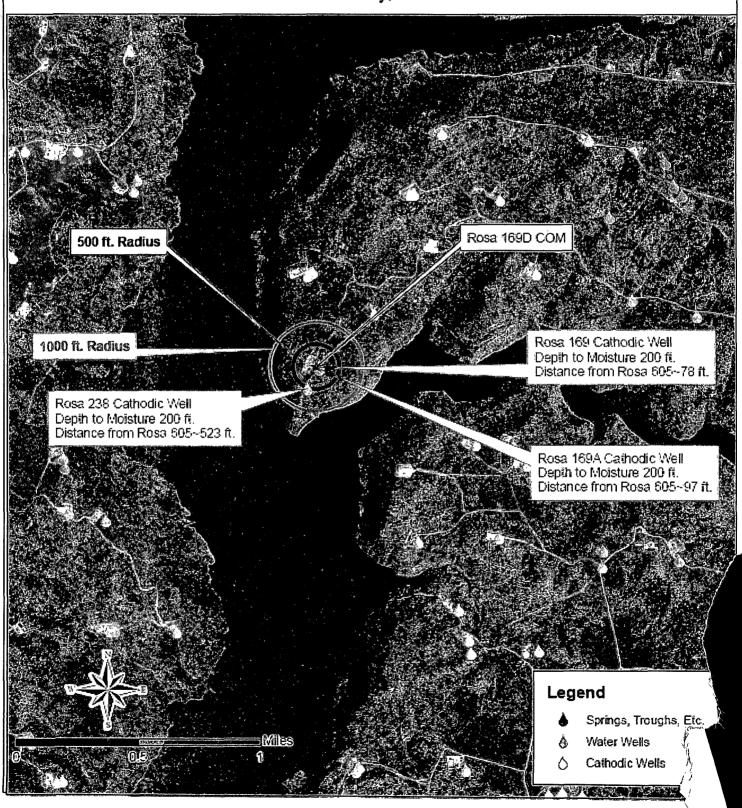
## WATER COLUMN REPORT 03/10/2009

	(quarter	s are	e 1=1	WW	2=N	IE 3	3=SW 4	1=SE)					
	(quarter	s are	e bi	gge	st	to	small	lest)		Depth	Depth	Water	(in feet)
POD Number	Tws	Rng	Sec	q	q c	<b>I</b>	Zone	x	Y	Well	Water	Column	
SJ 03775 POD1	32N	06W	80	1	3 3	}		282326	2181933	260	200	60	
SJ 03302	32N	06W	80	1	3 4	Į.				250			
SJ 03135	32N	06W	09	3	1 1	-				200			
SJ 01957	32N	06W	10	2	2 3	3				280	280		
SJ 01949	32N	06W	10	2	2 3	3				300	260	40	
SJ 02711	32N	06W	11	3	1 3	}				200	120	80	
SJ 03420	32N	06W	19	4	2					415	60	355	
SJ 03055	32N	06W	20	1	2 2	2				290	100	190	

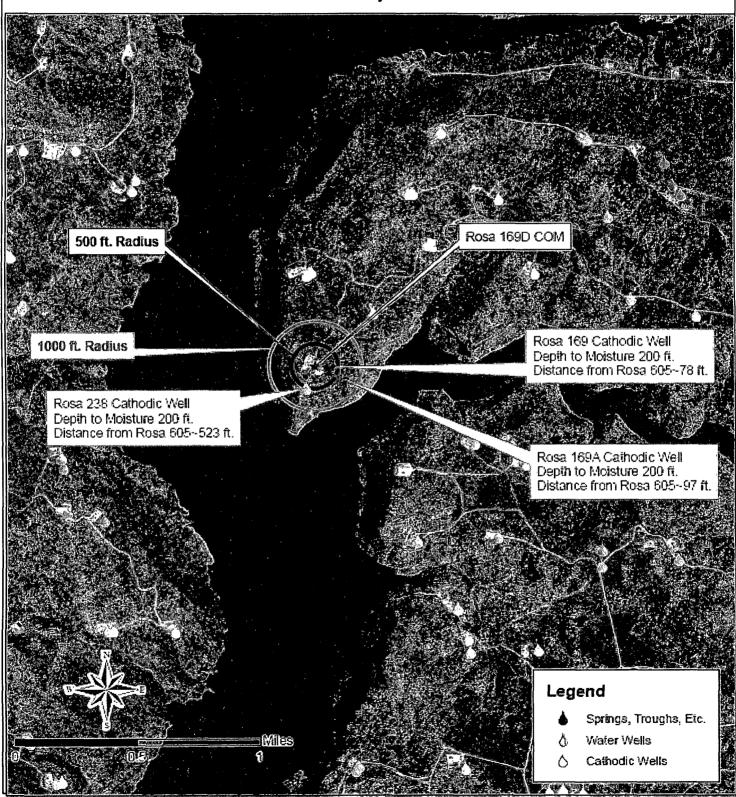
Record Count: 8

Rosa Unit 169D COM

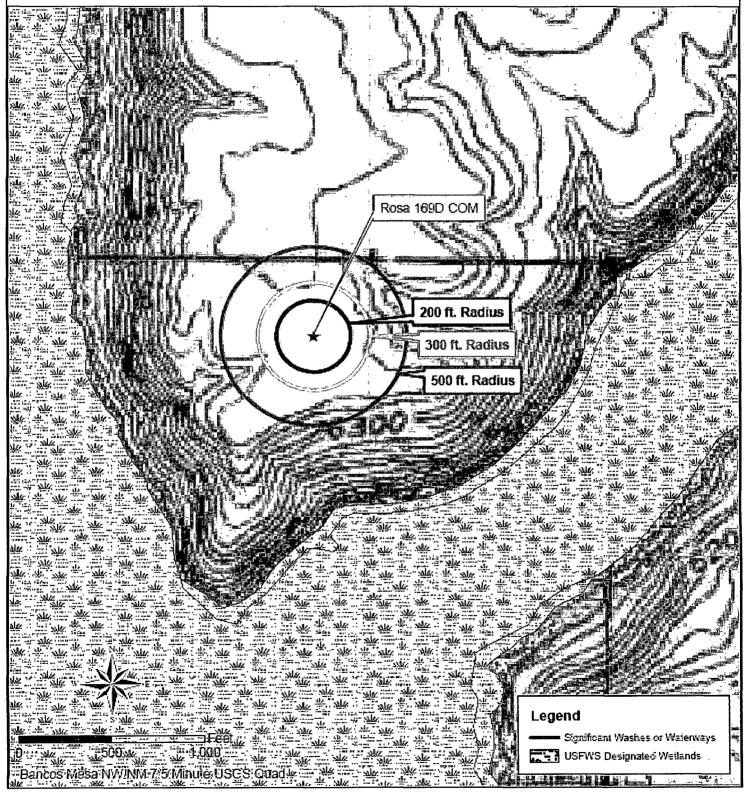
# Siting Criteria Map I Water Wells, Cathodic Wells, & Springs Williams Production Company, LLC Proposed Rosa Unit No. 169 D COM T31N, R06W, Section 3 NMPM Rio Arriba County, New Mexico



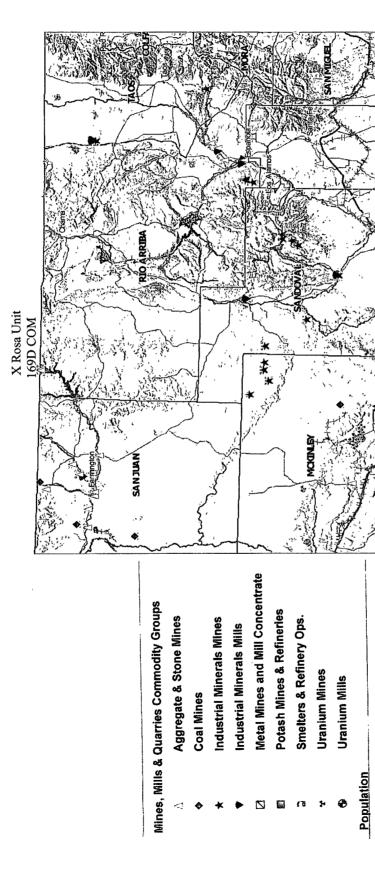
## Siting Criteria Map I Water Wells, Cathodic Wells, & Springs Williams Production Company, LLC Proposed Rosa Unit No. 169 D COM T31N, R06W, Section 3 NMPM Rio Arriba County, New Mexico

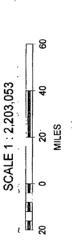


Siting Criteria Map II
Topographic Features
Williams Production Company, LLC
Rosa Unit No. 169D COM
T31N, R06W, Section 3 NMPM
Rio Arriba County, New Mexico



# MMQonline Public Version







## FEMA Map - 100-Year Floodplain:

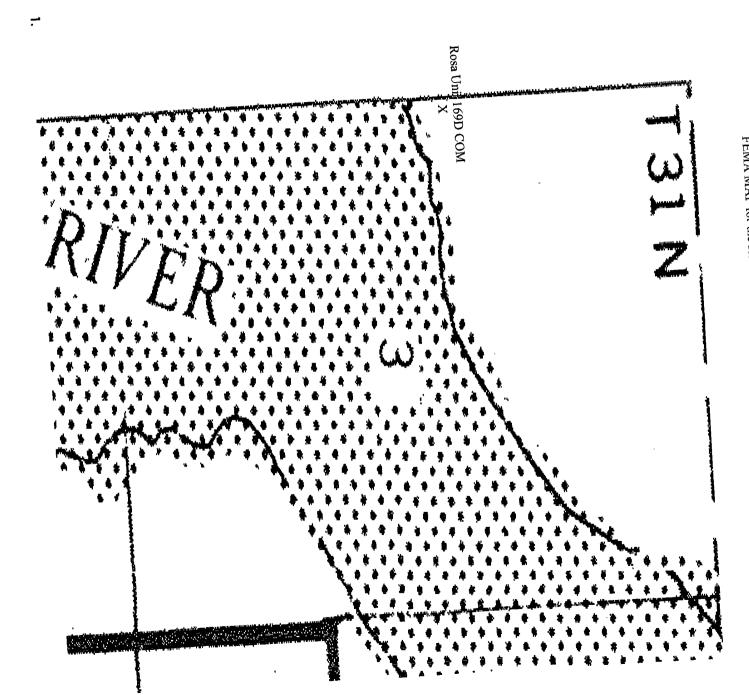
According to FEMA records, this site is not located in a 100-year floodplain (see attached FEMA map).

## **Siting Criteria Compliance Demonstrations:**

The Rosa Unit #169D COM well is not located in an unstable area. The location is not situated over a mine or a steep slope. Excavated pit material will not be located within 300 feet of a continuously flowing water course or within 200 feet of any other significant water course, lakebed, sinkhole, or playa lake (see Siting Criteria Map II). The site is not within 500 feet of any reported riparian areas or wetlands (see attached USFWS wetland map); within 500 feet of any private, domestic fresh water well or spring; or within 1000 feet of any other fresh water well or spring (see Siting Criteria Map I). The proposed pit will not be within any incorporated municipal boundaries or defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. The location of the proposed pit is not within 300 feet of any permanent residence, school, hospital, institution, or church.

Page 14 of 10 Rosa Unit 169D COM

FEMA MAP for the Rosa 169D COM, T.31N., R. 06W, Section 3



# Williams Production Co., LLC San Juan Basin: New Mexico Assets

Temporary Pit Design and Construction Plan Drilling/Completion and Workover

In accordance with Rule 19.15.17 NMAC, the following plan describes the general design and construction (D&C)of temporary pits on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico. This is WPX's standard procedure for all temporary pits to be utilized for the drilling, completion and/or workover of oil and gas wells operated by WPX. For those temporary pits which do not conform to this standard plan, a separate well specific D&C plan will be developed and utilized.

## General Plan Requirements:

- 1. WPX will design and construct a temporary pit to contain liquids and solids associated with drilling, completion and workover of oil and gas wells which will prevent contamination of fresh water resources and protect public health and the environment.
- 2. Prior to excavation of the pit, topsoil will be stripped and stockpiled within the construction zone for later use during restoration.
- 3. WPX will post a well sign, not less than 12" by 24", on the well site prior to construction of the temporary pit. This sign will list the operator on record, the location of the well site by unit letter/section/township/range, and emergency telephone number(s).
- 4. WPX shall construct all new fences utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts will be installed every 12 feet and corners shall be anchored utilizing a secondary T-post or similar bracing. Temporary pits will be fenced at all times excluding drilling/completion and/or workover operations when the rig is present on site, at which time the "front" side of the fence will be temporarily removed for operational purposes.
- 5. WPX shall construction the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to meet manufacturers' specifications and potential liner failure.
- 6. WPX shall construct the pit so that the slopes are no steeper than two horizontal to one vertical. Where steeper slopes are required due to surface owner and right-a-way restriction, an engineers certification of stability will be provided with the well pit application.
- 7. Pit well will be walked down by a crawler type tractor following construction and prior to liner installation.
- 8. All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
- Geotextile will be installed beneath the liner when rocks, debris, sharp objects or irregularities can not be avoided.
- 10. All liners will be anchored in the bottom of a compacted earth-filled trench consistent with manufacturer's specifications and at least 18 inches deep.
- WPX will minimize liner seams and orient them up and down, not across slope faces. Factory seams will be used whenever possible. Field seams will be overlapped per manufacturers' specifications. WPX will minimize the number of field seams in corners and irregularly shaped areas.
- 12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system.
- 13. The pit shall be protected from run-on by construction of diversion ditches around the location or around the perimeter of the pit in as necessary.
- 2. The volume of the pit shall not exceed 10 acre-feet, including freeboard
- 3. Temporary blow pits will be constructed to allow gravity flow to discharge into the lined reserve pit.
- 4. Only the upper portion of the blow pit will be unlined as allowed in the Rule 19.15.17.11.F(11) NMAC.
- 5. WPX will modify this design if field and/or operating conditions do not effectively allow drainage of the blow pit and freestanding liquids pose a potential concern.

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## Williams Production Co., LLC San Juan Basin: New Mexico Assets

Temporary Pit Maintenance & Operating Plan Drilling/Completion and Workover

In accordance with Rule 19.15.17 NMAC, the following plan describes the general operations and maintenance (O&M)of temporary pits on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico. This is WPX's standard procedure for all temporary pits to be utilized for the drilling, completion and/or workover of oil and gas wells operated by WPX. For those temporary pits which do not conform to this standard O&M plan, a separate well specific O&M plan will be developed and utilized.

## General Plan Requirements:

- WPX will operate and maintain a temporary pit to contain liquids and solids associated with drilling, completion and workover of oil and gas wells which will prevent contamination of fresh water resources and protect public health and the environment.
- 2. WPX will to the extent practical conserve drilling fluids for reuse by transferring liquids to pits ahead of the rigs. All other fluids will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005).
- 3. WPX shall maintain at least two (2) feet of vertical freeboard for a temporary pit.
- 4. WPX shall remove all free liquids from a temporary pit within 30 days from the date the drilling or workover rig is released.
- Only fluids and solids generated during the drilling/completion/workover process may be discharged into a temporary pit. Other miscellaneous soild waste or debris will not be allowed.
- 6. WPX will not discharge or store any hazardous waste as defined under RCRA 40CFR 261 and 19.15.1.7.W(3) NMA in any temporary pit.
- 7. If any pit liner's integrity is compromised, or if any penetration of the liner occurs:
  - a. Above the liquid's surface, WPX shall repair the damage or replace the liner as necessary. WPX will notify the NMOCD Aztec District Office by phone or email within 48-hours of discovery.
  - b. Leak below the liquid's surface, WPX shall suspend operations, remove all liquids above the damaged liner within 48 hours, and repair the damage or replace the liner. WPX will notify and report to NMOCD as follows:
    - If the release is less than 25 bbls, the Aztec District Office by phone or email within 48hours of discovery and repair.
    - ii. If the release is suspected to be greater than 25 bbls, the Aztec District Office and the Environmental Bureau Chief by phone for immediate verbal notification pursuant to 19.15.3.116.B (1)(d).
  - c. Written Spill/Release reports will be submitted on Form C-141 per 19.15.3.116.C NMAC within 15 days to the Aztec District Office.
- 8. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides (secondary liner placed over the primary liner), and/or a manifold system.
- 9. Diversion ditches, around the location or around the perimeter of the pit, shall be maintained as protection from run-on.
- 10. WPX shall immediately remove any visible layer of oil from the surface of a temporary pit following cessation of drilling/completion/workover operations. Oil absorbent booms will be utilized to contain and remove oil. An oil absorbent boom will stored on-site until the pit is covered.
- 11. WPX will inspect the temporary pits as follows to ensure compliance with this plan:
  - Daily during drilling or workover operations. Inspections will be included with the IADC reports.
  - b. Weekly as long as liquids remain in the pit. Electronic copies of the inspections will be kept at the WPX San Juan Basin office.
  - Copies of the inspections will be filed with the NMOCD Aztec District office upon pit closure.
- 12. WPX shall remove all free liquids from a blow/flare (cavitation) pit within 48 hours after completing operations. WPX may request additional time to remove liquids from the Aztec District office if it is not feasible to meet the 48 hour requirement.

# Williams Production Co., LLC San Juan Basin: New Mexico Assets

Temporary Pit In-place Closure Plan Drilling/Completion and Workover (Groundwater >100 feet bgs)

In accordance with Rule 19.15.17.13 NMAC, the following plan describes the general in-place closure requirements of temporary pits on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico. This is WPX's standard procedure for all temporary pits to be utilized for the drilling, completion and/or workovers of oil and gas wells operated by WPX. For those temporary pits which do not conform to this standard closure plan, a separate well/pit specific closure plan will be developed and utilized.

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the pit closure on a Closure Report using Division Form C-144. The Report will include the following:

- Details on Capping and Covering, where applicable
- Plot Plan (Pit Diagram)
- Inspection reports
- Sampling Results
- Division Form C-105: WELL COMPLETION OR RECOMPLETION REPORT AND LOG
- Copy of Deed Notice filed with the County Clerk (format to meet County requirements)

## General Plan Requirements:

- All free standing liquids will be removed from the pit at the start of the closure process.
   Liquids will be removed in a manner that the appropriate District Office approves
   including; recycled, reused, reclaimed, evaporated, and/or disposed of in a Division approved facility.
- 2. The preferred method of closure for all temporary pits will be on-site closure by in-place burial, provided all the criteria in 19.15.17.13.B are met.
- 3. The surface owner shall be notified of WPX's proposed closure plan using a means that provides proof of notice (i.e., certified mail/return receipt requested)
- 4. Within six months of the "rig-off" status occurring WPX will ensure that the temporary pit is covered, recontoured and reseeding in progress.
- 5. Notice of Closure will be given to the Aztec District office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following:
  - d. Operators Name (WPX)
  - e. Well Name and API Number
  - f. Location (USTR)
- 6. The pit liner shall be removed above "mud level" after stabilization. Removal of the liner will consist of manually or mechanically cutting the liner at the mud level and removing all remaining liner. Care will be taken to remove "all" of the liner (I.e. anchored material). All excessive liner will be disposed of at a licensed disposal facility (probably San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426).
- 7. Solidification of the remaining pit contents shall be achieved by mixing non-waste containing, earthen material. The solidification process will be accomplished use a combination of natural drying and mechanical mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed safe and stable. The mixing ratio shall not exceed 3 parts non-waste to 1 part pit contents.
- 8. A five-point composite sample will be taken of the pit using sampling tools and all samples tested per 19.15.17.13(B)(1)(b) NMAC. In the event that the criteria are not met (See Table 1), all contents will be handled per 19.15.17.13(B)(1)(a) (i.e. dig and haul to a Division-approved facility). Approval to haul will be requested of the Aztec District office prior to initiation.

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Table 1: Closure Criteria for Temporary Pits in Non-sensitive Areas

Components	Testing Methods	Closure Limits (mg/Kg)
Benzene	EPA SW-846 Method 8021B or 8260B	0.2
BTEX	EPA SW-846 Method 8021B or 8260B	50
TPH	EPA SW-846 Method 8015 M(Full Range)* or Method 418.1	2500
GRO/DRO	EPA SW-846 Method 8015M (GRO/DRO)	500
Chlorides	EPA SW-846 Method 300.1	1000

<sup>\*</sup> Preferred method

- 9. Upon completion of solidification and testing, the pit area will be backfilled with non-waste earthen material compacted to native conditions to enable effective revegetation for successful evapotranspiration. A minimum of four feet of cover including replacement of one foot of suitable material to establish vegetation, or the background thickness of topsoil, whichever is greater.
- 10. Following cover, the site will be recontoured to meet the Surface Management Agency or surface owner requirements. Re-contouring will attempt to match fit, shape, line form, and texture of the surrounding geography. Re-shaping will include drainage control, prevent ponding, and minimize erosion. Natural drainages will be unimpeded and stormwater Best Management Practices (BMPs) will be used to aid in soil stabilization and protection surface water quality.
- 11. Notification will be sent to the Aztec District office when the reclaimed area is seeded.
- 12. WPX shall seed the disturbed areas the first growing season after the pit is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other Division-approved methods. 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 maintained that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. Note: WPX assumes the seeding stipulations including mix and seeding methods specified by the Surface Management Agency (BLM, BOR, USFS, Tribal, etc.) or Land owner as part of a surface use agreement or APD are Division-approved methods unless notified by the Division of their unacceptability.

The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the on site burial upon the abandonment of all wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the on site burial of the temporary pit. The plate will be easily removable and a four-foot tall riser will be threaded into the top of the collar marker and welded around the base with the operations information at the time of all wells on the pad abandoned. The information will include Operator Name, Lease Name, Well Name, and number, USTR, and an indicator that the marker is an onsite pit burial location.

## Lane, Myke

From: Lane, Myke

**Sent:** Tuesday, May 05, 2009 3:30 PM

To: Mark Kelly (Mark\_Kelly@nm.blm.gov)

Subject: Landowner Notice - Rosa #169D

### Mark;

This correspondence is to notify the BLM-FFO that Williams Production is planning to close the temporary pit associated with the drilling and completion of the reference well on-site. The planned closure is consistent with the Surface Use Plan submitted with Williams APD, approved earlier.

This notice is to comply with the NMOCD Pit Rule 19.15.17 NMAC requirement to notify surface owners of the operator's intended closure method. If site conditions do not allow Williams to close in-place, we will provide your office with prior notice should the BLM have any concerns.

Please contact us if there are any questions or additional information is required.

Michael K. (Myke) Lane, PE EH&S Team Leader - San Juan Basin Operations 721 S. Main/PO Box 640, Aztec, NM 87410 (505) 634-4219(off); -4205(fax); 330-3198(cell)

"The problems we face cannot be resolved at the same level of thinking as that which gave rise to them!"---shared with me by Brent Hale