

## **Ocean Munds-Dry** omundsdry@hollandhart.com

March 25, 2010

THE CHIVED OU

## Via Hand Delivery

Mark E. Fesmire, P.E., Director Oil Conservation Division New Mexico Energy, Minerals and Natural Resources Department 1220 South Saint Francis Drive Santa Fe. New Mexico 87505

Case 14463

Re:

Amended Application of Williams Production Co., LLC for Approval of a Closed-Loop System for the Rosa SWD Well No. 2 and for the In-Place Burial of Drilling Wastes or an Alternative Closure Method and/or Exception to the Pit Rule, Rio Arriba County, New Mexico.

## Dear Mr. Fesmire:

Enclosed is the amended application of Williams Production Company, LLC in the above-referenced case as well as a copy of a legal advertisement. Williams requests that this matter be placed on the docket for the April 15, 2010 Examiner hearings.

Sincerely,

Ocean Munds-Dry for Holland & Hart LLP

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cc: OCD Environmental Bureau OCD District Office -- Aztec

# STATE OF NEW MEXICO DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION
OF WILLIAMS PRODUCTION CO., LLC FOR
APPROVAL OF A CLOSED LOOP SYSTEM FOR
THE ROSA SWD WELL NO. 2 AND FOR IN-PLACE
BURIAL OF DRILLING WASTES AT ANOTHER
WELL LOCATION, RIO ARRIBA COUNTY, NEW MEXICO.

CASE NO. 14463

## **AMENDED APPLICATION**

WILLIAMS PRODUCTION COMPANY, LLC, ("Williams") through its undersigned attorneys, hereby makes application to the Oil Conservation Division for an order approving a closed-loop system for the Rosa SWD Well No. 2 and the in-place burial of drilling and completion wastes at another well location. In support of this application, Williams states:

1. Williams is a working interest owner and the designated operator of the Rosa Unit. The horizontal limits of said Unit Area are described as follows:

## Township 32 North, Range 6 West

Section 32-36: All

## Township 31 North, Range 6 West

Sections 1 -3: All Sections 4, 5, 8-17, 21-26: All

## Township 31 North Range 5 West

Sections 3-36:

All

## Township 31 North Range 4 West

## Sections 1-31: All

- 2. Williams proposes to drill the Rosa SWD Well No. 2 (API No. 30-039-30812) for the disposal of produced water in the Entrada formation at a location 2460 feet from the North line and 2095 feet from the West line of Section 25, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico. See Exhibit A (APD). This location is within the Rosa Unit on surface owned by the Forest Service. Williams will soon submit its application for authority to inject (C-108).
- 3. This disposal well is important to Williams' operations in this area of the Rosa Unit. Williams currently only has 1 disposal well in operation in the Rosa Unit: the Rosa SWD Well No. 1. located in Section 23, Township 31 North, Range 6 West, NMPM, Rio Arriba County, New Mexico. If this disposal well could not be used, Williams would be forced to haul its produced water to a third party disposal well at considerable expense.
- 4. In this area of the Rosa Unit, Williams is only allowed to conduct drilling and construction activities from April 1st to November 1st of each year. Drilling and completing the proposed Rosa SWD Well No. 2 and building the associated facilities must be completed within this time period. Williams will need approximately two months to drill and complete the well and two months to construct the facilities for the well.
- 5. Williams originally applied to the Aztec district office on Form C-144 for authority to construct and use a temporary pit and then on-site closure at the proposed Rosa SWD Well No. 2 location but authorization was denied when it was determined that groundwater was less than 50 feet below the bottom of the proposed pit. See Exhibit B (C-144).
- 6. Williams next submitted an application on Form C-144 to the Aztec district office to employ a closed-loop and temporary pit system for the drilling and completion of the Rosa SWD Well No. 2. The closed-loop portion of this system will be located immediately adjacent to the drilling/completion rig for solids and fluid handling and to prevent impacts to the immediate environment surrounding the well site. The temporary pit portion of the system needed to provide additional fluids for pressure control, hole stability and solids/cuttings management was to be located nearby at the



Rosa Well No. 394A (API No. 30-039-29708) in Section 24, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico. This application was also denied by the Aztec district office in consultation with the Environmental Bureau for the reasons listed in Exhibit C (C-144).

- 7. The Rosa Well No. 394A has been taken off the drilling schedule and therefore Williams seeks to take the waste to an approved temporary pit at another proposed well location nearby either the Rosa Unit Well No. 634C located in Section 23, Township 31 North, Range 6 West, NMPM or the Rosa Unit Well No. 635B located in Section 21, Township 31 North North, Range 5 West, NMPM.
- 8. Williams seeks approval from the Division to: (a) utilize a closed-loop system at the Rosa SWD Well No. 2 location; and (b) utilize a temporary pit at another well site for additional fluids storage for pressure control, hole stability and solids/cuttings management. Cuttings in the temporary pit will be buried on-site following completion of the well in accordance with the C-144 application and 19.15.17.13 NMAC.
- 9. Pursuant to 19.15.17.13.D NMAC, an operator may use one of the following closure methods for closed-loop systems: (1) waste removal; (2) on-site burial; or (3) alternative closure method.
- 10. Hauling the waste from the proposed Rosa SWD Well No. 2 to a division-approved facility will be extremely costly given its remote location. It will also cause more surface impact to forest lands because of increased truck traffic.
- 11. Williams proposes therefore to use a closed-loop system at the well site and to bury the waste on-site where the temporary pit is located, constructed and closed in accordance with 19.15.17.13.D(2).
- 12. This application should be granted because it will protect the public health and environment because it decreases surface impact, places the waste in a non-environmentally sensitive area and is more economic and efficient for Williams' operations in the Rosa Unit.
- 13. <u>Exhibit D</u> to this application is a list of affected persons as defined by Division Rules. Williams has given notice to the listed parties in accordance with Division Rules.

• 14. Approval of this application will protect fresh water, public health and the environment and is in the best interest of conservation, the preventation of waste and the protection of correlative rights.

WHEREFORE, Williams Production Company, LLC requests that this application be set for hearing before an Examiner of the Oil Conservation Division on April 15, 2010 and, after notice and hearing as required by law, that the application be approved.

Respectfully submitted,

HOLLAND & HART LLP

Ocean Munds-Dry

William F. Carr

Post Office Box 2208

Santa Fe, New Mexico 87504

Telephone: (505) 988-4421

ATTORNEYS FOR WILLIAMS PRODUCTION CO., LLC

# EXHIBIT A NOTIFICATION LIST

Bureau of Land Management Farmington Field Office 235 La Plata Highway, Suite A Farmington, NM 87401

United States Forest Service Carson National Forest - Jicarilla Ranger Station 664 E. Broadway Bloomfield, NM 87413 CASE 14463.

Amended Application of Williams Production Co., LLC for Approval Of A Closed Loop System For The Rosa SWD Well No. 2 And For The In-Place Bural Of Drilling Wastes At Another Well Location, Rio Arriba County, New Mexico.

Applicant, in the above-styled cause seeks approval of a closed loop system at the Rosa SWD Well No. 2 (API No. 30-039-30812) located in Section 25, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico and to haul the waste to an approved temporary pit at a nearby well location for on-site burial. Said area is located approximately 20 miles east of Navajo Dam, New Mexico.

Form C-144 July 21, 2008

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 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 SWD Unit No. 2
API Number: 30-039-30812 OCD Permit Number:
U/L or Qtr/Qtr F Section 25 Township 31N Range 5W County: Rio Arriba
Center of Proposed Design: Latitude 36.886951N / 36.87077N Longitude -107.311156W / -107.31548W NAD: ☐1927 ☐ 1983
Surface Owner:  Federal  State  Private Tribal 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 20 mil ☑ LLDPE ☐ HDPE ☐ PVC ☐ Other   ☑ String-Reinforced ☐ Volume: 44,000 bbl Dimensions: L 140' x x 70' x D 25'
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
Denied Denied
The OCD District office reviewed the permit and due to the complexities the District office also contacted the OCD Environmental Bureau regarding the permit. As a result of the discussions the OCD hereby denies Williams permit application. RECEIVED Williams closure plan proposed hauling the drilling cuttings and materials to an off-site location for burial and disposal. Pursuant to 19.15.17.13.D NMAC, approved closure methods for closed-loop systems include transferring waste material and the drying pad liner to a division-approved facility or on-site burial. Pursuant to the on-site closure method provisions of 19.15.17.13.F NMAC, an operator "may use in-place burial (burial in the existing temporary pit) for closure of a temporary pit or bury the contents of a drying pad associated with a closed-loop system in a temporary pit that the operator constructs in accordance with Paragraphs (1) through (6) and (10) of Subsection F of 19.15.17.11 NMAC for closure of a drying pad associated with a closed-loop system" on-site. Off-site disposal would require the operator to obtain a surface waste management facility permit (landfill permit) in accordance with 19.15.36 NMAC, unless the waste material is hauled to a division-approved facility.

Form 3160-3 (September 2001) BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB No. 1004-0136

NMSF-078771

Sureau of Land Management Indian, Allottee or Tribe Name

	TER					7. If Unit or CA Agreement, Name and No.  Rosa Unit		
. Type of Well:	⊠ :	Single Zone Multiple Zone     ■ Multi			8. Lease Name and Well No. Rosa Unit #6348			
Name of Operator Williams Production Company, LLC					9. API Well No		937	
. Address	3b. Phone N	o. (include area	code)		10. Field and Po	ol, or Explora	tory	
P.O. Box 640 Aztec, NM 87410	(505	(505) 634-4208				Basin Mancos		
Location of Well (Report location clearly and in accordance with a	iny State requiren	nenis. *)			11. Sec., T., R.,	M., or Blk. ar	d Survey or Area	
At surface 1485' FNL & 645' FEL Section 22, T31	N., R6W				8. 6		المادوس	
At proposed prod. zone 1980' FNL & 20' FEL Section	23, T31N R6W				S: Section 2:	2, 31N, 6W	N, KGW	
Distance in miles and direction from nearest town or post office*					12. County or Pa	arish	13. State	
approximately 30 miles northeast of Blanco, New Mexico	)				Rio Arriba		NM	
Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig, unit line, if any)  645.		Acres in lease		·	g Unit dedicated to this well  0 — (N/2)			
Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.  165' Rosa 18		19. Proposed Depth 20. BLM/			BIA Bond No. on file			
Elevations (Show whether DF, KDB, RT, GL, etc.)		22. Approximate date work will start*			23. Estimated d	uration		
6,260' GR		April 1, 2010			1 month			
	24. Atta							
following, completed in accordance with the requirements of Onsl	hore Oil and Gas	Order No. I, sha	ll be attac	ched to this	form:			
lell plat certified by a registered surveyor. Drilling Plan. Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Office		4. Bond to c Item 20 a 5. Operator 6. Such othe authorize	above). certificat	ion.	EVED		bond on file (se-	
ignature	Name	(Printed/Typed)				Date		
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	<del> </del>	-mulicascia.	1			Ī		
Drilling COM				s.a.			1_1	
oved by (Signature) // ancie with	Name	(Printed/Typed)	L	W	/PX	Date	16/20.	
AFM	Office	Fi	-0					
ication approval does not warrant or certify that the applicant hold tions thereon.  itions of approval, if any, are attached.	s legal or equitab	le title to those i	rights in t	he subject le	ease which would i	entitle the app	licant to conduct	

\*(Instructions on reverse)

Williams Production Company, LLC, proposes to develop the Basin Mancos formation at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is under jurisdiction of the Bureau of Land Management, Farmington Field Office (BLM/FFO).

This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the BLM.

No new access road will be required for this proposed well.

This APD is also serving as an application to obtain a pipeline right-of-way. An associated pipeline tie of 24.6 feet would be required for this well. BLMCS APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER **AUTHORIZATION REQUIRED FOR OPERATIONS** 

**OPERATOR** 



DRILLING OPERATIONS AUTHORIZED ARE SHEJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

ON FEDERAL AND INDIAN LANDS

## APD Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 22nd day of February , 2010.
Name <u>Larry Higgins</u>
Position Title <u>Drilling COM</u>
Address P.O. Box 640, Aztec, NM 87410
Telephone <u>(505) 634-4208</u>
Field representative (if not above signatory)
F-mail larry higgins@williams com

Date: 2-22-10

Larry Higgins Drlg COM

Williams Production Company, LLC

District I 1625 N. French Dr., Hobbs, NM 88240

State of New Mexico

Energy, Minerals & Natural Resources Processing

Form C-102 Revised October 12, 2005 Instructions on back Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

1301 W Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION 1220 South St. Francis 668 2 2 2010 Santa Fe, NM 87505

AMENDED REPORT

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

Bureau of Larki Management - Farmington Field Office

## WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number	Pool Code 97232	'Pool Name BASIN MANCOS				
30-039-30937 Property Code 17033	Proj ROS	Well Number 634B				
'0GAID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY.					

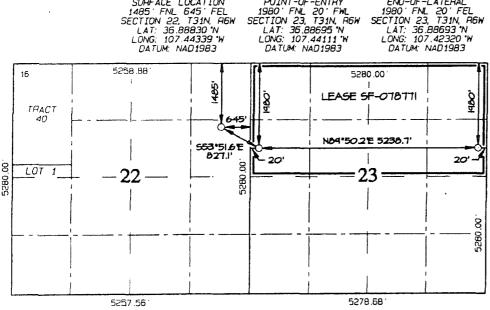
<sup>10</sup> Surface Location

U, or lot no.	Section	Township	Pange	Lot Ian	Feet from the	North/South line	Feet from the	East/West line	County
Н	22	31N	6W		1485	NORTH	645	EAST	RIO ARRIBA
		11 🖯	3ottom	Hole L	ocation I	f Different	From Surf	ace	
Ut on lot no.	Section	Трнпелір	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	RIO
Н	23	31N	6W		1980	NORTH	20	EAST	ARRIBA
<sup>2</sup> Dedicated Acres		.O Acres	5 - (N.	/2)	is Jount or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Orden No.		
			- \\' '/		1	1	1		

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

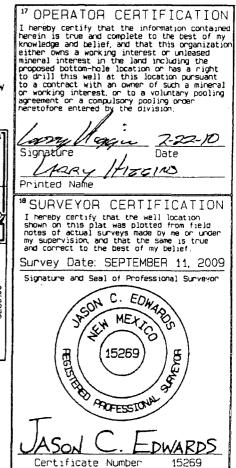
ENO-OF-LATERAL

POINT-OF-ENTRY



SURFACE LOCATION

THE HORIZONTAL LATERAL REPRESENTED ON THIS PLAT CORRESPONDS TO THE BLACK SEGMENT WHICH VARIES IN THE ELEVATION FROM 6891.0 AT THE POINT-OF-ENTRY TO 6749.0 AT THE END-OF-LATERAL.



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.

Here to the state

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 634 B
API Number: OCD Permit Number:
U/L or Qtr/Qtr H Section 22 Township 31N Range 6W County: Rio Arriba
Center of Proposed Design: Latitude 36.88756N Longitude -107.44689W NAD: ☐1927 ☐ 1983
Surface Owner:  Federal  State  Private  Tribal Trust or Indian Allotment
Spit: Subsection F or G of 19.15.17.11 NMAC
Below-grade tank: Subsection I of 19.15.17.11 NMAC   Volume:
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

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)  Four foot height, four strands of barbed wire evenly spaced between one and four feet  Alternate. Please specify As per BLM specifications	l, hospital,
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 consideration of approval.  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	office for
10.  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 accematerial 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 dry above-grade tanks associated with a closed-loop system.	opriate district approval.
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
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
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
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	☐ 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 attached.  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 NMAC Siting Criteria Compliance Demonstrations - 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:  or Permit Number:
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:
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 hox, that the documents are attached.  Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Climatological Factors Assessment  Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 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 19.15.17.11 NMAC  Nuisance or Hazardous Odors, including H <sub>2</sub> S, 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
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)
Naste 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 G 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 Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if facilities are required.	Twore than two
Disposal Facility Name: Envirotech Disposal Facility Permit Number: NM-01-0011	
Disposal Facility Name: Disposal Facility Pennit Number:	
Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future set.  Yes (If yes, please provide the information below) No	rvice and operations?
Required for impacted areas which will not be used for future service and operations:  Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19.15.17.13 NMA 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	VC
17. Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable sou provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate disconsidered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Just demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	trict 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; Data obtained from nearby wells	Yes No
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; Data 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; Data obtained from nearby wells	
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.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
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; 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
<ul> <li>Within an unstable area.</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	☐ 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 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.  Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC  Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in ease on-site closure standards cannel 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 G of 19.15.17.13 NMAC	15.17.11 NMAC

19,	
Operator Application Certification:	
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and helief.	
Name (Print): Michael K. Lane , Title: Sr. EH & S Specialist	
Signature:	
Signature: Date: 12/10	
e-mail address: myke,lane@williams.com Telephone: 505-634-4219	
OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)	
OCD Representative Signature: Approval Date:	
Title:OCD Permit Number:	
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closur The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete section of the form until an approved closure plan has been obtained and the closure activities have been completed.  Closure Completion Date:	
Closure Method: Waste Excavation and Removal On-Site Closure Method Alternative Closure Method Waste Removal (Closed-loop system If different from approved plan, please explain.	s only)
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins On Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if two facilities were utilized.	nore than
Disposal Facility Name: Disposal Facility Permit Number:	
Disposal Facility Name: Disposal Facility Permit Number:	
Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?  Yes (If yes, please demonstrate compliance to the items below) \( \subseteq \text{No} \)	
Required for impacted areas which will not be used for future service and operations:  Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	
24.	
Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please indicate, by a 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 on-site closure) Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location: Latitude Longitude NAD: 1927 1983	check
25.	
Operator Closure Certification:  1 hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.	and
Name (Print): Title:	{
Signature: Date:	<del>  </del>
a mail address:	}

District I 1625 N. French Dr., Hobbs, NM 88240

State of New Mexico Energy, Minerals & Natural Resources Department

District II 1301 W. Grand Avenue, Artesia, NM 88210

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

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

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

Form C-102 Revised October 12, 2005
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

7	Γ		*Pool Coo 97232			'Pool Nam BASIN MA	_		
Property 1703		<del></del>			Property ROSA			• •	Mell Number 634B
'0GAID 1 12078			WILL	*Operator Name WILLIAMS PRODUCTION COMPANY.				Elevation 6260	
					<sup>10</sup> Surface	Location		· · · · · · · · · · · · · · · · · · ·	
ut or lat no.	Section 22	Townsnap 31N	Ramge 6W	Lat Ion	Feat from the	NORTH	Feet from the 645	East/Heat line EAST	RIO ARRIBA
<sup>11</sup> Bottom Hole Location If Different From Surface									
UL or lot no.	Section 23	Township 31N	Range 6W	Lot Ion	Feet from the 1980	NORTH	Fret from the	East/Mest line EAST	RIO

AHHIBA Degicated Acres 13 Joint or Infill 14 Congolidation Code Draier No. 320.0 Acres - (N/2)

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

END-OF-LATERAL

POINT-OF-ENTRY

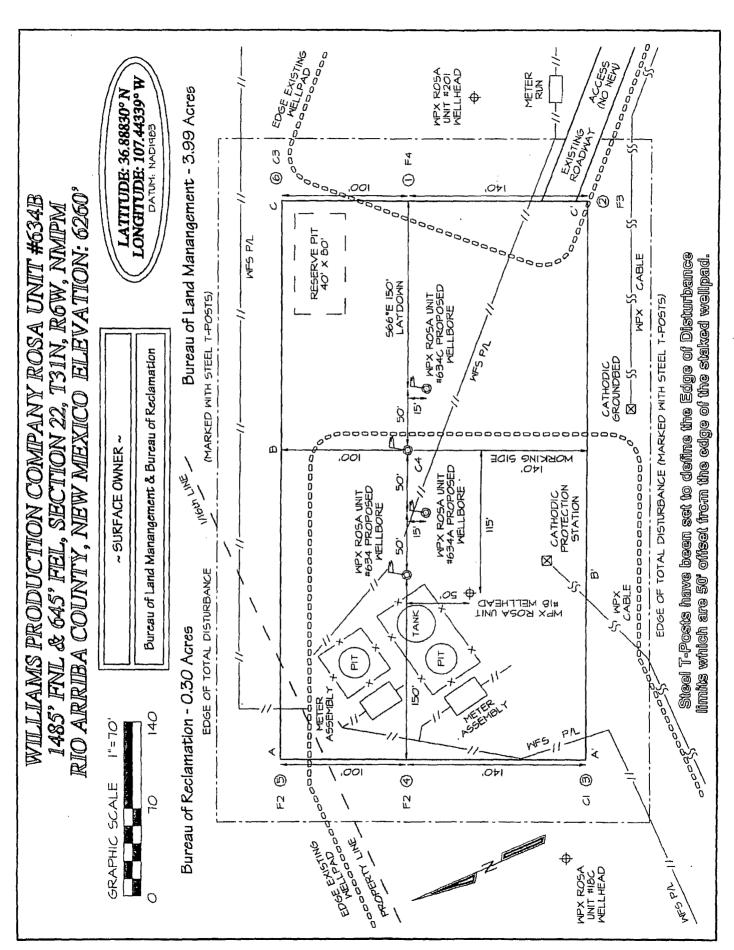
		1485 FNL 6- SECTION 22, T LAT: 36.881 LONG: 107.4- DATUM: NAE	31N, R6W 5 930 'N 4339 'W	1980 FML SECTION 23, LAT: 36.8 LONG: 107. DATUM: N	T31N, RGW SECTION 23 88695 N LAT: 36. 44111 W LONG: 107	, T31N, R6W 88693 N 7.42320 W
5280.00	IFACT 40	5258.88	558 51 5 6 E . 00 0825	- 20'	5280 00 LEASE SF-078TII N84'50.2'E 5238.7'	70°
						. 92580,000
		5257.56			5278.68	

SURFACE LOCATION

THE HORIZONTAL LATERAL REPRESENTED ON THIS PLAT CORRESPONDS TO THE BLACK SEGMENT WHICH VARIES IN THE ELEVATION FROM 6891.0 AT THE POINT-OF-ENTRY TO 6749.0 AT THE END-OF-LATERAL.

₩	17 OPERATOR CERTIFICATION  I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
	Signature Date  Printed Name  18 SURVEYOR CERTIFICATION 1 hereby certify that the well location
	shown on this plat was plotted from field notes of actual surveys made by me on under my supervision, and that the same is true and correct to the best of my belief.  Survey Date: SEPTEMBER 11, 2009  Signature and Seal of Professional Surveyor
7600.00	SELV MEXICO B
	ACTESION B

Certificate Number



## Hydrogeological Report Williams Production Company, LLC Rosa Unit #634 Series

## Regional Hydrological Context

### Referenced Well Location:

The referenced well and pit is located on Bureau of Land Management land within Farmington Field Office (FFO) management jurisdiction 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 6256 feet MSL.

## General Regional Groundwater Description:

As a portion of the San Juan Basin, the FFO administrative area is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifer of potential concern at this location is the Uinta-Animas Aquifer, composed primarily of Lower Tertiary rocks in the San Juan Basin. The aquifer consists of the San Jose Fornation; the underlying Animas formation and its lateral equivalent, the Nacimiento formation; and the Ojo Alamo Sandstone. The thickness of the Uinta-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 proposed pit is located on a midelevation, north-facing slope toward Laguna Seca Draw/Navajo

Reservoir junction (0.17 miles to the north).

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 are no iWATERS wells with recorded water depth information. However, cathodic data associated with the Rosa Unit Nos. 12B (approximately 1,696 feet from pit), 18 (approximately 110 feet from pit) and 201 (approximately 612 feet from pit) show depth to moisture

between 110 and 300 feet (see Siting Criteria Map I for details).

## References:

Allen, Erin. Undated. Colorado Plateau Aquifers. <a href="http://academic.emporia.edu/schulmem/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html">http://academic.emporia.edu/schulmem/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html</a>.

New Mexico Office of the State Engineer. 2010. iWATERS Database search. March, 2010.

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; http://capp.water.usgs.gov.



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

No records found.

PLSS Search:

Sections 1 22

VEO space 144 damp. 05W

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, rehability, usability, or suitability for any particular purpose of the data.

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Page 1 of 1

WATER COLUMNI AVERAGE DEPTH TO WATER



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

Ho records found.

PLSS Search:

Section(a) 23

Appending 31N

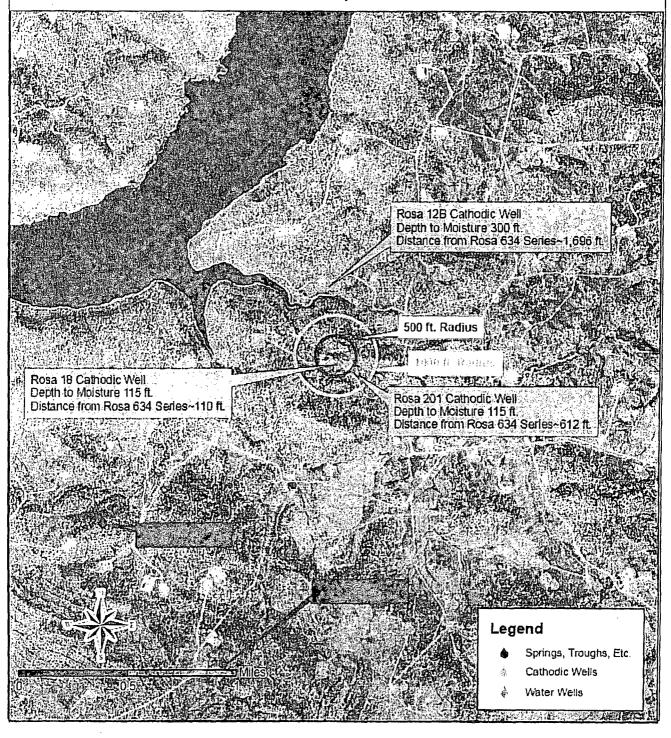
Range 05W

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

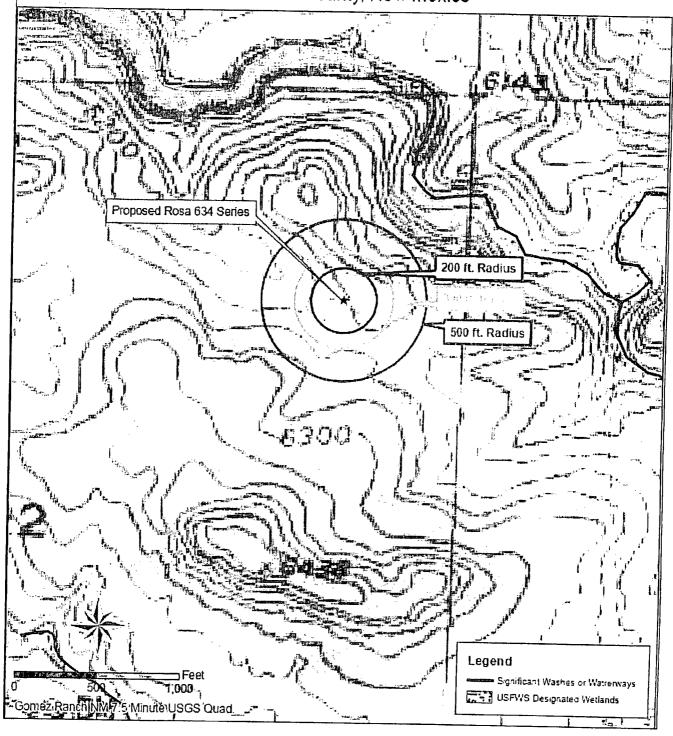
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Page 1 of 1

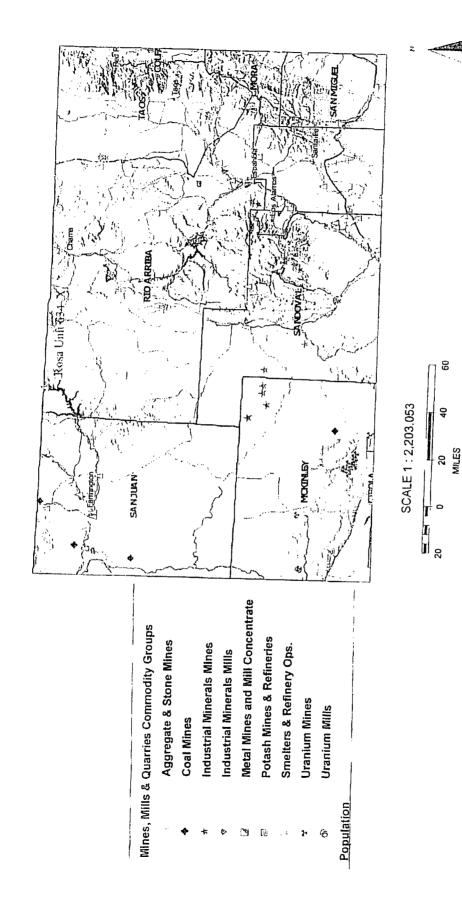
WATER COLUMNI AVERAGE DEPTH TO WATER Siting Criteria Map I
Water Wells, Cathodic Wells, & Springs
Williams Production Company, LLC
Proposed Rosa Unit # 634 Series
T31N, R06W, Section 22 NMPM
Rio Arriba County, New Mexico



Siting Criteria Map II
Topographic Features
Williams Production Company, LLC
Rosa Unit No. 634 Series
T31N, R06W, Section 22 NMPM
Rio Arriba County, New Mexico



# MMQonline Public Version

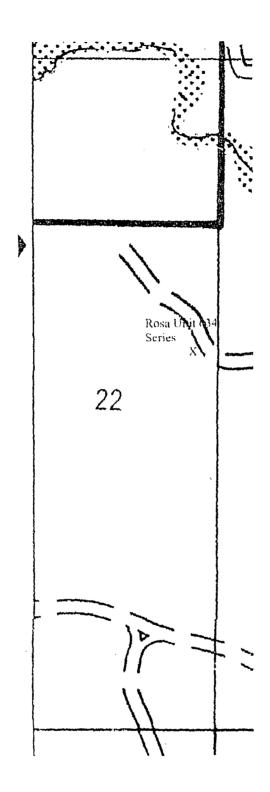


## FEMA Map - 100-Year Floodplain:

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 #634 Series wells are 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.



# Williams Production Co., LLC Rosa Unit #634B (API: Pending)

Drilling and Completion
Closed-Loop & Temporary Pit System

In accordance with Rule 19.15.17 NMAC, the following plans describes the Design and Construction (D&C); the Maintenance and Operation (O&M) and Closure of a closed-loop and temporary pit system to be used for the drilling and completion of the Rosa Unit 634B by Williams Production Co, LLC (WPX).

This system is required as the first portion of the well will be drilled with convention slick-water drilling mud, while the horizontal portion of the well will use an Oil-Based Mud system. The Temporary pit will be used to handle the slick-water muds and associated cuttings ONLY. Once the mud system is converted to OBM the Closed-Loop system will be used. The OBM cuttings and solids will require disposal at an offsite NMOCD permitted landfarm.

The Closed-loop portion of this system will be located immediately adjacent to the drilling/completion rig for solids and fluid handling and to prevent impacts to the immediate environment surrounding the wellsite. The temporary pit portion of the system will be used only for the slick-water mud system. The temporary pit will be on the multiwell pad site.

## **Design and Construction Plans**

## Closed-Loop Design & Construction Plan:

The Closed-Loops System will consist of one or more temporary above-ground tank(s) suitable for holding the cuttings and fluids for rig operations and the planned Drilling/Completion activities. The tank(s) will be of sufficient volume to maintain a safe free-board between disposal of the liquids and solids from rig operations. Additional design considerations include:

- 1. The Closed-loop System used by WPX will not entail a drying pad, below-grade tank or sump.
- 2. Fencing is not required for an above-ground closed-loop system.
- 3. It will be signed in compliance with 19.15.3.103 NMAC
- 4. A temporary pit will be used to store surplus liquids and handle the large volume of cutting anticipated while drilling the disposal well.
- 5. Haul-off bins or similar containers will be used to temporarily hold dewatered solid prior to disposal either offsite at Envirotech (Permit NM-01-0011) or in the temporary pit it cuttings treated with a soll-burner meet TPH/BTEX levels. Written NMOCD approval of the soil-burner will be required prior to use of this disposal option.
- 6. Tanks will be placed on the active and disturbed areas of the new well location and within the existing ROW footprint.

Page 17 of 22

Rosa Unit 632 B

## Temporary Design & Construction Plan:

## General Requirements:

- 1. WPX will be designed and constructed the temporary pit to contain surplus liquids and recovered solids associated with the drilling and completion of the referenced well 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 of the wellsite want within the ROW 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. The temporary pit will be fenced at all times excluding drilling/completion operations, 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 engineer's certification of stability will be provided
- 7. The pit walls will be walked down by a crawler type tractor following construction and prior to liner installation.
- 8. The temporary pit will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
- 9. Geotextile will be installed beneath the liner when rocks, debris, sharp objects or irregularities cannot be avoided.
- 10. The liner 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 as necessary.
- 14. The volume of the pit shall not exceed 10 acre-feet (77,580 bbl), including freeboard.
- No temporary blow pit will be needed for the drilling and completion of the reference well.

## Maintenance & Operating Plan

## Closed-Loop Plan:

The Closed-Loops System will be operated and maintained: to contain liquids and solids, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. The following steps will be followed to attain this goal:

- 1. The liquids will be transferred to and from the temporary above-ground rig tanks using vacuum trucks. Liquid levels will be maintained to provide required free-board and prevent overtopping.
- 2. Solids in the Closed-Loop tank will be vacuumed out and disposed of at Envirotech (Permit Number NM-01-0011) on a periodic basis to prevent over topping.
- 3. No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the tank(s). Only fluids or cutting intrinsic to, used or generated by rig operations will be placed or stored in the tank(s).
- 4. The Division District office will be notified within 48 hours of the discovery of compromised integrity of the Closed-Loop System. Upon discovery of the compromised tank, repairs will be enacted immediately.
- 5. All of the above operations will be inspected and a log will be signed and dated. During rig operations the inspection will be daily.

## Temporary Pit Plan:

- WPX will operate and maintain the temporary pit to contain liquids and solids associated with the drilling and completion of the referenced well 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 other pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005).
- WPX shall maintain at least two (2) feet of vertical freeboard for the temporary pit.
- 4. WPX shall remove all free liquids from the temporary pit within 30 days from the date the drilling or completion rig is released.
- 5. Only fluids and solids generated during the slick-water drilling/completion process will be discharged into the temporary pit. Other miscellaneous solid 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) NMAC in the temporary pit or associated Closed-Loop system.
- 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 48-hours 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 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 pit as follows to ensure compliance with this plan:
  - a. 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.
  - c. Copies of the inspections will be filed with the NMOCD Aztec District office upon pit closure.

## Closure Plan

## Closed-Loop Plan:

The Closed-Loops System will be closed in accordance with 19,15,17,13. This will be done by:

- 1. WPX will vacuum removed any residual cutting and sludge from all temporary above-ground tanks and transporting cuttings to the Temporary Pit following rig operations.
- 2. WPX will conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig, or return the OBM fluids to the vendor for reuse.
- 3. Removal of the tank(s) from the well location as part of the rig move.
- 4. At time of well abandonment, the site will be reclaimed and re-vegetated to preexisting conditions when possible, or as stipulated by the surface management agency (i.e. USFS) in the APD conditions of approval.

## Temporary Pit In-place Closure Plan

In accordance with Rule 19.15.17.13 NMAC, the following plan describes the in-place closure requirements of the temporary pit to be used with the reference well. Since the pit location is in a non-sensitive area with groundwater > 100 feet below the pit bottom the closure criteria for non-sensitive areas will be followed.

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

## Closure Procedure:

- All free standing liquids will be removed from the pit at the start of the closure process. To the extent practical WPX will attempt to conserve drilling fluids for reuse by transferring liquids to other permitted pits ahead of the rig. Any excess fluids that are not needed for well control during drilling or completion will be disposed by evaporation or transport to Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005).
- 2. The method of closure for the temporary pit will be in-place burial on-site closure as 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 and consistent with the BLM-NMOCD MOU.
- 4. Within six months of the "rig-off" status occurring WPX will ensure that the temporary pit is covered, recontoured and reseeding in progress consistent with the USFS APD conditions of approval.
- 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: Operators Name (WPX), Well Name and API Number, and
  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.

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 418.1 modified	2500
GRO/DRO	EPA SW-846 Method 8015M (GRO/DRO)	500
Chlorides	EPA SW-846 Method 300.1	1000

- 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 USFS APD conditions of approval 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 USFS as the Surface Management Agency and as part of the APD are Division-approved methods unless notified by the Division of their unacceptability.
- 13. 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: To:

Tuesday, March 09, 2010 10:47 AM

Cc:

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

Subject:

Powell, Brandon, EMNRD; Meador, Tasha; Riley, Heather

Landowner Notice - Rosa 634B Pit Closure

This correspondence is to notify the BLM that Williams Production is planning to use a temporary pit associated with the drilling and completion of the reference well and following discontinued use of the pit will close by onsite burial. The planned closure is consistent with the Surface Use Plan submitted with Williams APD.

It should be noted that this well will be drilled using a slick-water mud system for the vertical section of the well. This mud system will use the Temporary pit.

A Oil-Based Mud system will be used for the horizontal section. A Closed-Loop mud control system will be used and no onsite waste disposal is planned for the solids from this CLP.

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 USFS 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

Form 3160-3 (September 2001)

## C: Right S: Signment C: Right S: M Land C: Off S: WF5 United states C: NU DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED OMB No. 1004-0136 Expires January 31, 2004

FEB 2 8 200

5. Lease Script No.

JREAU OF LAND MANAGEMENT

Street of Land Management Indian, Allottee or Tribe Name

la, Type of Work: 🔯 DRILL 🔲 REEN	VTER			7. If Unit or CA A	Agreeinent, Na	me and No.	
				Rosa Unit		_/	
1b. Type of Well:	⊠	☐ Single Zone Multiple Zone		8. Lease Name and Well No.			
2. Name of Operator			Rosa Unit #634B 9. API Well No.				
Williams Production Company, LLC				30-039	1.304	<u> 37                                    </u>	
3a. Address	3b. Phone N	lo. (include area code	10. Field and Pool, or Exploratory				
P.O. Box 640 Aztec, NM 87410	(505	) 634-4208	Basin Mancos				
4. Location of Well (Report location clearly and in accordance with	any State require	ments. *)		11. Sec., T., R., M.	, or Blk. and S	Survey or An	
At surface 1485' FNL & 645' FEL Section 22, T31	IN., R6W			R' 500 03	77/1	vilst.	
At proposed prod. zone 1980' FNL & 20' FEL Section	1 23, T31N R6V	/		8: Sec 23, T3/N, K値似 S: Section 22, 31N. 6W			
4. Distance in miles and direction from nearest town or post office	+			12. County or Paris		13. State	
approximately 30 miles northeast of Blanco, New Mexico	0			Rio Arriba		NM_	
5. Distance from proposed*	<del></del>	Acres in lease	17. Spacir	g Unit dedicated to th	is well		
location to nearest property or lease line, ft.				Service of the servic			
(Also to nearest drig, unit line, if any) 645	2.56	0.000	320	320.0 – (N/2)			
8. Distance from proposed location*	19. Propos	ed Depth		20. BLM/BIA Bond No. on file			
to nearest well, drilling, completed, applied for, on this lease, ft.		6891.					
165' Rosa 18				UT0899			
1. Elevations (Show whether DF, KDB, RT, GL, etc.)		22. Approximate date work will start*		23. Estimated duration			
6,260' GR		1, 2010		1 month			
	24. Atta	chments					
e following, completed in accordance with the requirements of Ons	shore Oil and Gas	Order No.1, shall be	attached to this	form:			
Well plat certified by a registered surveyor.		4 Bond to cover	the operations	unless covered by a	n existing bor	ul on fila (c	
		, a Dona to core				ter our rue fac	
A Drilling Plan.		Item 20 above	;).	•	J	id on the (s	
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This APD is also serving as an application to obtain a pipeline right-of-way. An associated pipeline tie of 24.6 feet would be required for this well.

BLMCS APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER

No new access road will be required for this proposed well.

AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS

**OPERATOR** 



## APD Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this <u>22nd</u> day of <u>February</u> , 2010.
Name Larry Higgins
Position Title _Drilling COM_
Address P.O. Box 640, Aztec, NM 87410
Telephone <u>(505) 634-4208</u>
Field representative (if not above signatory)
E-mail_larry.higgins@williams.com

Date: 2-22-10

Larry Higgins
Drlg COM

Williams Production Company, LLC

District I 1625 N. French Dr., Hobbs, NM 88240 District #1

1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico

Energy, Minerals & Natural Resources Percent Descriptions on back

State District Office
State Lease - 4 Copies
Fee Lease - 3 Copies Santa Fe. NM 87505

AMENDED REPORT

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

Bureau of Land Management - Farmington Fleid Office

## WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number	'Pool Code	'Pool Name	
30-039-30937	97232	· BASIN MANCOS	
'Property Code	·	perty Name	*Well Number
17033		SA UNIT	634B
120782	*Oper WILLIAMS PRO	*Elevation 6260 '	

<sup>10</sup> Surface Location

					04, 1000	20000010.			
UL or lot no.	Sect ion	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Н	22	31N	6W		1485	NORTH	645	EAST	RIO ARRIBA
<sup>11</sup> Bottom Hole Location If Different From Surface									
ut on lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/Wast line	RIO
Н	23	31N	6W		1980	NORTH	20	EAST	ARRIBA
Dedicated Acres 320.0 Acres - (N/2)				<sup>13</sup> Jount or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.			
					<u>}</u>		1		

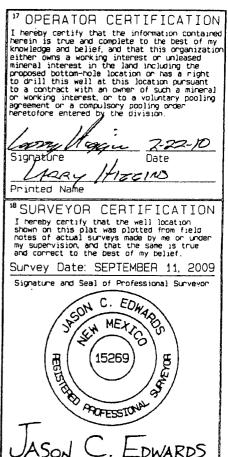
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

POINT-OF-ENTRY

END-OF-LATERAL

SURFACE LOCATION 1485 FNL 645 FEL SECTION 22, T31N, R6W LAT: 36.88830 N LONG: 107.44339 W 1980 FNL 20 FWL SECTION 23, T31N, R6W LAT: 36.88695 N LONG: 107.44111 W 1980 FNL 20 FEL SECTION 23, T31N, R6W LAT: 36.88693 N LONG: 107.42320 W DATUM: NAD1983 DATUM: NAD1983 DATUM: NAD1983 5258.88 16 5280.00 1594 LEASE SF-078TT 480 TRACT 40 N84\*50.2E 5238.7 553'516E 827J - 20 20'-8 LOT 23 5280 8 5280 5278.68 5257.56

THE HORIZONTAL LATERAL REPRESENTED ON THIS PLAT CORRESPONDS TO THE BLACK SEGMENT WHICH VARIES IN THE ELEVATION FROM 6891.0 AT THE POINT-OF-ENTRY TO 6749.0 AT THE END-OF-LATERAL.



Certificate Number

15269