District I
1625 N French Dr., Hobbs, NM 88240
District II
1625 W Coold Avenue Artesia NM 88 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 environment. Nor does approval relieve the operator of its responsibility to comply with any	operations result in pollution of surface water, ground water or the 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 #398				
API Number:30-039-31041OCD Permit				
U/L or Qtr/Qtr N Section 27 Township 31N Rai				
Center of Proposed Design: Latitude 36.86626 Longitude				
Surface Owner: ⊠ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment				
2.				
<b>Pit:</b> Subsection F or G of 19.15.17.11 NMAC	DENIED			
Temporary: Drilling Workover  By Brandon Powell				
Permanent Emergency Cavitation P&A Date 6/15/2011 (505) 334-6178 x 15				
☐ Lined ☐ Unlined Liner type: Thickness _20_mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Othe One to depth to ground water				
⊠ String-Reinforced	1			
Liner Seams: Welded Factory Other Volume	e: <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 (Applie intent)	s to activities which require prior approval of a permit or notice of			
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other	262720			
Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other				

Below-grade tank: Subsection 1 of 19.15.17.11 NMAC Volume: \_\_\_\_\_bbl Type of fluid: \_\_\_\_\_ Tank Construction material: ☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off ☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other 

☐ Alternative Method:

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

C-144

Liner Seams: Welded Factory Other

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:
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)
above ground steet tanks or naur-off oths and propose to implement waste removal for closure)
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC  Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.  Hydrogeologic Report - based upon the requirements of Paragraph (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 19.15.17.12 NMAC  Freeboard and Overtopping Prevention 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  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)
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 G of 19.15.17.13 NMAC

C-144 Page 3 of 20 Rosa #398

Waste Removal Closure For Closed-loop Systems That Utilize Above Gr Instructions: Please indentify the facility or facilities for the disposal of liq facilities are required.	uids, drilling fluids and drill cuttings. Use attachment if	more than two	
Disposal Facility Name:	Disposal Facility Permit Number:		
Disposal Facility Name:			
Will any of the proposed closed-loop system operations and associated activi ☐ Yes (If yes, please provide the information below) ☐ No	ties occur on or in areas that will not be used for future ser	vice and operations	
Required for impacted areas which will not be used for future service and op  Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsestie Site Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate requirements of Subsessite Reclamation Plan - based upon the appropriate Reclamation Plan - ba	opriate requirements of Subsection H of 19.15.17.13 NMA ection I of 19.15.17.13 NMAC	С	
17.  Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NN Instructions: Each siting criteria requires a demonstration of compliance of provided below. Requests regarding changes to certain siting criteria may considered an exception which must be submitted to the Santa Fe Environal demonstrations of equivalency are required. Please refer to 19.15.17.10 NI	in the closure plan.  Recommendations of acceptable sour require administrative approval from the appropriate dist nental Bureau office for consideration of approval.  Justi	rict office or may b	
Ground water is less than 50 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS	S; Data 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; 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	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 oth lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed si		☐ Yes ⊠ No	
Within 300 feet from a permanent residence, school, hospital, institution, or c - Visual inspection (certification) of the proposed site; Aerial photo; Sa		☐ Yes ⊠ No	
Within 500 horizontal feet of a private, domestic fresh water well or spring the watering purposes, or within 1000 horizontal feet of any other fresh water we are NM Office of the State Engineer - iWATERS database; Visual inspections	ell or spring, in existence at the time of initial application.	☐ Yes ⊠ No	
Within incorporated municipal boundaries or within a defined municipal freshadopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written a	•	☐ 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-N	Aining and Mineral Division	☐ Yes ⊠ No	
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of G-Society; Topographic map	eology & 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 by a check mark in the box, that the documents are attached.  ☑ Siting Criteria Compliance Demonstrations - based upon the appropriate Proof of Surface Owner Notice - based upon the appropriate requireme ☐ Construction/Design Plan of Burial Trench (if applicable) based upon ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a dry ☐ Protocols and Procedures - based upon the appropriate requirements of ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate Waste Material Sampling Plan - based upon the appropriate requirement ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids ☐ Soil Cover Design - based upon the appropriate requirements of Subset ☐ Re-vegetation Plan - based upon the appropriate requirements of Subset	te requirements of 19.15.17.10 NMAC ents of Subsection F of 19.15.17.13 NMAC the appropriate requirements of 19.15.17.11 NMAC ying pad) - based upon the appropriate requirements of 19. F19.15.17.13 NMAC te requirements of Subsection F of 19.15.17.13 NMAC ints of Subsection F of 19.15.17.13 NMAC and drill cuttings or in case on-site closure standards cann etion H of 19.15.17.13 NMAC	15.17.11 NMAC	

Operator Application Certification:  I hereby certify that the information submitted with this application is true, accurate	in and complete to the heat of my knowledge and ballof			
Name (Print): Ben Mitchell				
Signature: R Mth W	Date: 5/25/2011			
e-mail address: ben.mitchell@williams.com	Telephone:505-634-4206			
OCD Approval: Permit Ap	only)  OCD Conditions (see attachment)			
OCD Representative Signature DENIED	Approval Date:			
Title:	CD 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 closure report.  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 this section of the form until an approved closure plan has been obtained and the closure activities have been completed.  Closure Completion Date:				
22.  Closure Method:  Waste Excavation and Removal On-Site Closure Method Alternati  If different from approved plan, please explain.	ve Closure Method  Waste Removal (Closed-loop systems only)			
23. Closure Report Regarding Waste Removal Closure For Closed-loop Systems T Instructions: Please indentify the facility or facilities for where the liquids, drilling two facilities were utilized.  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) \sum 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				
Closure Report Attachment Checklist: Instructions: Each of the following item 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				
25. Operator Closure Certification:				
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.				
Name (Print):	me (Print): Title:			
Signature:				
e-mail address:	Telephone			

District I 1625 N. French Dr., Hobbs, NM, 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 State of New Mexico Energy, Minerals & Natural Resources Department

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

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

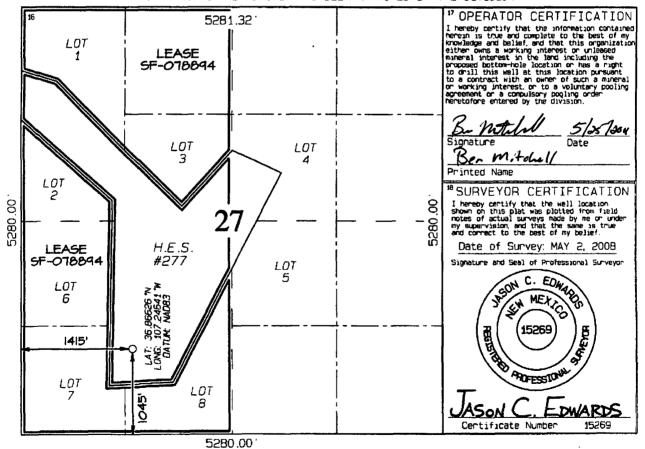
AMENDED REPORT

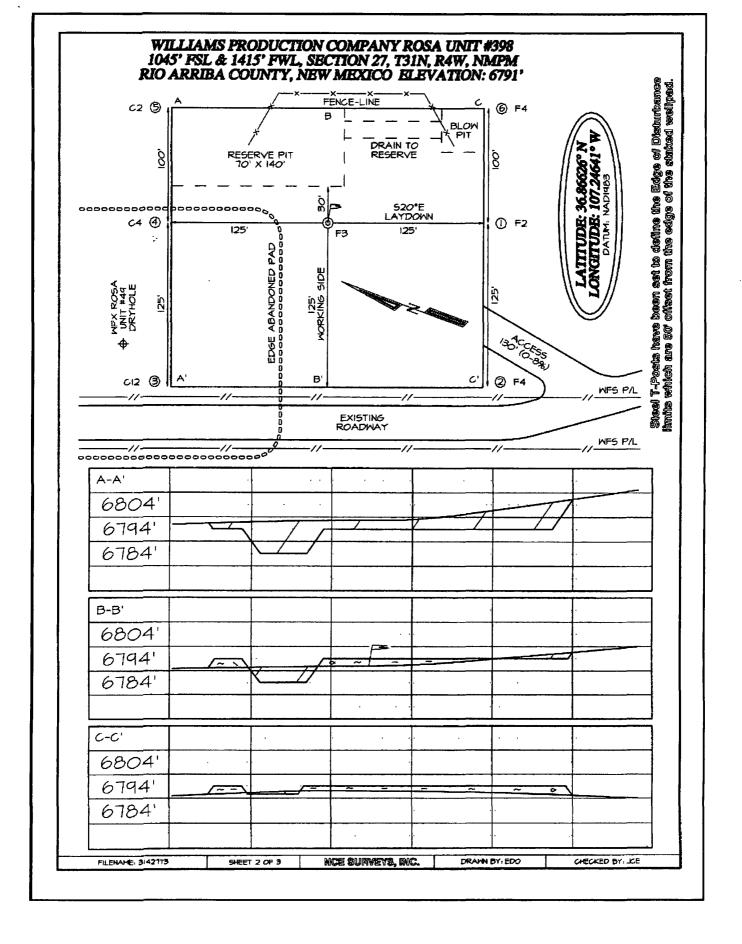
# WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number	'Pool Code 71629	Pool Name BASIN FRUITLAND COAL	
*Property Code	"Property Name		Well Number
17033	ROSA UNIT *Coerator Name		398
120782	WILLIAMS PRODU		6791

10 Surface Location I or lot on Lot Idn Foot from the North/South line East/West line Feet from the RIO 27 4W 1045 SOUTH Ν 31N 1415 WEST ARRIBA <sup>11</sup> Bottom Hole Location If Different From Surface UL or lat no Section Feet from the North/South 1274 Feet from the 1 Dedicated Acres dithi re intill <sup>94</sup> Consolidation Code 320.00 Acres - (W/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





# Hydrogeological Report Williams Production Company, LLC Rosa Unit #398 Regional Hydrological Context

### **Referenced Well Location:**

The referenced well and pit is located within Carson National Forest's Jicarilla Ranger District in Rio Arriba County, New Mexico. This site is positioned in the northeastern portion of the San Juan Basin, an asymetrical syncline that extends from northwestern New Mexico into southwestern Colorado (Carson National Forest DEIS, 2007). Elevation of the referenced well is approximately 6791 feet MSL.

### General Regional Groundwater Description:

As a portion of the San Juan Basin, this region 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 the northeastern part of the San Juan Basin, 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 in lowlands west of a wash associated with Ulibarri

Canyon. The ephemeral wash is approximately 250 feet from the pit.

1st Water Bearing Formation:

San Jose, Tertiary Approximately 1,900 ft.

Formation Thickness:

Underlying Formation: Nacimiento, Tertiary

**Depth to Groundwater:** 

Depth to groundwater is estimated at greater than 100 feet bgs. There are no iWATERS wells with available water depth information within one mile of the pit. However, cathodic data associated with Rosa Unit 87 (approximately 3100 feet from the pit) shows a depth to moisture of 280

feet (see Siting Criteria Map I for details).

### References:

Allen, Erin. Undated. Colorado Plateau Aquifers.

 $\underline{http://academic.emporia.edu/schulmem/hydro/TERM\%20PROJECTS/2007/Allen/Aquifer.html}.$ 

New Mexico Energy, Minerals and Natural Resources Department, Division of Mining and Minerals. Database. 2008. Internet accessed August 2008.

New Mexico Office of the State Engineer. August 2008. iWaters database. Internet accessed August 2008.

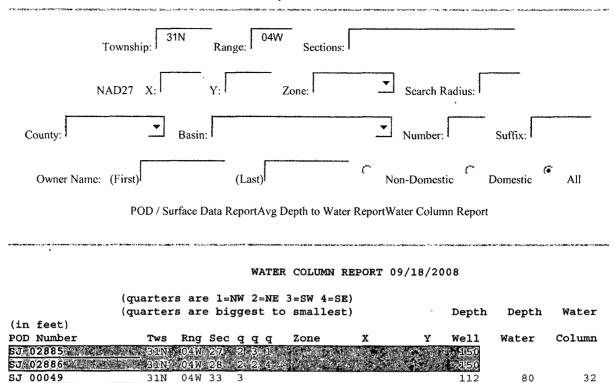
New Mexico WQCC. 2005. State of New Mexico Water Quality Act and the Water Control Commission Regulations.

United States Department of Agriculture, Forest Service. 2007. Draft 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.

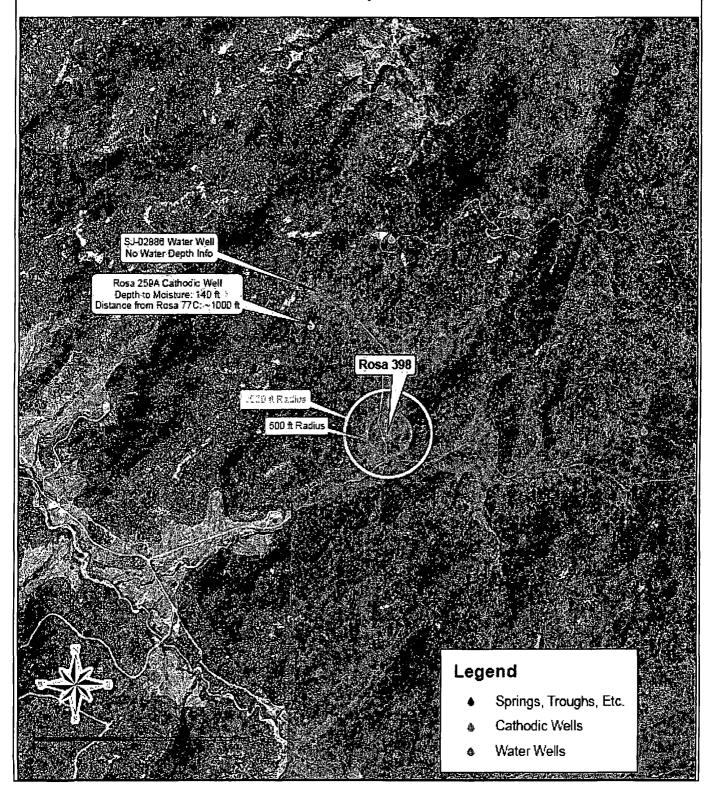
United States Geological Survey. 2001. Groundwater Atlas of the United States: Arizona, Colorado, New Mexico and Utah. USGS Publication HA 730-C; http://capp.water.usgs.gov.

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



Record Count: 3

# Siting Criteria Map I Water Wells, Cathodic Wells, & Springs Williams Exploration and Production Company Rosa #398 T31N, R4W, Section 27, NMPM Rio Arriba County, New Mexico



Siting Criteria Map II Topographic Features Williams Exploration and Production Company Rosa #398 T31N, R4W, Section 27, NMPM Rio Arriba County, New Mexico Legend Significant Washes or Waterways USFWS-Designated Wetlands Ainuia LISGS Quad

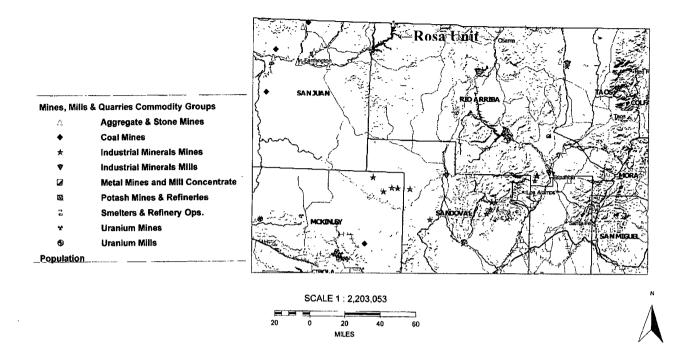
### FEMA Map – 100-Year Floodplain:

As this site is within Carson National Forest, there are no FEMA maps available for this location. However, ortho and topographic maps indicate that the pit is not located within a floodplain.

# Siting Criteria Compliance Demonstrations:

The Rosa Unit #398 pit is not located in an unstable area. The location is not situated over a mine or a steep slope (see attached New Mexico Mines, Mills, and Quarries Map). 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. Wetlands in this area have not been digitally mapped by the United States Department of Fish and Wildlife. However, according to the Jicarilla Ranger District's *Draft Environmental Impact Statement for Surface Management of Gas Leasing and Development*, riparian zones within the Jicarilla Ranger District are found in Bancos, Vaqueros, Carracas, and La Jara Canyons. As this pit is not located within any of these canyons, the pit is not within 500 feet of any reported riparian areas or wetlands (see Siting Criteria Map II). The pit is not 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 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 pit is not within 300 feet of any permanent residence, school, hospital, institution, or church.

# **MMQonline Public Version**



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.

- 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.
- 9. 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.
- 11. 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.
- 14. The volume of the pit shall not exceed 10 acre-feet, including freeboard
- 15. Temporary blow pits will be constructed to allow gravity flow to discharge into the lined reserve pit.
- Only the upper portion of the blow pit will be unlined as allowed in the Rule 19.15.17.11.F(11) NMAC.
- 17. 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.

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.

- 1. 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.
- 5. 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:
    - i. 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/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:
  - d. Daily during drilling or workover operations. Inspections will be included with the IADC reports.
  - e. Weekly as long as liquids remain in the pit. Electronic copies of the inspections will be kept at the WPX San Juan Basin office.
  - f. Copies of the inspections will be filed with the NMOCD Aztec District office upon pit closure.
- 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.

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 (formatted to meet County requirements)

- 1. 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. Once all free liquids are removed, the sludge will be stabilized by one of the following methods depending on equipment availability: blending with clean stockpiled soils or dewatering using a Bowl Decanter Centrifuge, then blending with clean stockpiles soils.
- 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 and recontoured, and that reseeding is 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:
  - g. Operator's Name (WPX)
  - h. Well Name and API Number
  - i. 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 using 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; all samples will be 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 8015 M(Full Range)*	2500
	or Method 418.1	
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 will be used, 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 provide 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 protect surface water quality.
- 11. Notification will be sent to the Aztec District office when the reclaimed area is seeded.
- 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 (unimpacted), consisting of at least three native plant species, including at least one grass, but not including noxious weeds. Cover will be maintained 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 Landowner as part of a surface use agreement or APD are Division-approved methods unless notified by the Division of their unacceptability.
- 13. Upon the abandonment of all wells on the pad, 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. 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.

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.

- 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.
- 9. 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.
- 11. 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.
- 18. The volume of the pit shall not exceed 10 acre-feet, including freeboard
- 19. Temporary blow pits will be constructed to allow gravity flow to discharge into the lined reserve pit.
- 20. Only the upper portion of the blow pit will be unlined as allowed in the Rule 19.15.17.11.F(11) NMAC.
- 21. 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.

Temporary Pit Maintenance & Operating Plan Drillina/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.

- 1. 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.
- 5. 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 48hours 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/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:
  - 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.



Form 3160-5 (February 2005)

# **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB No. 1004-0137 Expires March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS		S Lease Serial No.   SF-078894				
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.		6. If Indian, Allottee or Tribe Name				
SUBMIT IN TRIPLICATE – Other instructions on page 2.		7. If Unit of CA/Agreement, Name and/or No.				
1. Type of Well				·	Rosa	
Oıl Well	Gas Well Ot	her			8. Well Name and No. Rosa Unit 398	
2. Name of Operator					9. API Well No.	
Williams Production Compan 3a Address	y, LLC	3b. Phone No. (inch	ide area code	)	30-039-31041 10. Field and Pool or Exploratory Area	
PO Box 640 Aztec, NA	187410	505-634-4206	area coae	,	Basin Fruitland Coal	
4 Location of Well (Footage, Sec., T.,R.,M., or Survey Description) 1045' FSL & 1415' FWL, Section 27, 31N, 4W				11 Country or Parish, State Rio Arriba, NM		
12. CHECK	THE APPROPRIATE	BOX(ES) TO INDIC	ATE NATU	RE OF NOTICE, I	REPORT OR OTH	IER DATA
TYPE OF SUBMISSION			TYP	E OF ACTION	<del></del>	<del></del>
П., "	Acıdize	Deepen		Production (Sta	Start/Resume) Water Shut-Off	
Notice of Intent	Alter Casing	Fracture Treat		Reclamation		Well Integrity
Subsequent Report	Casing Repair	New Construct	non [	Recomplete		Other Temp Pit Notification
	Change Plans	Plug and Aban	don [	Temporarily Al	bandon	
Final Abandonment Notice	Convert to Injection	Plug Back	Water Disposal			
recompletion in a new unterval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)  This correspondence is to notify the <u>USFS</u> 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.  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 <u>USFS</u> have any concerns.  Please contact us if there are any questions or additional information is required						
Name (Printed/Typed)  Ben Mitchell  Title Regulatory Specialist						
Signature B MM Date 5-24-11						
THIS SPACE FOR FEDERAL OR STATE OFFICE USE						
Approved by						
Conditions of approval, if any, are certify that the applicant holds lega						Date
which would entitle the applicant to	conduct operations there	eon.				
Title 18 U S C Section 1001 and T United States any false, fictitious o					ly to make to any d	epartment or agency of the