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

Form C-144
July 21, 2008

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.

1190

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.

1.
Operator: Williams Production Co, LLC OGRID #: 120782
Address: PO Box 640/721 So. Main, Aztec, NM 87410
Facility or well name: Jicarilla 92 #008
API Number: 30-039-21130 OCD Permit Number:
U/L or Qtr/Qtr N Section 31 Township 27N Range 03W County: Rio Arriba
Center of Proposed Design: Latitude 36.52514 Longitude -107.18947 NAD: ☒1927 ☐ 1983
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☐ Unlined Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____bbl Dimensions: L_____ x W_____ x D_____

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 120 bbl Type of fluid: Produced Water
Tank Construction material: Fiberglass w/banded plastic liner
☒ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness 20 mil ☒ HDPE ☐ PVC ☐ Other _____

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2008
OIL CONS. DIV. DIST. 3

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify Per BLM APD Specifications

7.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☒ Screen ☐ Netting ☐ Other

☐ Monthly inspections (If netting or screening is not physically feasible)

8.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.3.103 NMAC

9.

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

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 acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

11.
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)*

13.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (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_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ 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)

15.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

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 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

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

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 source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; 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; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
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
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18.

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

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

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 belief.

Name (Print): Michael K. Lane Title: Sr. Environmental Specialist

Signature: [signature] Date: 9/12/08

e-mail address: myke.lane@williams.com Telephone: 505-634-4219

20.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: [signature] **Approval Date:** 10/20/09

Title: Envir/Spec **OCD Permit Number:**

21.
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 ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

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) ☐ 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 check 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

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): Title:

Signature: Date:

e-mail address: Telephone:

Hydrogeological Report
Williams Production Company, LLC
Jicarilla 92 #8
Regional Hydrological Context

Referenced Well Location:

The referenced well and pit is located on Jicarilla Reservation, within 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 7115 feet MSL.

General Regional Groundwater Description:

As a portion of the San Juan Basin, the Jicarilla Reservation 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 uplands with little slope. There are no drainages within 300 feet of the pit.
1st Water Bearing Formation:	San Jose, Tertiary
Formation Thickness:	Approximately 2200 ft.
Underlying Formation:	Nacimiento/Animas, Tertiary
Depth to Groundwater:	Depth to groundwater is estimated at 50 - 100 feet bgs. Within a one-mile radius of this location, there were no iWATERS wells with recorded water depth information. However, cathodic data associated with Jicarilla 92 #8 (approximately 100 feet from the pit) and #4 (approximately 900 feet from the pit) shows a depth to moisture at 80 feet (see Siting Criteria Map I for details).

References:

Allen, Erin. Undated. Colorado Plateau Aquifers. http://academic.emporia.edu/schulmem/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html.

New Mexico Energy, Minerals and Natural Resources Department, Division of Mining and Minerals. Database. 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

Township: 27N Range: 03W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report Avg Depth to Water Report Water Column Report

WATER COLUMN REPORT 09/10/2008

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

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in feet)

No Records found, try again

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 26N Range: 03W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report Avg Depth to Water Report Water Column Report

WATER COLUMN REPORT 09/11/2008

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

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in feet)

No Records found, try again

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 27N Range: 04W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report Avg Depth to Water Report Water Column Report

AVERAGE DEPTH OF WATER REPORT 09/12/2008

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet) Min	Max	Avg
SJ	27N	04W	34				1	750	750	750

Record Count: 1

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 26N Range: 04W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

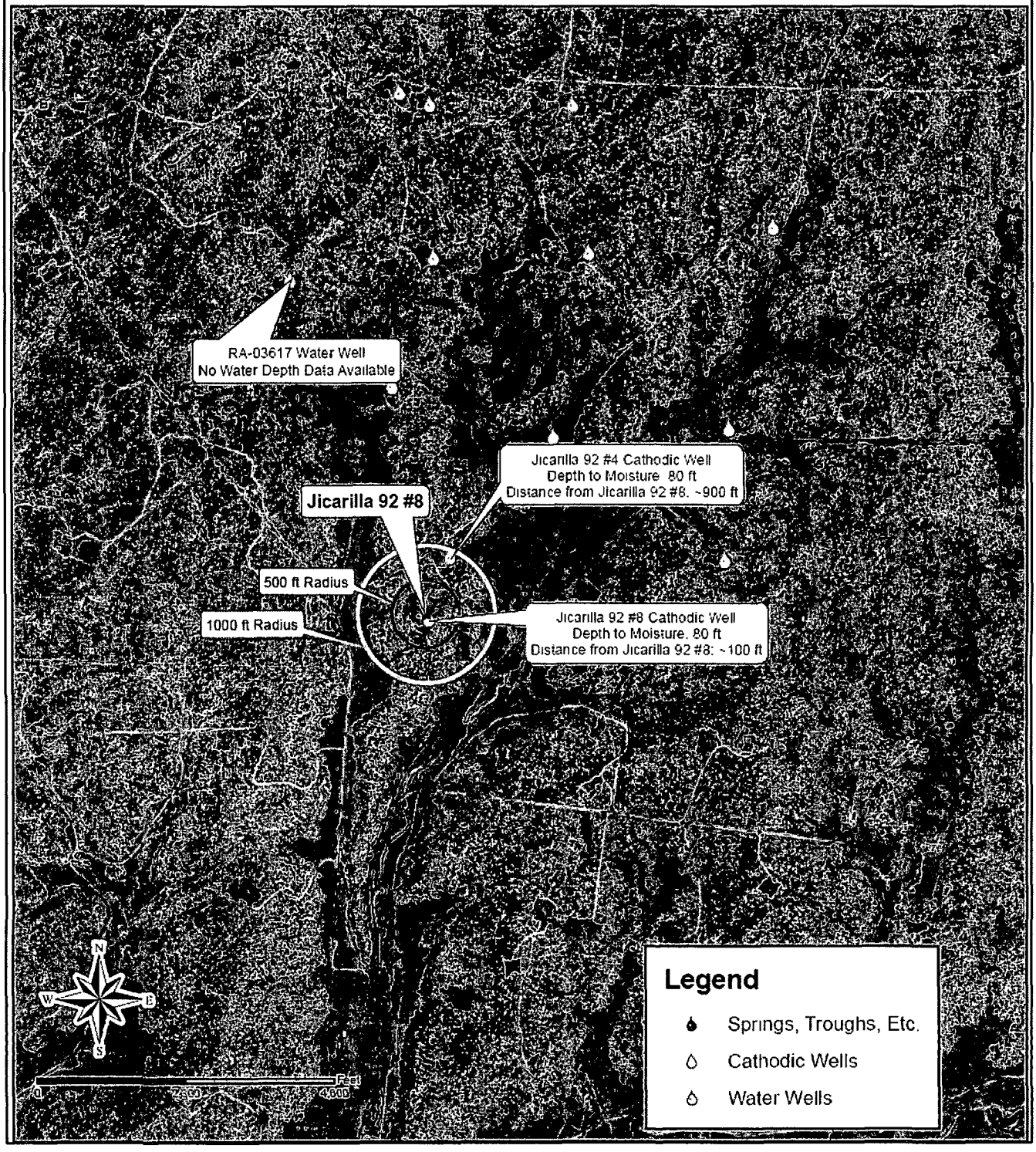
POD / Surface Data Report Avg Depth to Water Report Water Column Report

AVERAGE DEPTH OF WATER REPORT 09/12/2008

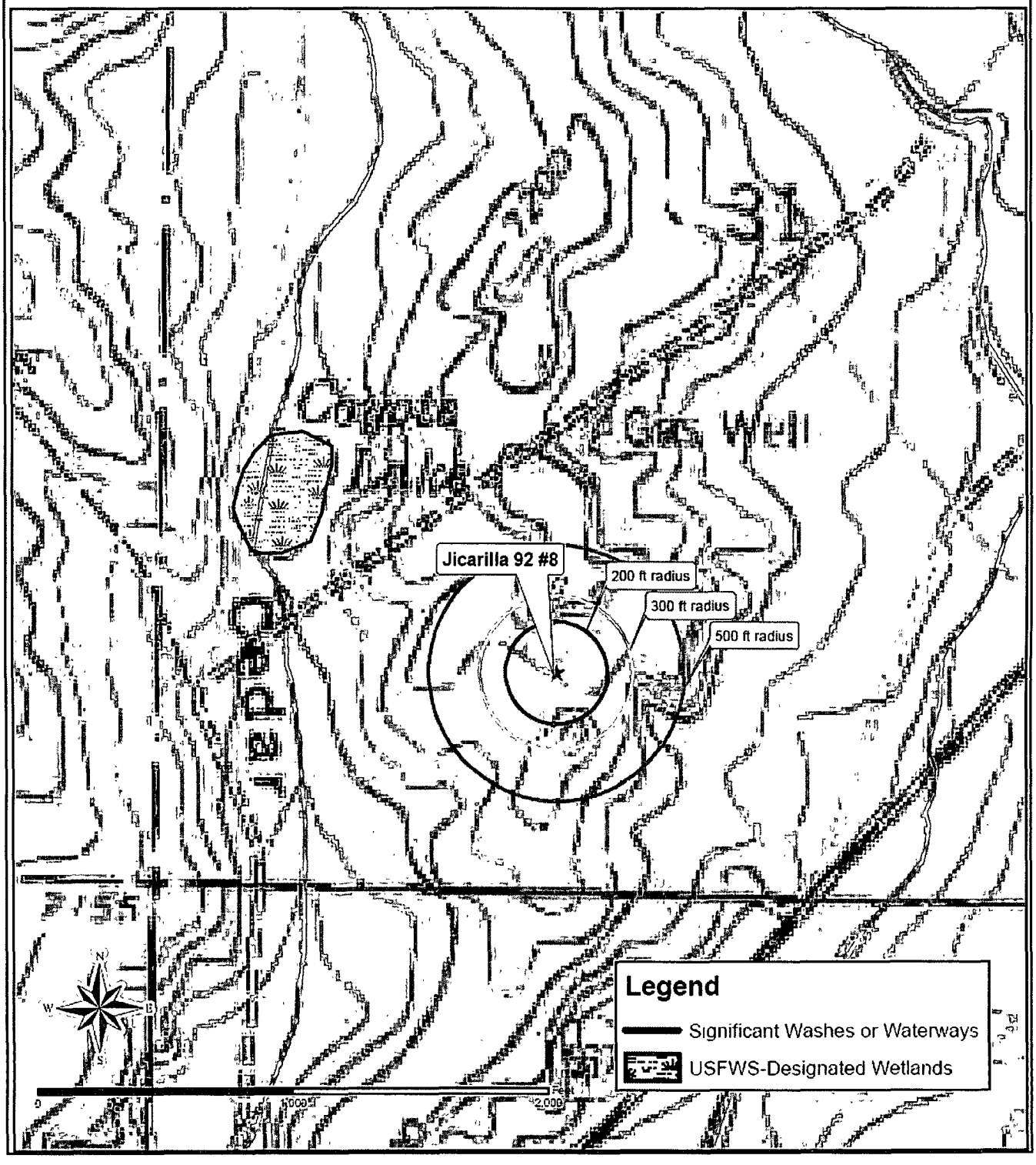
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet) Min	Max	Avg

No Records found, try again

Siting Criteria Map I
Water Wells, Cathodic Wells, & Springs
Williams Exploration and Production Company
Jicarilla 92 #8
T27N, R3W, Section 31, NMPM
Rio Arriba County, New Mexico



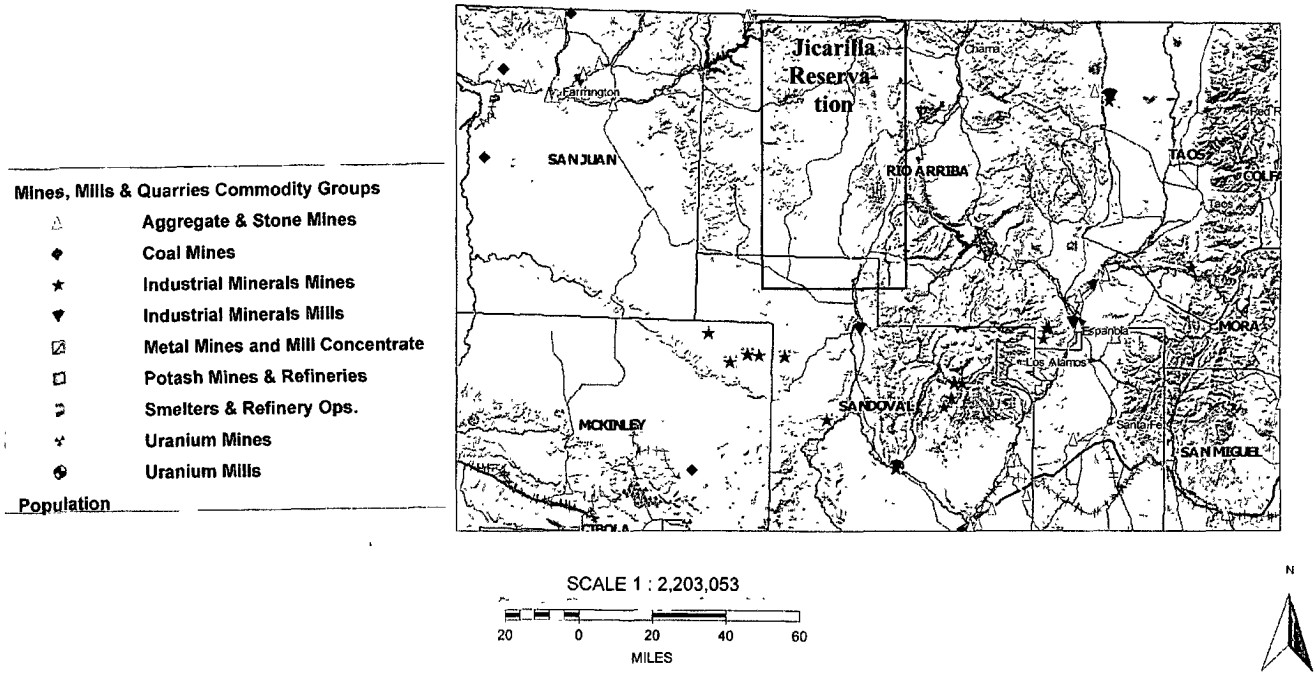
Siting Criteria Map II
Topographic Features
Williams Exploration and Production Company
Jicarilla 92 #8
T27N, R3W, Section 31, NMPM
Rio Arriba County, New Mexico



FEMA Map – 100-Year Floodplain:
As this site is located on the Jicarilla Reservation, no FEMA maps are available. Ortho and topographic maps indicate that this pit is not located in a floodplain.

Siting Criteria Compliance Demonstrations:
The Jicarilla 92 #8 pit is not in an unstable location. 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; within 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake; or 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



Williams Production Co., LLC
San Juan Basin: New Mexico Assets
Production Pit: Fiberglass Below-Grade Tank

Although these tanks have performed well to protect the public health, welfare and environment, in accordance with Rule 19.15.17.13.A (4) NMAC, Williams will removed all BGTs constructed of fiberglass by June 16, 2013. These tanks do not meet the construction/design standards specified in 19.15.17.11 (1-4). The following plans describes the general design and construction (D&C) and Operations and Maintenance (O&M)of these production pits used on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico.

Design and Construction Plan

The pit are located as close as possible to the well and associated production/process equipment to minimize surface disturbance. The excavation bottom and sidewalls were compacted prior to installation of the pit. The BGT consisted of single-wall fiberglass tank following appropriate API and industry codes, placed in a 20-mil High-Strength Polyethylene resin (Permeability Rating – 0.041 USPerms), and the liner banded to the tanks. A 2" Sch-40 PVC riser was placed between the tank and liner as a leak-detection inspection port. See the attached Schematic and liner spec sheet. The pit is protected from runon by the construction of a compacted earthen berm. Fencing is constructed to protect livestock/wildlife as specified by the federal Surface Management Agency or, if not federal land/minerals requirements. WPX posts a well sign in accordance with the federal Surface Management Agency and rule 19.15.3.103.

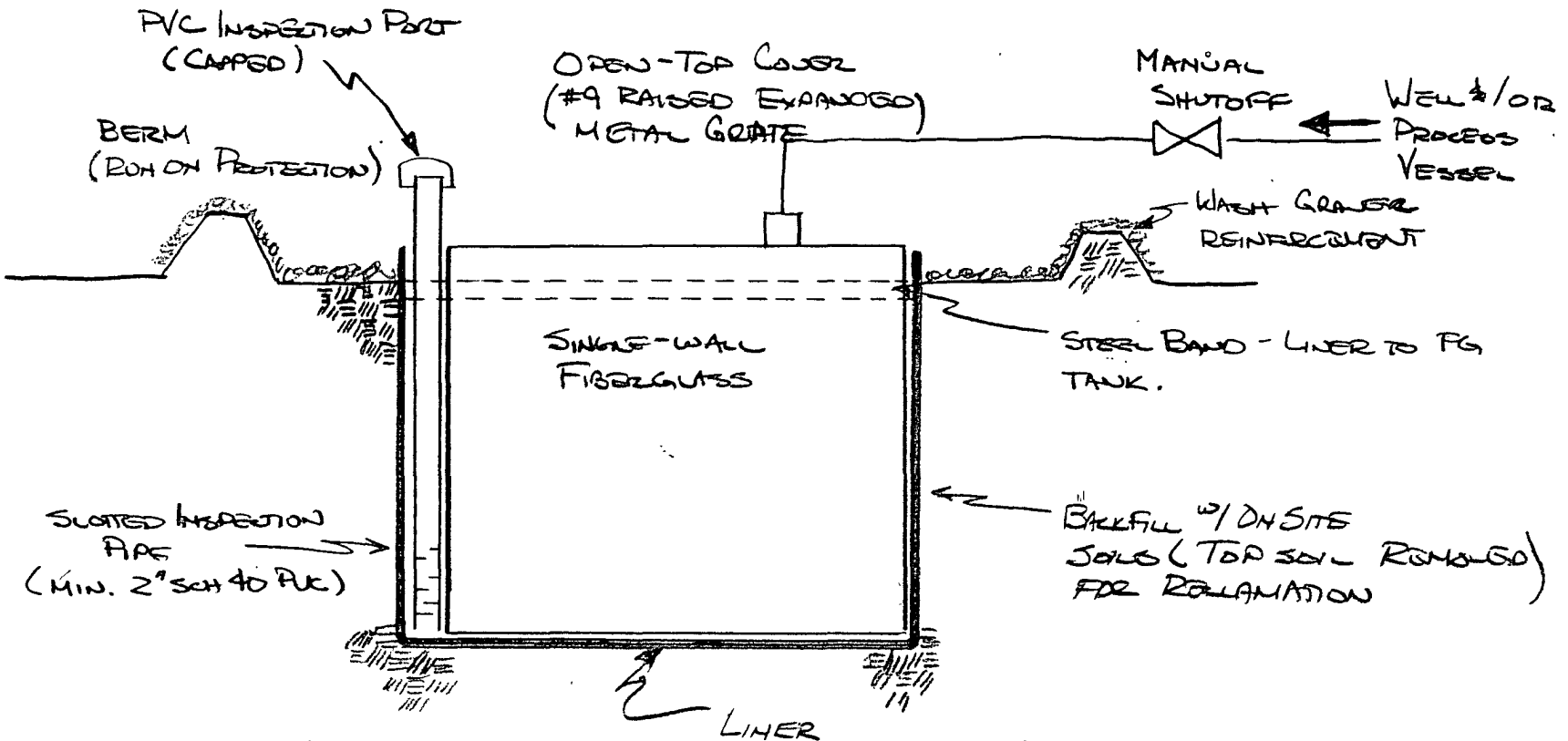
Operations and Maintenance Plan

1. WPX only allows produced liquids meeting the RCRA exemption for O&G wastes to be stored in the SGT. WPX will not discharge or store any hazardous waste as defined under RCRA 40CFR 261 and 19.15.1.7.W(3) NMAC in any temporary pit. Produced water is disposed by evaporation or transport any of the following NMOCD approved facilties depending on the well location: Basin Disposal, Inc in Bloomfield, New Mexico (Permit # NM-01-005), Williams Rosa SWD#1 (Permit # SWD-916), Williams Rosa #94 (Permit # SWD-758), Burlington Resources Jillson SWD#1 (Permit #R10168A), or other NMOCD approved water disposal facilities. WPX maintains sufficient freeboard for to prevent overtopping. Discharges to the pit will be shutoff if the liquid level does not provided sufficient free-board and liquid removal can not be scheduled in a timely manner. Any oil or hydrocarbon collecting on the pit is removed. Saleable condensate is returned to the sales tank. Slop oil from compression is recycled with Safety Kleen, Farmington, NM or Hydropure, Aztec, NM (No Permit Required).
2. If the tank integrity is compromised:
   a. All discharges will be shut off to the pit.
   b. All liquids will be removed as soon as possible but no more that within 24 hours of discovery
   c. 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).
   d. 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.
3. Berms around the perimeter of the pit, shall be maintained as protection from run-on.

4. WPX will inspect the BGT pit monthly. Electronic copies of the inspections will be kept at the WPX San Juan Basin office for a minimum of five years following completion. Copies of the inspections will be available to NMOCD upon request.

EXPLORATION & PRODUCTION
PO BOX 640
AZTEC NM 87410-0640

TYPICAL FIBERGLASS BELOW-GRADE TANK INSTALLATION



NOTES: - LINER RAVEN INDUSTRIES RUFCO 2010B ($P_{CRM} \sim 3.3 \times 10^{-10}$ g/s) 20 MIL
- TANK VOLUME 25-120 bbl
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HYKE LANE
8/31/08

RUFCO® 2010B, 3010B & 4010B

PROPERTIES	TEST METHOD	RUFCO 2010B		RUFCO 3010B		RUFCO 4010B	
		English	Metric	English	Metric	English	Metric
Appearance		Black		Black		Black	
Thickness, Nominal		20 mil	0.51 mm	30 mil	0.75 mm	40 mil	1.00 mm
Weight		93 lbs/MSF	453 g/m²	142 lbs/MSF	692 g/m²	189 lbs/MSF	921 g/m²
Tensile Strength @ Break 1" (2.54 cm)	ASTM D6693	75 lbs	334 N	114 lbs	507 N	154 lbs	685 N
Elongation at Break	ASTM D6693	800%	800%	800%	800%	800%	800%
Tear Resistance	ASTM D1004	11 lbf	49 N	16 lbf	71 N	22 lbf	98 N
Hydrostatic Resistance	ASTM D751	100 psi	689 kPa	170 psi	1170 kPa	220 psi	1517 kPa
Puncture Resistance	ASTM D4833	30 lbf	133 N	45 lbf	200 N	60 lbf	267 N
Volatile Loss	ASTM D1203	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Dimensional Stability	ASTM D1204	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%
Maximum Use Temperature		180°F	82°C	180°F	82°C	180°F	82°C
Minimum Use Temperature		-70°F	-57°C	-70°F	-57°C	-70°F	-57°C
Permeability		3.3×10^{-10} cm/sec					
Perm Rating	ASTM E96 Method A	0.041 U.S. Perms	0.027 Metric Perms	0.031 U.S. Perms	0.020 Metric Perms	0.024 U.S. Perms	0.015 Metric Perms
FACTORY SEAM REQUIREMENTS							
Bonded Seam Strength	ASTM D4545*	33 lbf/in.	58 N/cm	55 lbf/in.	96N/cm	70 lbf/in.	122N/cm
Seam Peel Adhesion	ASTM D1204*	28 lbf/in.	49N/cm	40 lbf/in.	70N/cm	55 lbf/in.	96N/cm

*Raven Industries performs seam testing at 12" per minute

$1 \text{ perm} = 8.03 \times 10^{-9}$ cm/sec

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Williams Production Co., LLC
San Juan Basin: New Mexico Assets
Production Pit: Subgrade Tank
Closure Plan

In accordance with Rule 19.15.17.13 NMAC, the following plan describes the general closure requirements of below-grade tanks (BGT) on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico. This is WPX's standard procedure for all out-of-service BGTs used to store produced liquids during production operations at gas wells operated by WPX.

For those closures 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:

- Plot Plan (Pit Diagram)
- Available Inspection reports
- Sampling Results
- Waste disposal documentation

General Plan Requirements:

1. All piping will be rerouted to an alternative produced water storage/disposal location (e.g. surface tanks, temporary frac tank, ...). The well will be temporarily shutin until the rerouting is completed.

2. All produced water will be removed from the BGT following discharge-pipe rerouting. Produced water will be disposed of by injection at one of the Williams Production Rosa Unit Salt Water Disposal wells: Rosa SWD #1 (API: 30-039-27055) I-23-31N-06W Permit - SWD-916 or Rosa Unit #94 (API: 30-039-23035) K-16-31N-05W, Permit - SWD-758.

3. Notice of Closure will be given to the landowner or SMA, and 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:
   a. Operators Name (WPX)
   b. Well Name and API Number
   c. Location (USTR)

4. The BGT and all associated materials will be removed, and recycled, reused, or disposed. of in a Division-approved facility. All materials that can not be recycled or reused will be treated a solid waste and will be disposed of at a licensed disposal facility (probably San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426).

5. Following removal of the tank and any liner material, a five-point composite sample will be taken of the excavation and tested per 19.15.17.13(B)(1)(b) NMAC. In the event that the criteria are not met (See Table 1), a release will be reported following Rule 116 and impacted soils will be excavated and hauled to Envirotech Landfarm near Bloomfield, NM (NMOCD Permit NM-01-0011). Approval to haul will be requested of the Aztec District office prior to initiation.

Table 1: Closure Criteria for BGTs

Components	Testing Methods	Closure Limits (mg/Kg)
Benzene	EPA SW-846 Method 8021B or 8260B	0.2
BTEX	EPA SW-846 Method 8021B or 8260B	50
TPH	EPA SW-846 Method 8015 M(Full Range)* or Method 418.1	100
Chlorides	EPA SW-846 Method 300.1	250

* Preferred method

6. Upon completion of the tank removal and any necessary soil remediation, the excavation will be backfilled with non-waste earthen material compacted to native and covered with a minimum of one foot of top soil. The surface will be recontoured to match the native grade.

7. For those portions of the former pit area no longer required for production activities, WPX will seed the disturbed areas the first growing season after the pit is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other Division-approved methods. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintained that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. *Note: WPX assumes the seeding stipulations including mix and seeding methods specified by the Surface Management Agency (BLM, BOR, USFS, Tribal, etc.) or Land owner as part of a surface use agreement or APD are Division-approved methods unless notified by the Division of their unacceptability.*

8. For those portions of the former pit area required for production activities, reseeding will be done at well abandonment, and following the procedure noted above.