

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.

**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	WPX Energy Production, LLC
OGRID #:	120782
Address	PO Box 640 / 721 S Main
	Aztec, NM 87410
Facility or well name	Rosa Unit 66M
API Number	3003925747
get form PDS or NMOCD web-sites	OCD Permit Number
U/L or Qtr/Qtr	F
Section	13
Township	31N
Range	6W
County	Rio Arriba
Center of Proposed Design	Latitude
	36 899830
	Longitude
	-107 415122
	NAD: <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983
Surface Owner	<input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment

2	
<input type="checkbox"/> <b>Pit:</b> Subsection F or G of 19 15 17 11 NMAC	RCVD JUN 5 '12 OIL CONS. DIV. DIST. 3
Temporary <input type="checkbox"/> Drilling <input type="checkbox"/> Workover	
<input type="checkbox"/> Permanent <input type="checkbox"/> Emergency <input type="checkbox"/> Cavitation <input type="checkbox"/> P&A	
<input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type Thickness _____ mil <input checked="" type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____	
<input checked="" type="checkbox"/> String-Reinforced	
Liner Seams <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other _____	Volume _____ bbl Dimensions: Get from Plats L _____ x W _____ x D

3	
<input type="checkbox"/> <b>Closed-loop System:</b> Subsection H of 19 15 17 11 NMAC	
Type of Operation <input type="checkbox"/> P&A <input type="checkbox"/> Drilling a new well <input type="checkbox"/> Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)	
<input type="checkbox"/> Drying Pad <input type="checkbox"/> Above Ground Steel Tanks <input type="checkbox"/> Haul-off Bins <input type="checkbox"/> Other _____	
<input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type Thickness _____ mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____	
Liner Seams <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other _____	

4	
<input type="checkbox"/> <b>Below-grade tank:</b> Subsection I of 19.15.17 11 NMAC	
Volume	120
bbl	Type of fluid
	Produced Water
Tank Construction material: Double wall, double bottom, Steel	
<input checked="" type="checkbox"/> Secondary containment with leak detection <input type="checkbox"/> Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off	
<input type="checkbox"/> Visible sidewalls and liner <input type="checkbox"/> Visible sidewalls only <input type="checkbox"/> Other _____	
Liner type	Thickness
	_____ mil <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____

5	
<input type="checkbox"/> <b>Alternative Method:</b>	
Submittal of an exception request is required Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	

6.	<p><b>Fencing:</b> Subsection D of 19.15 17 11 NMAC (<i>Applies to permanent pits, temporary pits, and below-grade tanks</i>)</p> <p><input type="checkbox"/> Chain link, six feet in height, two strands of barbed wire at top (<i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i>)</p> <p><input type="checkbox"/> Four foot height, four strands of barbed wire evenly spaced between one and four feet</p> <p><input checked="" type="checkbox"/> Alternate. Please specify <u>As per BLM specifications</u></p>																																								
7	<p><b>Netting:</b> Subsection E of 19.15.17 11 NMAC (<i>Applies to permanent pits and permanent open top tanks</i>)</p> <p><input type="checkbox"/> Screen <input type="checkbox"/> Netting <input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Monthly inspections (If netting or screening is not physically feasible)</p>																																								
8.	<p><b>Signs:</b> Subsection C of 19 15 17.11 NMAC</p> <p><input type="checkbox"/> 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers</p> <p><input checked="" type="checkbox"/> Signed in compliance with 19 15 3.103 NMAC</p>																																								
9	<p><b>Administrative Approvals and Exceptions:</b></p> <p>Justifications and/or demonstrations of equivalency are required Please refer to 19 15 17 NMAC for guidance</p> <p><b>Please check a box if one or more of the following is requested, if not leave blank:</b></p> <p><input checked="" type="checkbox"/> Administrative approval(s) Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval</p> <p><input type="checkbox"/> Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval</p>																																								
10.	<p><b>Siting Criteria (regarding permitting):</b> 19.15 17 10 NMAC</p> <p><b>Instructions:</b> 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.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 85%;">Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank</td> <td style="width: 15%; text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells</td> <td></td> </tr> <tr> <td>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)</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- Topographic map; Visual inspection (certification) of the proposed site</td> <td></td> </tr> <tr> <td>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <input type="checkbox"/> NA         </td> </tr> <tr> <td>- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image</td> <td></td> </tr> <tr> <td>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (<i>Applies to permanent pits</i>)</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input type="checkbox"/> No  <input checked="" type="checkbox"/> NA         </td> </tr> <tr> <td>- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image</td> <td></td> </tr> <tr> <td>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</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site</td> <td></td> </tr> <tr> <td>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</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- Written confirmation or verification from the municipality, Written approval obtained from the municipality</td> <td></td> </tr> <tr> <td>Within 500 feet of a wetland</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site</td> <td></td> </tr> <tr> <td>Within the area overlying a subsurface mine</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</td> <td></td> </tr> <tr> <td>Within an unstable area</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources, USGS; NM Geological Society, Topographic map</td> <td></td> </tr> <tr> <td>Within a 100-year floodplain</td> <td style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         </td> </tr> <tr> <td>- FEMA map</td> <td></td> </tr> </table>	Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- 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)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Topographic map; Visual inspection (certification) of the proposed site		Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application ( <i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i> )	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image		Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. ( <i>Applies to permanent pits</i> )	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image		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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site		Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Written confirmation or verification from the municipality, Written approval obtained from the municipality		Within 500 feet of a wetland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site		Within the area overlying a subsurface mine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division		Within an unstable area	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources, USGS; NM Geological Society, Topographic map		Within a 100-year floodplain	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	- FEMA map	
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- 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)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- Topographic map; Visual inspection (certification) of the proposed site																																									
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application ( <i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i> )	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA																																								
- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image																																									
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. ( <i>Applies to permanent pits</i> )	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA																																								
- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image																																									
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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site																																									
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- Written confirmation or verification from the municipality, Written approval obtained from the municipality																																									
Within 500 feet of a wetland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site																																									
Within the area overlying a subsurface mine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division																																									
Within an unstable area	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources, USGS; NM Geological Society, Topographic map																																									
Within a 100-year floodplain	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								
- FEMA map																																									

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<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

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 identify 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area - Engineering measures incorporated into the design, NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 Vanessa Fields Title: Sr. EH & S Specialist EH&S Coordinator  
 Signature: [Signature] Date: 6/5/2012  
 e-mail address: myke.lane@wpenergy.com Telephone: 505-333-1819

20.

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

OCD Representative Signature: [Signature] Approval Date: 6/06/2012  
 Title: Compliance Officer 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 identify 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  
WPX Energy Production, LLC.  
Rosa Unit 66M**

**Regional Hydrological Context**

**Referenced Well Location:**

The referenced well and pit is located on Bureau of Land Management land within Farmington Field Office (FFO) 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 6,541 feet MSL

**General Regional Groundwater Description:**

As a portion of the San Juan Basin, the FFO region 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 Formation; 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 its 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 a fairly level sagebrush opening. Drainage flows to the southeast for approximately 500 feet into an unnamed erosional drainage which flows approximately 0.8 mile southwest into Laguna Seca Draw.

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

San Jose, Tertiary

**Formation Thickness:**

Approximately 1,900 ft

**Underlying Formation:**

Nacimiento, Tertiary

**Depth to Groundwater:**

Depth to groundwater is estimated at 100 feet below bottom of pit liner. Within a one-mile radius of this location, there were no iWATERS wells with recorded water depth information. However, this well is a cathodic well showing depth to moisture at 100 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 2010. Internet accessed January 2010

New Mexico Office of the State Engineer. 2011. iWaters database. Internet accessed June 2011

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

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

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

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



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

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

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

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00011	IND		RA				32	31N	06W	278321	4081811*	610		
SJ 03685 POD1	DOM		SJ	4	2	1	07	31N	06W	276814	4088772*	460	310	150
												Average Depth to Water:	310 feet	
												Minimum Depth:	310 feet	
												Maximum Depth:	310 feet	

**Record Count: 2**

**PLSS Search:**

Township: 31N Range: 06W

\*UTM location was derived from PLSS - see Help

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

7/27/10 10:20 AM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



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

---

No records found.

**PLSS Search:**

**Township: 32N**

**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

---

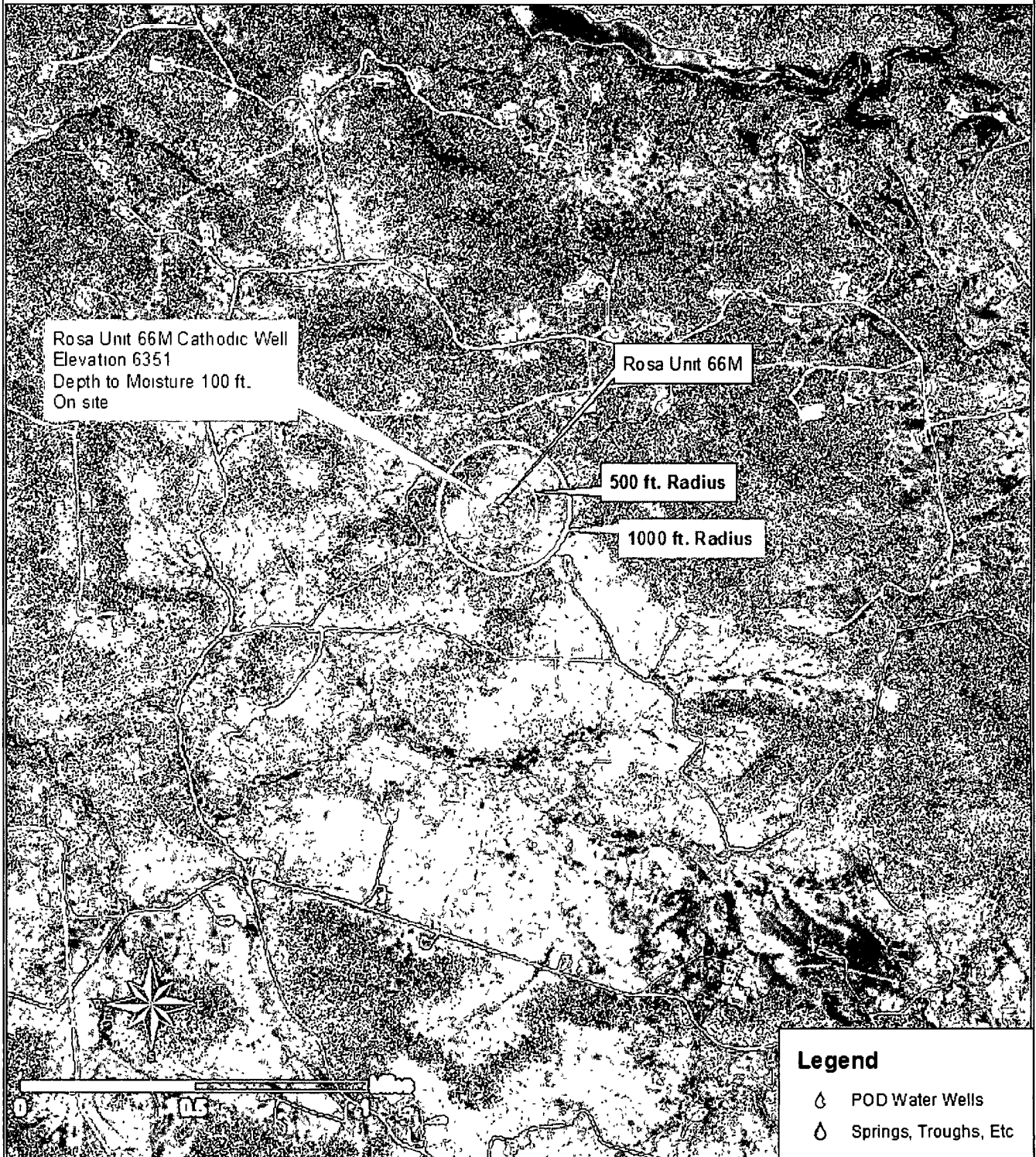
6/14/11 2:11 PM

Page 1 of 1

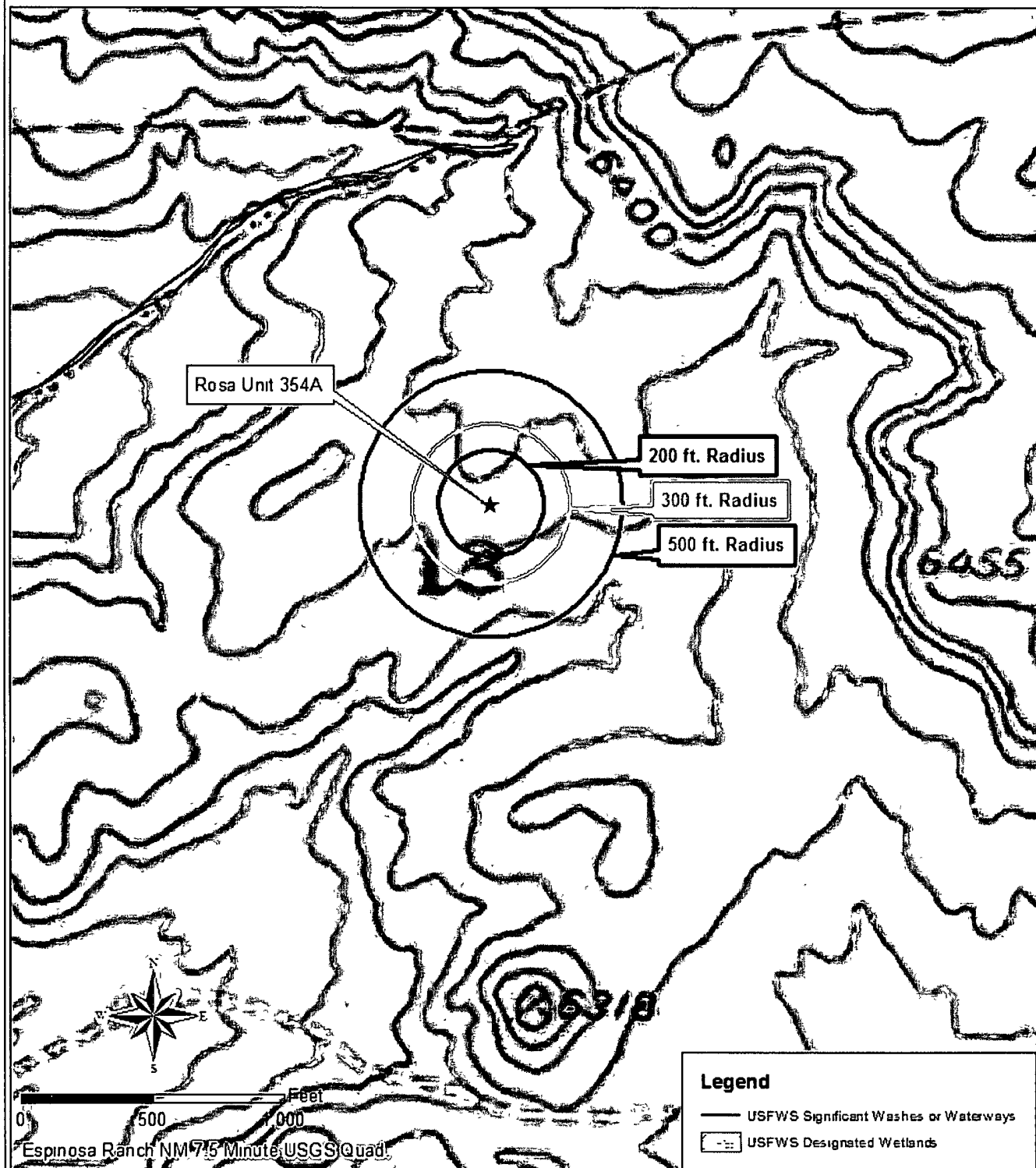
WATER COLUMN/ AVERAGE  
DEPTH TO WATER



Siting Criteria Map I  
Water Wells, Cathodic Wells, & Springs  
WPX Energy Production, LLC  
Rosa Unit 066M  
T31N, R06W, Section 13 NMPM  
Rio Arriba County, New Mexico



Siting Criteria Map II  
Topographic Features  
WPX Energy Production, LLC  
Rosa Unit 66M  
T31N, R06W, Section 13 NMPM  
Rio Arriba County, New Mexico



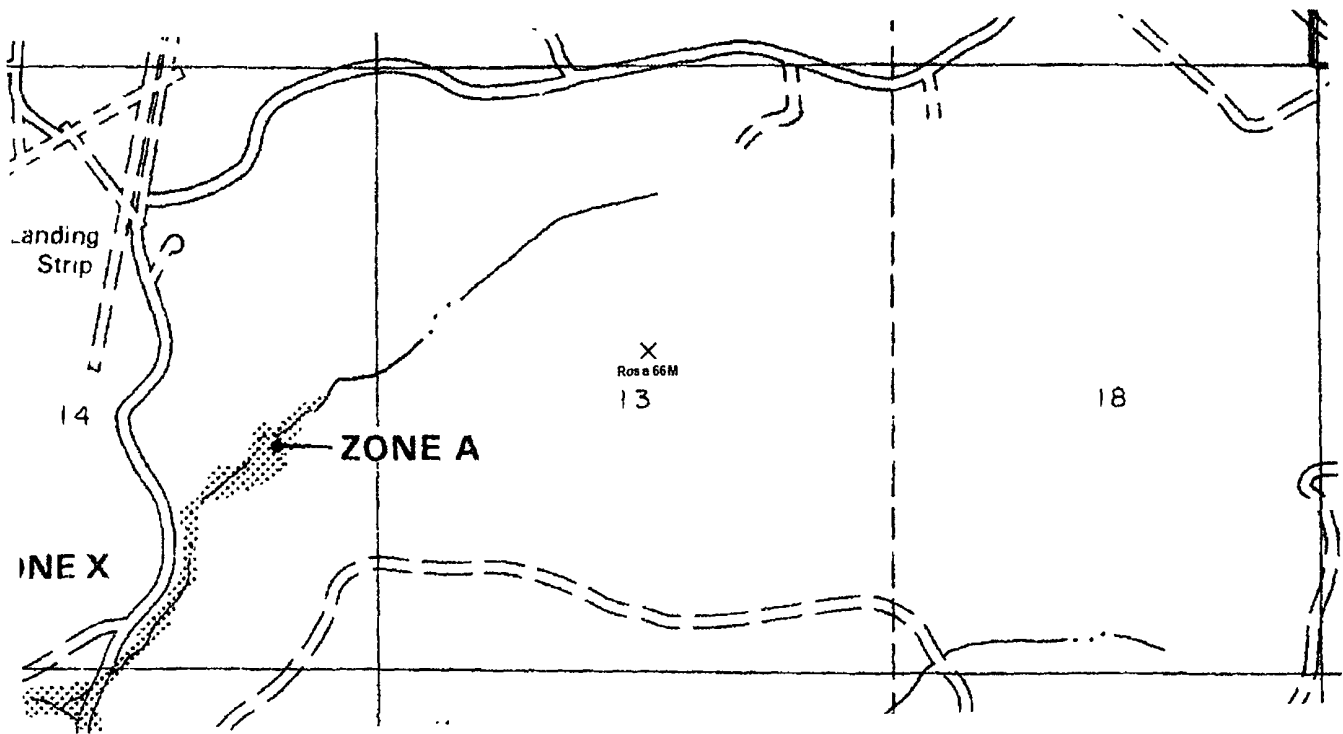
**FEMA Map – 100-Year Floodplain:**

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

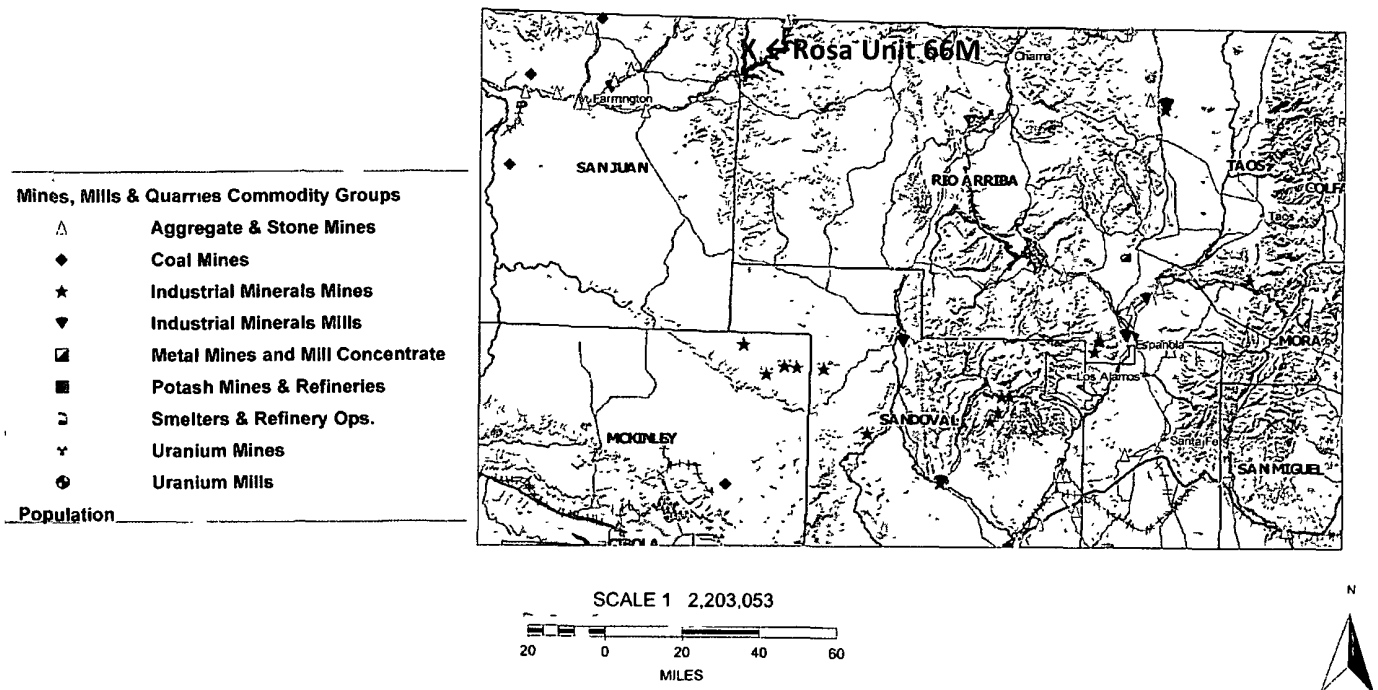
**Siting Criteria Compliance Demonstrations:**

The Rosa Unit 66M well is not located in an unstable area. The location is not situated over a mine or a steep slope. Excavated pit material will not be located within 300 feet of a continuously flowing water course or within 200 feet of any other significant water course, lakebed, sinkhole, or playa lake (see Siting Criteria Map II). The site is not within 500 feet of any reported riparian areas or wetlands (see attached USFWS wetland map), within 500 feet of any private, domestic fresh water well or spring; or within 1000 feet of any other fresh water well or spring (see Siting Criteria Map I). The 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.

FEMA Map: Township 31 North, Range 6 West, Section 13, Unit F



# MMQonline Public Version



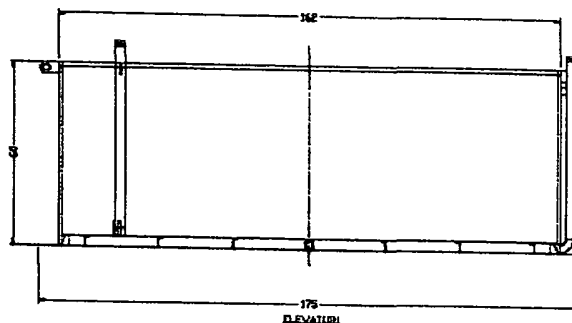


**Williams Production Co., LLC**  
**San Juan Basin: New Mexico Assets**  
Production Pit: Buried Double-Wall Steel Tank  
Design and Construction Plan

In accordance with Rule 19.15.17 NMAC, the following plan describes the general design and construction (D&C) of production pits using buried double-wall steel tanks on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico. For those production pits which do not conform to this standard plan, a separate well-specific D&C plan will be developed and utilized.



**General Plan Requirements:**

1. WPX will design and construct a production pit to contain liquids associated with the dehydration and compression of produced natural gas, which will prevent contamination of fresh water resources and protect public health and the environment.
2. The pit will be located as close as possible to the well and associated production/process equipment to minimize surface disturbance. Prior to excavation for the pit, topsoil will be stripped and stockpiled on the well location.
3. The excavation will have a firm compacted bottom and sidewalls that are stable for the soil conditions.
4. The BGT will be placed in the excavation such that there is a minimum 12 inch free board between the surrounding soils and the tank top. Backfilled soils will be carefully compacted to avoid damaging the tank.
5. The buried BGT will be constructed of steel with double-walls and double-bottom, welded following appropriate API and industry codes, coated with an epoxy based paint, covered with a steel #9 mesh screen, and equipped with an EFM to monitor high liquid levels and automatically shut off liquid discharges.
6. A solid riser pipe will be installed to allow withdrawal of liquids by suction. The riser will draw from the bottom of the BGT, capped when not in use and sloped to the pit to allow drainage of liquids not collected during withdrawal operations.
7. A solid riser pipe will be installed between the interstitial space of the double-walls to allow monthly inspection to determine tank integrity.
8. The BGT will be protected from run-on by the construction of a compacted earthen berm.
9. Fencing will be constructed to protect livestock/wildlife as specified by the federal Surface Management Agency or, if not federal land/minerals, NMOCD rule 17 requirements.
10. WPX will post a well sign in accordance with the federal Surface Management Agency and rule 19.15.3.103.



NOTES:  
1. INTERIOR AND EXTERIOR TO BE VINYL LINEN PREPARED  
AND COATED WITH GREEN BURN-PLATE EPOXY.  
2. AFTER WELDING, TEST SPACE BETWEEN JOINTS W/  
NO MORE THAN 3 PSI AIR.

WEIGHT 6.479 LBS.

 <h1 style="margin: 0;">Pescor</h1> <p style="margin: 0;">people oriented • on the water • in the fish business</p>			
		<p>             101 ALABAMA AVENUE • THE BEACH, SOUTH CAROLINA 29526              TEL: 843/339-1234 • FAX: 843/339-1235              101 ALABAMA AVENUE • THE BEACH, SOUTH CAROLINA 29526              TEL: 843/339-1234 • FAX: 843/339-1235           </p>	
<p>             220 N. 15th St. • P.O. Box 85 • Miami, FL 33132              TEL: 305/375-1234 • FAX: 305/375-1235           </p>		<p>             101 ALABAMA AVENUE • THE BEACH, SOUTH CAROLINA 29526              TEL: 843/339-1234 • FAX: 843/339-1235           </p>	



**Williams Production Co., LLC**  
**San Juan Basin: New Mexico Assets**  
Production Pit: Buried Double-Wall Steel Tank  
Operations and Maintenance Plan

In accordance with Rule 19.15.17 NMAC, the following plan describes the general operations and maintenance (O&M) of production pits using subgrade tanks on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico. For those production 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 only allow 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.
2. Produced water will be disposed by evaporation or transport any of the following NMOCD approved facilities 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.
3. WPX shall maintain sufficient freeboard for to prevent overtopping. Discharges to the pit will be shutoff automatically if the high-level alarm is triggered from the EFM or manually if the EFM is not functional.
4. Any oil or hydrocarbon collecting on the pit will be removed. Saleable condensate will be returned to the sales tank. Slop oil from compression will be recycled with Safety Kleen, Farmington, NM or Hydropure, Aztec, NM (No Permit Required).
5. 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.
6. Berms around the perimeter of the pit shall be maintained as protection from run-on.
7. WPX will inspect the SGT 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.

**Williams Production Co., LLC**  
**San Juan Basin: New Mexico Assets**  
Production Pit: Buried Double-Wall Steel 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 closure procedure for all BGTs regulated under Rule 19.15.17 NMAC and 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.

**Closure Conditions and Timing:**

Pursuant to 19.15.17.13 (A) NMAC, WPX will initiate closure of any BGT should any one of these conditions occur:

- The Division requires closure because of imminent danger to fresh water, public health or the environment.
- The integrity of the BGT fails. Notification will be within 48 hours to the Division and closure will be schedule as specified in 19.15.17.12 (A)(5) NMAC.
- WPX chooses to take the BGT out-of-service due to operational needs. Closure under these conditions will be closed within 60 days of cessation of the BGT's operation.
- BGTs installed prior to June 16, 2008 that do not meet the requirements under 19.15.17.11.1(6) NMAC and WPX chooses not to retrofit or upgrade. Closure under these conditions will be completed within five years (by June 16, 2013).

**General Plan Requirements:**

1. Prior to initiating any BGT Closure except in the case of an emergency, WPX will review County Tax Records for the current surface owner of record. The surface owner of record will be notified of the intent to close the BGT by certified mail and a copy of this notification will be included in the closure report. In the case of an emergency, the surface owner of record will be notified as soon as practical.
2. 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:
  - a. Operators Name (WPX)
  - b. Well Name and API Number
  - c. Location (USTR)
3. 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 shut in until the rerouting is completed.
4. All produced water will be removed from the BGT following discharge-pipe rerouting. Produced water will be disposed at one of the following NMOCD approved facilities depending on the proximity of the BGT site: Rosa Unit SWD #1 (Order: SWD-916, API: 30-039-27055), Rosa Unit #94 (Order: SWD-3RP-1003-0, API: 30-039-23035), Jillson Fed. SWD #001 (Order: R10168/R10168A, API: 30-039-25465), Middle Mesa SWD #001 (Order: SWD-350-0, API: 30-045-27004) and/or Basin Disposal (Permit: NM-01-0005).
5. Solids and sludges will be shoveled and /or vacuumed out for disposal at Envirotech (Permit Number NM-01-0011).
6. WPX will obtain prior approval from NMOCD to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the disposition of the BGT in the closure report. Steel materials will be recycled or reused as approved by the Division. Fiberglass tanks will be empty, cut up or shredded, and EPA cleaned for disposal as solid waste.

Liners materials will be cleaned without soils or contaminated material for disposal as solid waste. Fiberglass tanks and liner materials will meet the conditions of paragraph 1 subsection D of 19.15.9.712 NMAC. Disposal will be at a licensed disposal facility, presently San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426.

7. Any equipment associated with the BGT that is no longer required for some other purpose, following the closure will be removed from the location.
8. 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(E)(4) NMAC as identified in Table 1. Grab samples will be collected from any area that is wet, discolored or showing other evidence of a release. Results will be reported to the Division following receipt from the lab on Form C-141.

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 418.1 <sup>(1)</sup>	100
Chlorides	EPA SW-846 Method 300.1 <sup>(1)</sup>	250 <sup>(2)</sup>

<sup>(1)</sup> Method modified for solid waste.

<sup>(2)</sup> If background concentration of Chlorides greater than 250 mg/Kg, then higher concentration will be used for closure.

9. If the Division and/or WPX determine there is a release, WPX will comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC.
10. Upon completion of the tank removal, the excavation will be backfilled with non-waste earthen material compacted and covered with a minimum of one foot of top soil or background thickness whichever is greater and to existing grade. The surface will be re-contoured to match the native grade and prevent ponding.
11. 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: If a surface owner agreement requires reseeding or other surface restoration that do not meet the re-vegetation requirements of 19.15.17.13.1 NMAC then WPX will submit the proposed alternative with written documentation that the surface owner agrees to the alternative, for Division approval.
12. 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.

#### Closure Report:

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

- Proof of Closure Notice (surface owner & NMOCD)
- Backfilling & Cover Installation
- Site Diagram with coordinates
- Available Inspection reports
- Confirmation Sampling Analytical Results
- Disposal Facility Name(s) and Permit Number(s)
- Application Rate & Seeding techniques
- Photo Documentation of Reclamation