

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT



APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF-078771
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Williams Exploration and Production Company, LLC		7. If Unit or CA Agreement, Name and No. Rosa Unit
3a. Address P.O. Box 316 Ignacio, CO 81137		8. Lease Name and Well No. 214A
3b. Phone No. (include area code) (970) 563-3308		9. API Well No. 30-039-29520
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1090' FNSL & 1540' FWL At proposed prod. zone 1650' FNL & 1650' FWL		10. Field and Pool, or Exploratory Basin Fruitland Coal
11. Sec., T., R., M., or Blk. and Survey or Area C Section 14, 31N, 6W		12. County or Parish Rio Arriba
13. State NM		
14. Distance in miles and direction from nearest town or post office* approximately 30 miles northeast of Blanco, New Mexico	15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1090'	16. No. of Acres in lease 2,560.00
17. Spacing Unit dedicated to this well 320.00 (W/2)	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 125'	19. Proposed Depth 3,361'
20. BLM/BIA Bond No. on file UT0847	21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,373' GR	22. Approximate date work will start* April 1, 2005
23. Estimated duration 1 month	24. Attachments	

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Larry Higgins	Date 3/31/05
Title Drilling COM		
Approved by (Signature) 	Name (Printed/Typed) Mark Anderson	Date 4-21-05
Title AFM	Office PFO	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse)

Williams Exploration and Production Company, LLC, proposes to drill a well to develop the Basin Fruitland Coal formation at the above described location in accordance with the attached drilling and surface use plans.

The surface is under jurisdiction of the Bureau of Land Management, Farmington Field Office.

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

This location is proposed to be twinned with the proposed Rosa Unit #16A well.

This APD is also serving as an application to obtain a pipeline right-of-way. A 243.30-foot pipeline tie would be required for this location.

This action is subject to technical and
per 243.30-foot pipeline tie would be required for this location.
and appeal pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4

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

NMOC

HOLD C104 FOR

070 FARMINGTON NM
2005 APR 1 1 PM 3 22
RECEIVED

Direct and Survey

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

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

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-19520		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 214A
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6373

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	14	31N	6W		1090	NORTH	1540	WEST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	14	31N	6W		1650	NORTH	1650	WEST	RIO ARriba

¹² Dedicated Acres 320.0 Acres - (W/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>15</p> <p>5287.92'</p> <p>1090'</p> <p>1540'</p> <p>511°18.9'E 572.0'</p> <p>1650'</p> <p>SURFACE LOCATION</p> <p>BOTTOM-HOLE LOCATION</p> <p>14</p> <p>LEASE SF-078771</p> <p>5280.00'</p> <p>5280.00'</p> <p>5280.00'</p>	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Larry Higgins</i> Signature</p> <p>LARRY HIGGINS Printed Name</p> <p>DRILLING COM Title</p> <p>3-31-05 Date</p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date Revised: FEBRUARY 16, 2005 Survey Date: NOVEMBER 11, 2004</p> <p>Signature and Seal of Professional Surveyor</p> <p> JASON C. EDWARDS Certificate Number 15269</p>

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103

May 27, 2004

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

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO.
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		5. Indicate Type of Lease FEDERAL <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator Williams Exploration and Production Company		6. State Oil & Gas Lease No. Federal NMSF-0078771
3. Address of Operator P.O. Box 316, Ignacio, CO 81137		7. Lease Name or Unit Agreement Name Rosa Unit
4. Well Location Unit Letter C: 1090 feet from the north line and 1540 feet from the west line Section 14 Township 31N Range 6W NMPM County Rio Arriba		8. Well Number 214A
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6,373' GR		9. OGRID Number 120782
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>		
Pit type <u>reserve</u> Depth to Groundwater <u>>100'</u> Distance from nearest fresh water well <u>>1,000'</u> Distance from nearest surface water <u>>1,000'</u>		
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbls; Construction Material _____		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Reserve pit to be constructed in accordance with NMOCD Interim Pit and Below-grade Tank Guidelines

Rserve pit to be located approximately 30 feet south of the well head, in the southeast corner of the well pad

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Larry Higgins TITLE Drilling COM DATE 3-31-2005

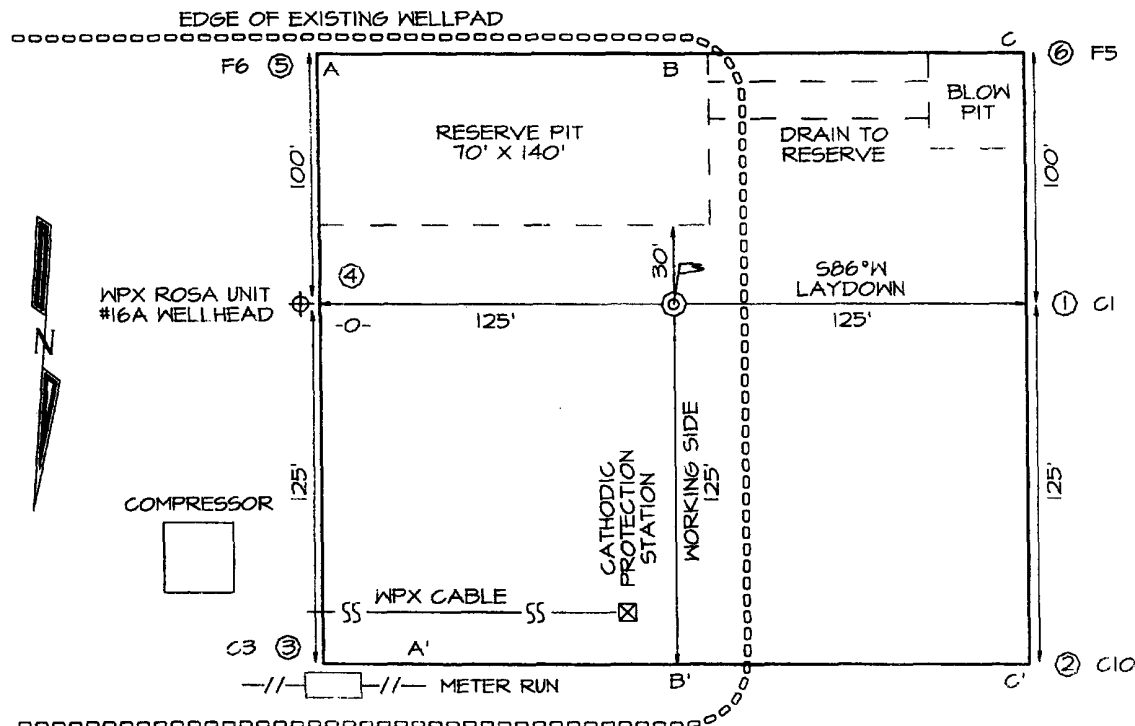
Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

For State Use Only

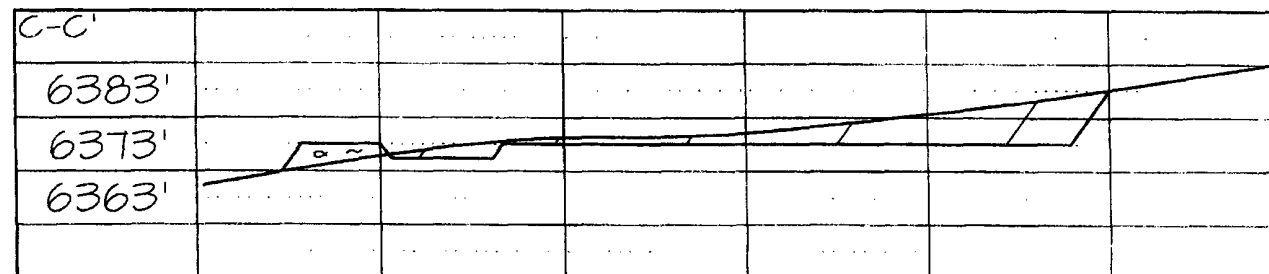
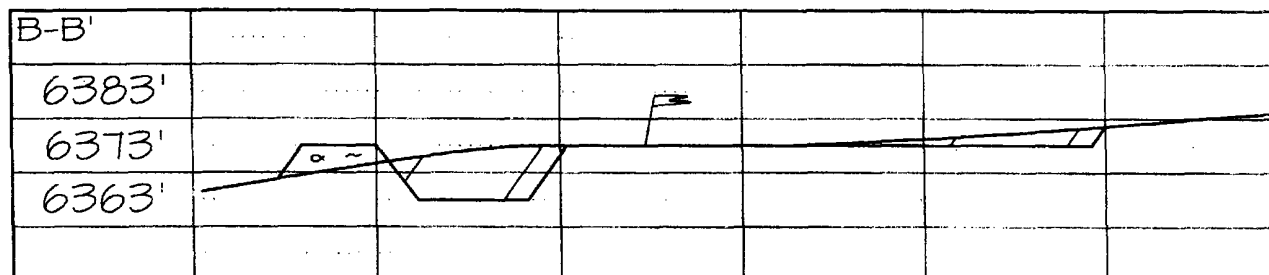
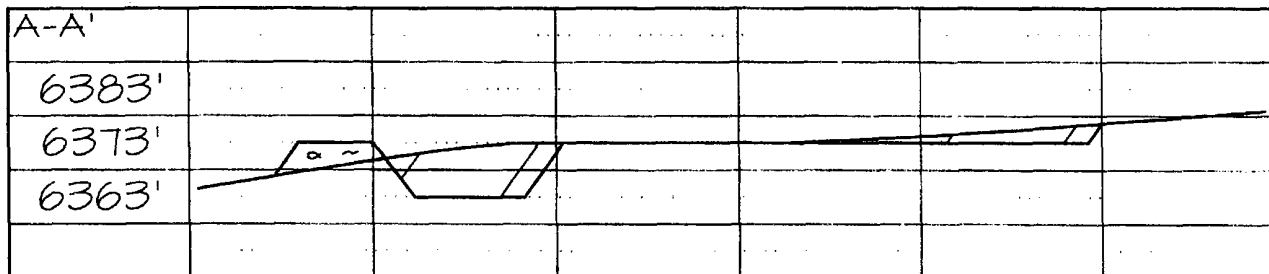
APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 50 DATE APR 22 2005
Conditions of Approval (if any) _____

WILLIAMS PRODUCTION COMPANY ROSA UNIT #214A
1090' FNL & 1540' FWL, SECTION 14, T31N, R6W, NMPM
RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6373'

Plat #1 Location Layout



LATITUDE: 36°54'14"
LONGITUDE: 107°26'07"
 DATUM: NAD1921





WILLIAMS PRODUCTION COMPANY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE: 3/31/2005

WELLNAME: Rosa Unit #214A **FIELD:** Basin Fruitland Coal

BH LOCATION: SENW Sec 14-31N-6W
Rio Arriba, NM **SURFACE:** BLM

SURF. LOCATION: NENW Sec 14-31N-6W

ELEVATION: 6,373' GR **MINERALS:** BLM

TOTAL DEPTH: 3,361' **LEASE #** SF-078771

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

NAME	TVD	MD	NAME	TVD	MD
San Jose	Surface	Surface	Top Coal	3,063	3,126
Nacimiento	1,263	1,277	Bottom Coal	3,198	3,261
Ojo Alamo	2,423	2,472	Pictured Cliffs	3,198	3,261
Kirtland	2,528	2,580	TD	3,298	3,361
Fruitland	2,923	2,985			

B. LOGGING PROGRAM: None

C. NATURAL GAUGES: Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. MUD PROGRAM: Clear water with benex to 7" casing point. Treat for lost circulation as necessary. Expect 100% returns prior to cementing. Notify Engineering of any mud losses. If coal is detected before 3,106'(MD) DO NOT drill deeper until Engineering is contacted.

B. Drilling Fluid: Coal section will be drilled with Fruitland Coal water. Mud logger will pick TD at +/- 3,361'.

C. MUD LOGGING PRORAM: Mud logger will be on location at drill out below 7" casing to TD.

C. BOP TESTING: While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the rams will be tested to 1500 psi. The surface and intermediate casing strings will be pressure tested to 1500 psi in conjunction with the BOP test before drilling out cement. The drum brakes will be inspected and tested each tour. All tests, inspections and SPR's will be recorded in the tour book as to time and results.

III. MATERIALS

A. CASING PROGRAM:

<u>CASING TYPE</u>	<u>HOLE SIZE</u>	<u>DEPTH (MD)</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3,106'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,006' 3,261' 331d	5-1/2"	15.5# K-55

B. FLOAT EQUIPMENT:

1. **SURFACE CASING:** 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. **INTERMEDIATE CASING:** 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) Turbulent centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft. (NTL-FRA 90-1).
3. **PRODUCTION LINER / CASING:** 4-1/2" & 5-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' bottom joint. Place centralizers as needed across selected production intervals.

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. **SURFACE:** Use 190 sx (264 cu.ft.) of "Type III" with 2% CaCl₂ and 1/4# of cello-flake/sk (Yield = 1.41 cu.ft./sk, Weight = 14.5 #/gal.). Use 100% excess to circulate the surface. WOC 12 hours. Total volume = 264 cu.ft. Test to 1500#.
2. **INTERMEDIATE:** Lead - 380 sx (794 cu.ft.) of "Type III" 65/35 poz with 8% gel, 1% CaCl₂ and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 50 sx (70cu.ft.) of "Type III" with 1/4# cello-flake/sk, and 1% CaCl₂ (Yield = 1.4 cu.ft./sk, Weight = 14.5#/gal.). Use 100% excess in Lead Slurry to circulate to surface. No excess in Tail Slurry. Total volume = 864 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
3. **PRODUCTION LINER:** Open hole completion. No cement.

IV COMPLETION

A. PRESSURE TEST


Pressure test 7" casing to 3300# for 15 minutes.

B. STIMULATION

Cavitate Well with reciprocation and rotation. Surge wells with water and air and then flow back to pit.
Cavitate for 2 to 3 weeks. Maximum pressure not expected to exceed 2,000 psi.

C. RUNNING TUBING

1. **Fruitland Coal**: Run 2-7/8", 4.7#, J-55, EUE tubing with a SN (1.375" ID) on top of bottom joint. Land tubing approximately 50' above TD.


Gary Sizemore
Sr. Drilling Engineer

Williams Production Company, LLC
Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

