

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

5. Lease Serial No. NMSF-0078894
6. If Indian, Allottee or Tribe Name 2004 DEC 9 PM 3:47
7. If Unit or CA Agreement, Name and No. Rosa Unit
8. Lease Name and Well No. 383
9. API Well No. 3003929367
10. Field and Pool, or Exploratory Basin Fruitland Coal
11. Sec., T., R., M., or Blk. and Survey or Area P 29. T31N. R4W
12. County or Parish Rio Arriba
13. State NM

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator

Williams Exploration and Production Company

3a. Address

P.O. Box 316 Ignacio, CO 81137

3b. Phone No. (include area code)

(970) 563-3308

4. Location of Well (Report location clearly and in accordance with any State requirements. *)

At surface 1045' FSL & 1110' FEL

At proposed prod. zone same

14. Distance in miles and direction from nearest town or post office*

30 miles NE of Blanco, NM

15. Distance from proposed*

location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

1,045

16. No. of Acres in lease

2,284.16

17. Spacing Unit dedicated to this well

320.0 (E/2)

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

2,000

19. Proposed Depth

3,576

20. BLM/BIA Bond No. on file

UT0899/UT0847

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

6,631' 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 <i>Larry Higgins</i>	Name (Printed/Typed) Larry Higgins	Date 12/03/04
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Title Drilling COM	Name (Printed/Typed)	Date
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Approved by (Signature) <i>AFM</i>	Name (Printed/Typed) FFD	Date 5/1/06
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Title AFM	Office FFD
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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)

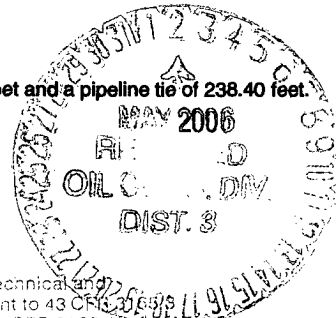
Williams Exploration and Production Company, LLC, proposes to drill a well to develop the Basin Fruitland Coal Formation at the above described location in accordance with the attached drilling and surface use plans.

The surface is under jurisdiction of the Carson National Forest, Jicarilla Ranger District. This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the Jicarilla Ranger District of the Carson National Forest. This APD is also serving as an application to obtain road and pipeline right-of-ways. A road of approximately 296.00 feet and a pipeline tie of 238.40 feet. The pipeline begins at the existing Rosa #312S and extends to the proposed Rosa #383.

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

NMOC

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.4
and appeal pursuant to 43 CFR 3165.4



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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised February 21, 1994

District II
PO Drawer 00, Artesia, NM 88211-0719

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

Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-29367	*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL ✓
*Property Code 17033	*Property Name ROSA UNIT	*Well Number 383
*OGRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY	*Elevation 6631'

¹⁰ Surface Location


UL or lot no.	Section	Township	Range	Lot 1ch	Feet from the	North/South line	Feet from the	East/West line	County
P	29	31N	4W		1045	SOUTH	1110	EAST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 1ch	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres 320.0 Acres - (E/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

¹⁵	5280.00'	29 - - - LEASE SF-078894 - - -	5278.02'	¹⁶ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief <u>Larry Higgins</u> Signature <u>LARRY HIGGINS</u> Printed Name <u>DRILLING COM</u> Title <u>12-3-04</u> Date ¹⁸ SURVEYOR CERTIFICATION 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. Date of Survey: <u>JUNE 18, 2004</u> Signature and Seal of Professional Surveyor  <u>JASON C. EDWARDS</u> Certificate Number 15269
	5280.00'			
	5280.00'			
	5280.00'			

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

WELL API NO. <u>30-039-29367</u>	
5. Indicate Type of Lease FEDERAL STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No. Federal NMSF-0078894	
7. Lease Name or Unit Agreement Name Rosa Unit	
8. Well Number	383
9. OGRID Number	120782
10. Pool name or Wildcat Basin Fruitland Coal	

Pit or Below-grade Tank Application ☒ or Closure ☐
Pit type production Depth to Groundwater >100' Distance from nearest fresh water well >1,000' Distance from nearest surface water 200'
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

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.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other ☐

2. Name of Operator
Williams Exploration and Production Company

3. Address of Operator
P.O. Box 316, Ignacio, CO 81137

4. Well Location
Unit Letter P: 1045 feet from the south line and 1110 feet from the east line
Section 29 Township 31N Range 4 NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,671' GR

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

Production pit to be located approximately 50 feet south of the well head.
Reserve pit to be located approximately 30 feet north of the well head in the northwest 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 12-02-2004

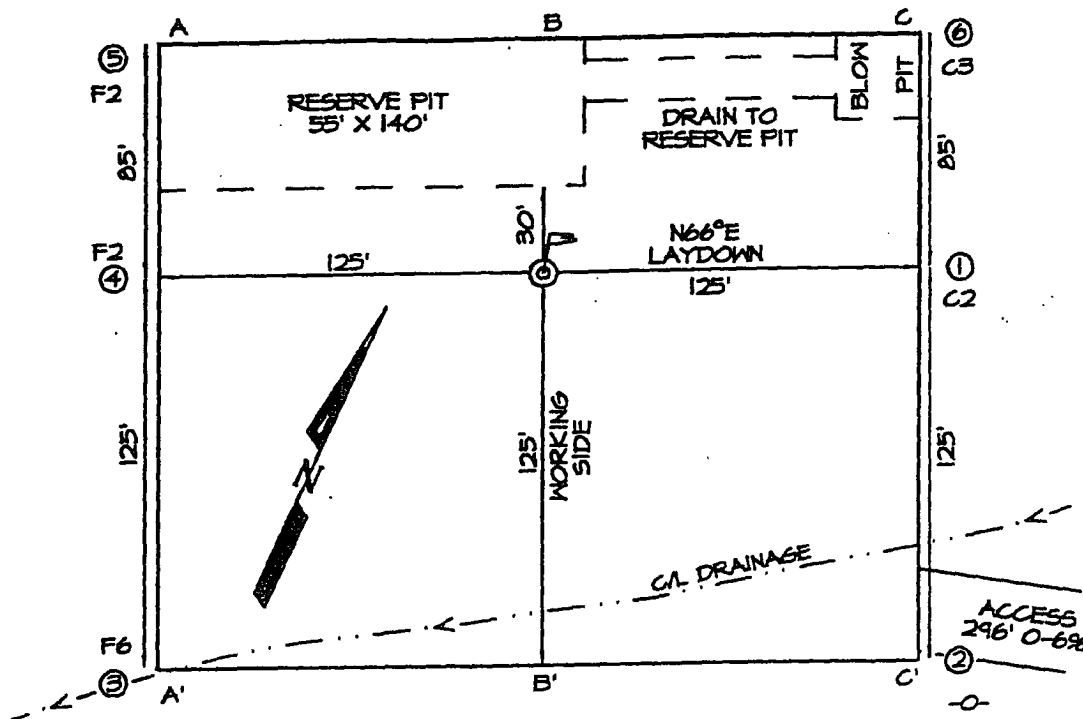
Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 43 DATE MAY 02 2006
Conditions of Approval (if any): _____

WILLIAMS PRODUCTION COMPANY ROSA UNIT #383
1045' FSL & 1110' FEL, SECTION 29, T31N, R4W, NMPM
RIO ARriba COUNTY, NEW MEXICO
GROUND ELEVATION: 6631'

Plat #2 Location Layout



LATITUDE: 36°51'57"
LONGITUDE: 107°16'19"
 DATUM: NAD1927

A-A'						
6641'						
6631'						
6621'						

B-B'						
6641'						
6631'						
6621'						

C-C'						
6641'						
6631'						
6621'						



WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE: 10/19/2004

WELLNAME: Rosa Unit #383 **FIELD:** Basin Fruitland Coal

LOCATION: SESE Sec. 29-T31N-4W **SURFACE:** USFS
Rio Arriba, NM

ELEVATION: 6,631' GR **MINERALS:** Federal

TOTAL DEPTH: 3,576' **LEASE #** SF-078894

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

NAME	DEPTH	NAME	DEPTH
San Jose	Surface	Top Coal	3,386
Nancimiento	1,591	Main Coal	3,446
Ojo Alamo	2,866	Bottom Coal	3,476
Kirtland	2,976	Pictured Cliffs	3,476
Fruitland	3,286	TD	3,576

B. LOGGING PROGRAM: GR and Density/ Neutron log from intermediate shoe to TD. Density/ Neutron log from surface casing to TD. Onsite geologist will pick Density/ Neutron log intervals on both logging runs.

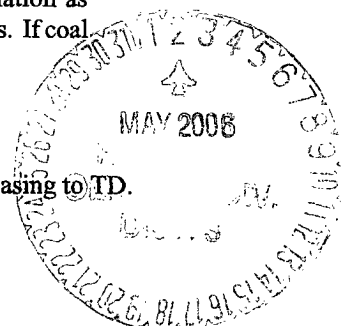
C. NATURAL GAUGES: Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

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 3,336' DO NOT drill deeper until Engineering is contacted.

B. Drilling Fluid: Coal section will be drilled with Fruitland Coal water.

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



- D. **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</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3,366'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,266' - 3,476	5-1/2"	15.5# K-55

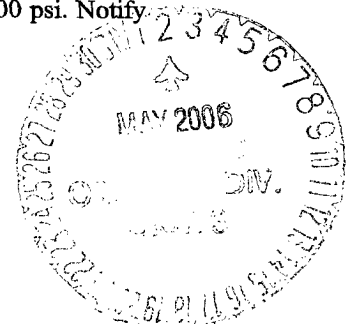
B. FLOAT EQUIPMENT:

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 marker joint above 5,400'. 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 **150% excess** to circulate the surface. WOC 12 hours. Total volume = 206 cu.ft. Test to 1500#.
2. **INTERMEDIATE:** Lead - 460 sx (959 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 **120% excess in Lead Slurry** to circulate to surface. **No excess in Tail Slurry.** Total volume = 1,029 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 2-3/8", 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
1-6 Gary Sizemore
Sr. Drilling Engineer

file:Rosa383



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)

BOP Stack

Rotating Head (optional)

Fill Line

Mud Flow to Pit

Double Ram Preventer

Drilling Spool

Kill line (2" Min)

Choke line to Manifold (2" Min)

Casing Head

Ground Level

Bull Plug

Ball Valve 2000 psi WP

Surface Casing

Production Casing

Choke & Kill Manifold

Positive Choke

Bypass to Steel Pit (Optional)

2" Minimum Size

Pressure Gauge

Straight-thru to Tank or Pit

From BOP Stack

2" Minimum Size

2" Minimum Size

Working Pressure for all equipment is 2,000 psi or greater

2" Minimum Size

To Tank or Pit

Adjustable Choke



GENERAL ROSA DRILLING PLAN

Rosa Unit boundries:

T31N, R4W: all except sections 32-36
 T31N, R5W: all except sections 1 & 2
 T31N, R6W: all except sections 6,7,18,20, & 27-36
 T32N, R6W: sections 32-36

FORMATION	LITHOLOGY	WATER	GAS	OIL/COND	OVER-PRES	LOST CIRC
Nacimiento	Interbedded shales, siltstones and sandstones	Possible	Possible	No	No	No
Ojo Alamo	Sandstone and conglomerates with lenses of shale	Fresh	No	No	No	No
Kirtland	Shale W/interbedded sandstones	No	Possible	No	No	No
Fruitland	Inter, SS, SiltSt, SH & Coals w/carb, SS, SiltSt, SH	Yes	Yes	No	Possible	Possible
Pictured Cliffs	Massive Sandstone w/thin interbedded shales	Possible	Yes	Possible	No	Possible
Lewis	Shale w/thin interbedded sandstones and siltstones	No	Possible	No	No	No
Cliff House	Transgressive sandstones	Possible	Yes	No	No	No
Menefee	Sandstones, carb shales and coal	Possible	Yes	No	No	No
Point Lookout	Regressive coastal barrier sandstone	Possible	Yes	Possible	No	Yes
Mancos	Marine shale and interbedded sandstone	No	Possible	Possible	No	Possible
Upr Dadota	Marine sand and shales	No	Yes	Possible	No	Possible
Lwr Dakota	Fluvial sands, shales, & coal	Possible	Yes	Possible	No	Possible

DRILLING

Potential Hazards:

1. There are no overpressured zones expected in this well.
2. No H₂S zones will be penetrated while drilling this well.

Mud System:

1. Surface - The surface hole will be drilled with a low-solids, non-dispersed system with starch and lost circulation material as needed. Expected mud weights will be in the 8.4 to 9.0 lb per gal range. Viscosities will be in the 30 to 60 sec/qrt range as needed to remove drill cuttings.
2. Intermediate - The intermediate hole will be drilled with clear water and Benex to TD where the well will be mudded up to log and run casing. The mud system will be low-solids, non-dispersed with mud weights in the 9 to 10 lb per gal range as needed to control the well. Viscosities will be in the 45 to 55 range as needed to support any weight material. The weight material will consist of Barite.
3. Production - The well will be drilled using air from the intermediate casing point to TD. For Fruitland Coal wells, the coal section will be drilled with air/mist.