

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

NMSF-078774

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No

Rosa Unit

8. Lease Name and Well No

372A

9. API Well No.

30-039-30226

10. Field and Pool, or Exploratory

Basin Fruitland Coal

11. Sec., T., R., M., or Blk. and Survey or Area

Section 31, T. 31N., R. 4W. NMPM

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 Production Company, LLC

3a. Address

P.O. Box 640 Aztec, NM 87410

3b. Phone No (include area code)

(505) 634-4208

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

At surface 955' FBL & 890' FWL, Section 31, T. 31N., R. 4W.

At proposed prod. zone

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

approximately 33 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)

890'

16. No. of Acres in lease

508.840

17. Spacing Unit dedicated to this well

294.84 (W/2) Section 31

18. Distance from proposed location\*

to nearest well, drilling, completed, applied for, on this lease, ft.

2000'

19. Proposed Depth

3,522'

20. BLM/BIA Bond No. on file

UT0847

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

6583' GR

22. Approximate date work will start\*

June 1, 2007

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.

2. A Drilling Plan.

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).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

5. Operator certification.

6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Name (Printed/Typed)

Date

Title

Larry Higgins

3-14-07

Drilling COM

Approved by (Signature)

Name (Printed/Typed)

Date

Title

Office

8/17/07

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 U S Forest Service, Jicarilla Ranger District, Carson National Forest

This location has been archaeologically surveyed La Plata Archaeological Consultants. Copies of their report have been submitted directly to the USFS, Jicarilla Ranger District.

This APD is also serving as an application to obtain an access road and gas pipeline. Required for this location is a 1,450.00-foot access road, and a gas pipeline of 1560.50 feet, to be placed adjacent to the access road.

NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT

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 <b>30039.30220</b>		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 372A
*OGRID No 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6583

<sup>10</sup> Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	31	31N	4W	(1)	940	NORTH	910	WEST	RIO ARriba

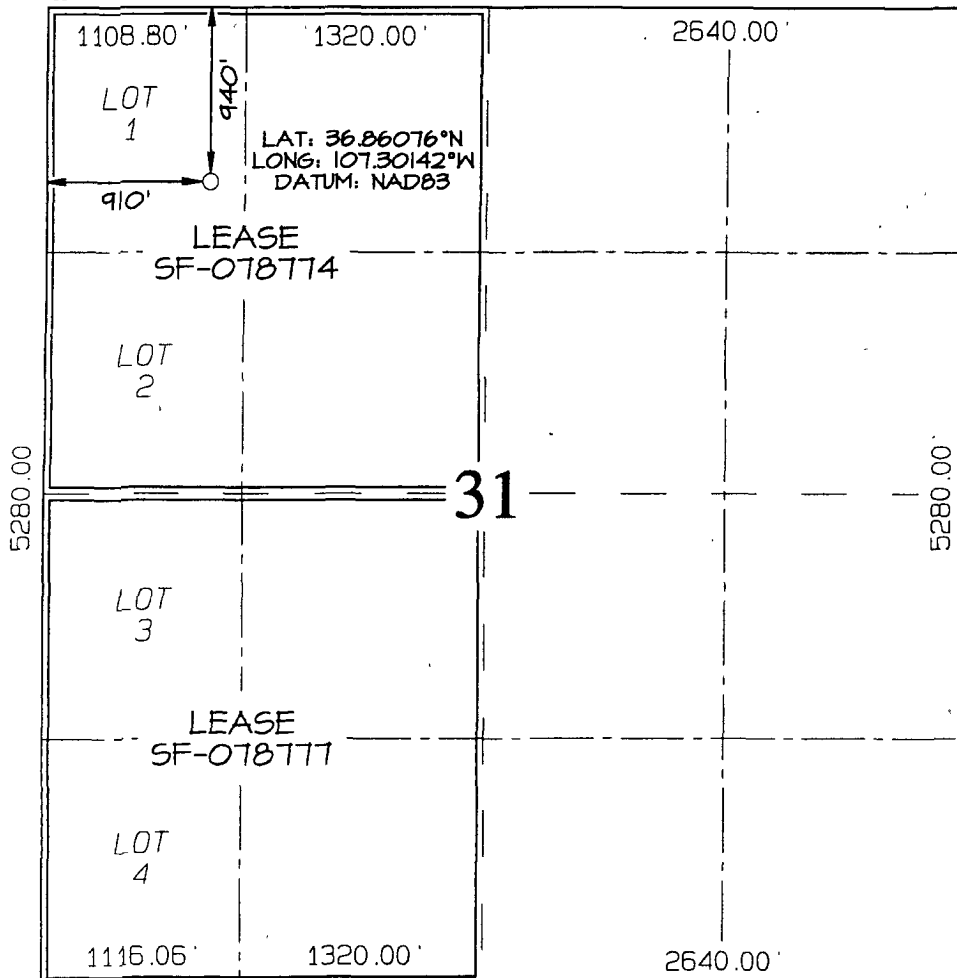
<sup>11</sup> Bottom Hole Location If Different From Surface

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

<sup>12</sup> Dedicated Acres 294.84 Acres - (W/2)	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No
---	-------------------------------	----------------------------------	------------------------

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

<sup>16</sup>



<sup>17</sup> OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

*Larry Higgins*  
Signature

**LARRY HIGGINS**  
Printed Name

**DRILLING CO**  
Title

**8-6-07**  
Date

<sup>18</sup> 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

Survey Date: NOVEMBER 16, 2006

Signature and Seal of Professional Surveyor



**JASON C. EDWARDS**  
Certificate Number 15269

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. <b>30039-30226</b>	
5. Indicate Type of Lease FEDERAL <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No. NMSF-078774	
7. Lease Name or Unit Agreement Name Rosa Unit	
8. Well Number: 372A	
9. OGRID Number 120782	
Basin Fruitland Coal	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6,583' GR	
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type <u>reserve</u> Depth to Groundwater <u>&gt;100'</u> Distance from nearest fresh water well <u>&gt;1,000'</u> Distance from nearest surface water <u>&gt;200'</u>	
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 Production Company, LLC

3. Address of Operator  
P.O. Box 640 Aztec, NM 87410

4. Well Location:  
Surface: Unit Letter D: 940 feet from the north line and 910 feet from the west line  
Section 31 Township 31N Range 4W NMPM County Rio Arriba

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type reserve 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

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: ☐

OTHER: ☐

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.

Drilling/Completion pit to be located approximately 50 to 75 feet from well head. Pit multi-use drilling and completion to avoid additional site disturbance and pit will be considered out of service once production tubing set. Pit to be constructed, operated and closed in accordance with NMOCD guidelines and Williams procedures.

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 3-14-07  
Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (505) 634-4208

For State Use Only

APPROVED BY: [Signature] TITLE Deputy Oil & Gas Inspector,  
Conditions of Approval (if any): District #3 DATE SEP 04 2007

In Lieu of  
Form 3160  
(June 1990)

UNITED STATES  
DEPARTMENT OF INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No 1004-0135  
Expires March 31, 1993

SUNDRY NOTICE AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use APPLICATION TO DRILL for permit for such proposals

RECEIVED  
BLM

210 FARMINGTON NM

SUBMIT IN TRIPLICATE

1. Type of Well Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>	5. Lease Designation and Serial No NMSF-078774
2. Name of Operator WILLIAMS PRODUCTION COMPANY	6. If Indian, Allottee or Tribe Name
3. Address and Telephone No PO Box 640 Aztec, NM 87410-0640	7. If Unit or CA, Agreement Designation Rosa Unit
4. Location of Well (Footage, Sec, T, R, M, or Survey Description) 940' FNL & 910' FWL Sec 31, T31, R4 NMPM	8. Well Name and No. Rosa Unit #372A
	9. API Well No. 30-039-30226
	10. Field and Pool, or Exploratory Area Basin Fruitland coal
	11. County or Parish, State Rio Arriba, New Mexico

CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
Notice of Intent	Abandonment
X Subsequent Report	Recompletion
Final Abandonment	Plugging Back
	Casing Repair
	Altering Casing
	X Other <u>Change location</u>
	Change of Plans
	New Construction
	Non-Routine Fracturing
	Water Shut-Off
	Conversion to Injection
	Dispose Water
	(Note. Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Williams Production Company, LLC. Per attached plat hereby requests authority to change the site of this well from 950 FNL & 890 FWL, sec 31, T31N, R4W to 940 FNL & 910 FWL, sec 31, T31N, R4W. The outside corners remain the same but the pad was rotated 180 deg at on site.

RCVD AUG 21 '07  
OIL CONS. DIV.  
DIST. 3

14. I hereby certify that the foregoing is true and correct		
Signed <u>Larry Higgins</u>	Title <u>Drilling C O M</u>	Date <u>8-6-07</u>
(This space for Federal or State office use)		
Approved by <u>[Signature]</u>	Title <u>AFM</u>	Date <u>8/17/07</u>
Conditions of approval, if any:		

Title 18 U S C Section 1001, makes 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.

NMOC

## 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:

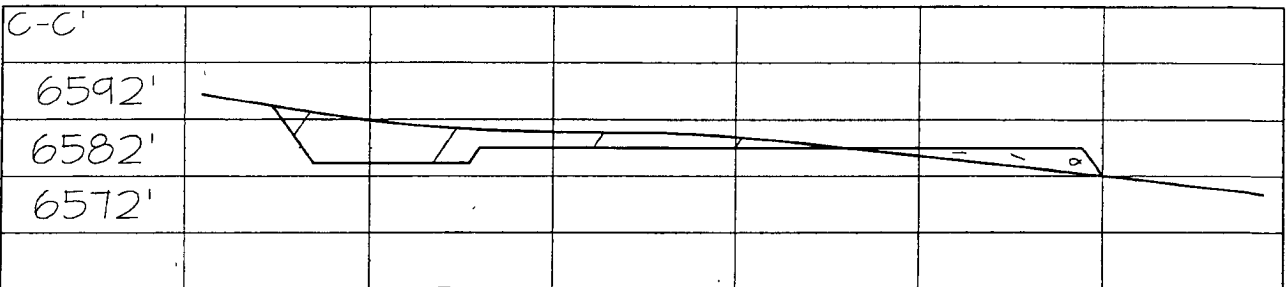
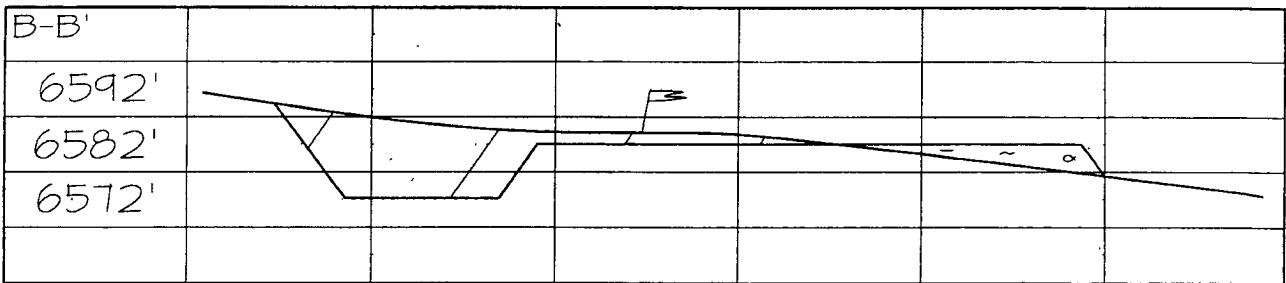
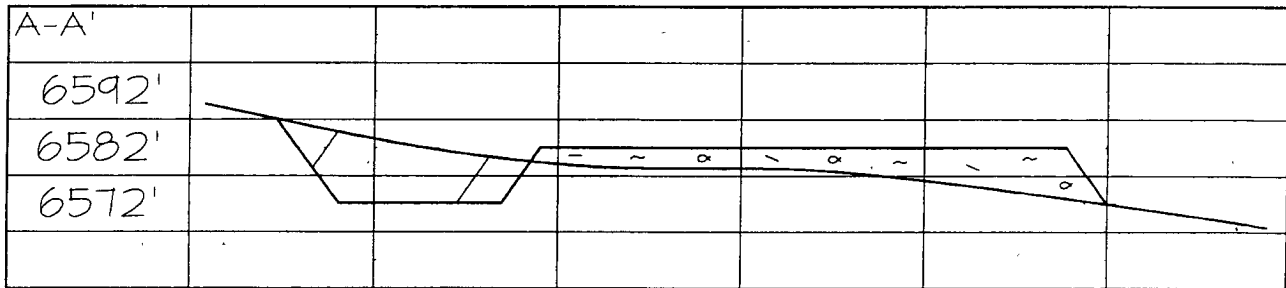
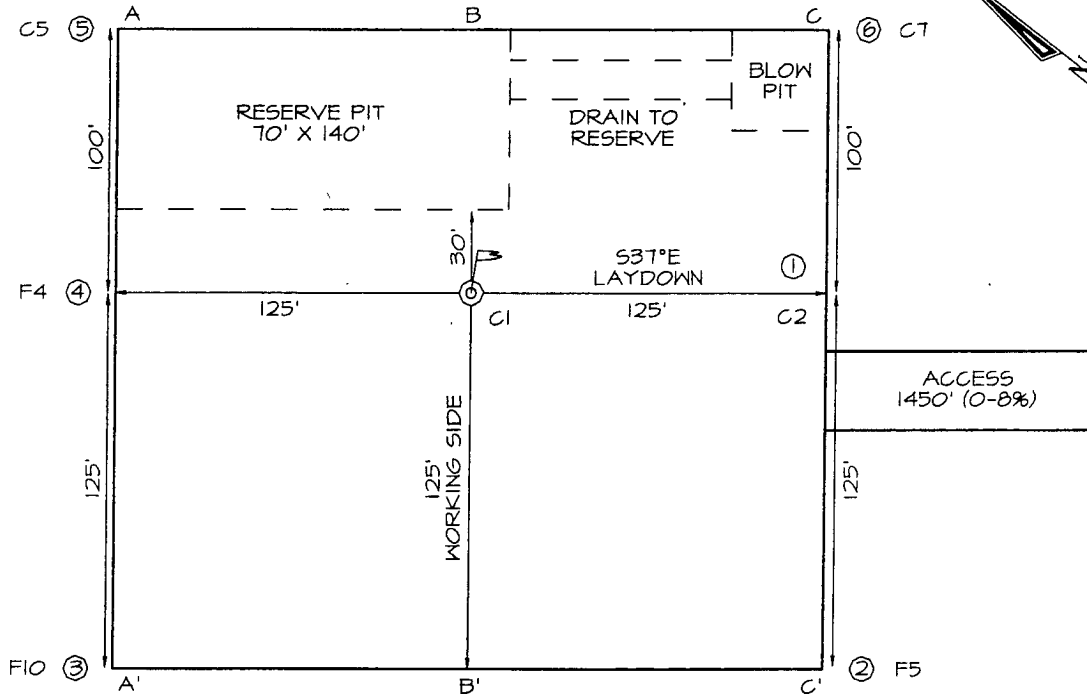
1. There are no overpressured zones expected in this well.
2. No H<sub>2</sub>S zones will be penetrated while drilling this well.

### 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.

**WILLIAMS PRODUCTION COMPANY ROSA UNIT #372A**  
**940' FNL & 910' FWL, SECTION 31, T31N, R4W, NMPM**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6583'**

**LATITUDE: 36.86076° N**  
**LONGITUDE: 107.30142° W**  
 DATUM: NAD1983





## **WILLIAMS PRODUCTION COMPANY**

### **Operations Plan**

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

**DATE:** 1/23/2007

**WELLNAME:** Rosa Unit #372A      **FIELD:** Basin Fruitland Coal

**BH LOCATION:** NWNW Sec 31-T31N-4W      **SURFACE:** USFS  
Rio Arriba, NM

**ELEVATION:** 6,583' GR      **MINERALS:** FED

**TOTAL DEPTH:** 3,522'      **LEASE #** SF-078774

**I. GEOLOGY:** Surface formation - San Jose

**A. FORMATION TOPS:** ( KB)

NAME	MD	NAME	MD
San Jose	Surface	Top Coal	3,342
Nacimiento	1,652	Bottom Coal	3,422
Ojo Alamo	2,742	Pictured Cliffs	3,427
Kirtland	2,847	TD	3,522
Fruitland	3,222		

- B. LOGGING PROGRAM:** SDR from TD to Intermediate casing. DSN from TD to surface casing.
- C. NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.
- D. MUD LOGGING PROGRAM:** Mud logger will be on location at drill out below 7" casing to TD.

**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 3,322', **DO NOT** drill deeper until Engineering is contacted.
- B. DRILLING FLUID:** Coal section will be drilled with Fruitland Coal water.

- 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 BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

### III. MATERIALS

#### A. CASING PROGRAM:

<u>CASING TYPE</u>	<u>OH SIZE (IN)</u>	<u>DEPTH (MD) (FT)</u>	<u>CASING SIZE (IN)</u>	<u>WEIGHT(LB)</u>	<u>GRADE</u>
Surface	12 1/4	300	9 5/8	36	K-55
Intermediate	8 3/4	3,322	7	20	K-55
Liner	6 1/4	3,233   3,422	5 1/2	15.5	J-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: 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 160 sx (224 cu.ft.) of "Type III" with 2% CaCl<sub>2</sub> and 1/4# of cello-flake/sk (Yield = 1.41 cu.ft./sk, Weight = 14.5 #/gal.). Use **120% excess** to circulate the surface. WOC 12 hours. Total volume = 206 cu.ft. Test to 1500#.
2. INTERMEDIATE: Lead - 415 sx (859 cu.ft.) of "Type III" 65/35 poz with 8% gel, 1% CaCl<sub>2</sub> 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% CaCl<sub>2</sub> (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 = 929 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

1. Pressure test 7" casing to 1500# for 15 minutes as per state regulations.



# Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

## Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

