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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FEB 12 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

ENTER of Land Management  
Farmington Field Office

|   |  |   |
|---|--|---|
| 1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER   |  | 5. Lease Serial No<br>NMSF-078769                                   |
| 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 checked="" type="checkbox"/> Multiple Zone |  | 6. If Indian, Allottee or Tribe Name                                |
| 2. Name of Operator<br>Williams Production Company, LLC   |  | 7. If Unit or CA Agreement, Name and No<br>Rosa Unit NMNM 78407A    |
| 3a. Address<br>P O. Box 640 Aztec, NM 87410   |  | 8. Lease Name and Well No.<br>Rosa Unit 168R                        |
| 3b. Phone No. (include area code)<br>(505) 634-4208   |  | 9. API Well No.<br>30-039-30917                                     |
| 4. Location of Well (Report location clearly and in accordance with any State requirements *)<br>At surface 700' FNL & 1330' FEL<br>At proposed prod. zone  |  | 10. Field and Pool, or Exploratory<br>Blanco Mesaverde              |
| 14. Distance in miles and direction from nearest town or post office*<br>approximately 31 miles northeast of Blanco, New Mexico   |  | 11. Sec, T, R, M, or Blk. and Survey or Area<br>Section 28, 31N, 5W |
| 15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drng. unit line, if any) 700'   |  | 12. County or Parish<br>Rio Arriba                                  |
| 16. No. of Acres in lease<br>2,560.0  |  | 13. State<br>NM   |
| 17. Spacing Unit dedicated to this well<br>320.0 - (E/2)  |  |   |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 997' Rosa 137  |  | 20. BLM/BIA Bond No. on file<br>UT0099 UTB000138                    |
| 19. Proposed Depth<br>6,583'  |  |   |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc )<br>6,448 GR 6,784 GR  |  | 22. Approximate date work will start*<br>April 1, 2010              |
|   |  | 23. Estimated duration<br>1 month                                   |
| 24. Attachments<br>RCVD APR 26 '10  |  |   |

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. |
- OIL CONS. DIV.  
DIST. 3

|  |  |                 |
|--|--|-----------------|
| 25. Signature<br><i>Larry Higgins</i>          | Name (Printed/Typed)<br>Larry Higgins  | Date<br>2-12-10 |
| Title<br>Drilling COM                          |  |                 |
| Approved by (Signature)<br><i>Beulah Chief</i> | Name (Printed/Typed)<br>HEKIMIAN Lujan | Date<br>4/21/10 |
| Title<br>Beulah Chief, (Acting)                | Office<br>BLM Farmington Field Office  |                 |

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 Production Company, LLC, proposes to develop the Blanco Mesaverde formations 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.

Hold C104  
for Directional Survey  
and "As Drilled" plat

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

A new access road of 152.6 feet will be required for this proposed well

This APD is also serving as an application to obtain a pipeline right-of-way. An associated pipeline tie of 333.6 feet would be required for this well.

NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT

APR 30 2010

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

NMOCD

BLM'S APPROVAL OR ACCEPTANCE OF THIS  
ACTION DOES NOT RELIEVE THE LESSEE AND  
OPERATOR FROM OBTAINING ANY OTHER  
AUTHORIZATION REQUIRED FOR OPERATIONS  
ON FEDERAL AND INDIAN LANDS

This action is subject to technical and  
procedural review pursuant to 43 CFR 3165.3  
and appeal pursuant to 43 CFR 3165.4

District I  
1625 N. French Dr., Hobbs, NM 88240

District II  
1301 W Grand Avenue, 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 & Natural Resources Department

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

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Form C-102  
Revised October 12, 2005  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

Bureau of Land Management  
Farmington Field Office

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                    |   |                                |
|------------------------------------|---|--------------------------------|
| *API Number<br><b>30-039-30917</b> | *Pool Code<br>72319                           | *Pool Name<br>BLANCO MESAVERDE |
| *Property Code<br>17033            | *Property Name<br>ROSA UNIT                   | *Well Number<br>168R           |
| *GRID No<br>120782                 | *Operator Name<br>WILLIAMS PRODUCTION COMPANY | *Elevation<br>6784'            |

#### 10 Surface Location

|                    |               |                 |             |         |                      |                           |                       |                        |                      |
|--------------------|---------------|-----------------|-------------|---------|----------------------|---------------------------|-----------------------|------------------------|----------------------|
| UL or lot no.<br>B | Section<br>28 | Township<br>31N | Range<br>5W | Lot Idn | Feet from the<br>700 | North/South line<br>NORTH | Feet from the<br>1330 | East/West line<br>EAST | County<br>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 |
| 12 Dedicated Acres<br>320.0 Acres - (E/2) |         |          |       |         | 13 Joint or Infill | 14 Consolidation Code | 15 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

|          |          |          |                    |   |   |
|----------|----------|----------|--------------------|---|---|
| 16       | 5286.60' | 100'     | 1330'              | LAT: 36 87590 'N<br>LONG: 107.36320 'W<br>DATUM: NAD1983  | 17 OPERATOR CERTIFICATION<br>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division<br><br>Larry Higgins 2-12-10<br>Signature Date<br>Larry Higgins<br>Printed Name |
| 5280.00' | 28       | 5280.00' | LEASE<br>SF-078769 | 18 SURVEYOR CERTIFICATION<br>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<br>Date of Survey: APRIL 11, 2008<br>Signature and Seal of Professional Surveyor<br><br>JASON C. EDWARDS<br>15269<br>REGISTERED PROFESSIONAL SURVEYOR<br><br>JASON C. EDWARDS<br>Certificate Number 15269 |   |
|          | 5286.60' |          |                    |   |   |



RECEIVED

APR 20 2010

Bureau of Land Management  
Farmington Field Office**WILLIAMS PRODUCTION COMPANY****Operations Plan***(Note: This procedure will be adjusted on site based upon actual conditions) ✓*

**DATE:** 4/20/2010 **FIELD:** Blanco MV  
**WELL NAME:** Rosa Unit 168R **SURFACE:** BLM  
**BH LOCATION:** NWNE Sec 28-31N-5W  
Rio Arriba, NM **MINERALS:** Federal  
**ELEVATION:** 6,784' GR **LEASE #** SF-078769  
**MEASURED DEPTH:** 6,583'

**I. GEOLOGY:** Surface formation - San Jose**A. FORMATION TOPS:** (KB)

| Name           | MD    | Name          | MD      |
|----------------|-------|---------------|---------|
| Ojo Alamo      | 2,923 | Cliff House   | 5,858   |
| Kirtland       | 3,073 | Menefee       | 5,898   |
| Fruitland      | 3,433 | Point Lookout | 6,108   |
| Picture Cliffs | 3,703 | Mancos        | 6,418   |
| Lewis          | 3,948 | TD            | 6,583 ✓ |

**B. MUD LOGGING PROGRAM:****C. LOGGING PROGRAM:** Cased hole logs (RST, CBL) only**D. NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.**II. DRILLING**

**A. MUD PROGRAM:** Use Water + Gel/Polymer sweeps to drill Surface hole. Convert to a LSLD - EZ-MUD system mud (+/-50 Vis.) to drill 8-3/4 in. Intermediate Hole. Increase vis to +/-60 to run Casing. **Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.** Use Air, Air Hammer and 6-1/4 in. Flat btn. bit to drill-out of 7 in. csg. and to TD well at +/- 6,583. (MD). **Run TOTCO Survey at TD.**

**B. 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 for 30 minutes 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:

| CASING TYPE  | HOLE SIZE | DEPTH (MD)                                   | CASING SIZE | WT. & GRADE |
|--------------|-----------|--|-------------|-------------|
| Surface      | 12-1/4"   | +/- 300'                                     | 9-5/8"      | 36# K-55    |
| Intermediate | 8-3/4"    | +/- 4,178'                                   | 7"          | 23# K-55    |
| Prod. Liner  | 6-1/4"    | +/- 4,028' <del>6,605'</del><br><b>6583'</b> | 4-1/2"      | 11.6# 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 (3) 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 CASING: 4-1/2" 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: Slurry: 120sx (215 cu.ft.) of "Type III" + 2% Cal-Seal 60 + ¼ # of poly-e-flake/sk + 0.3% Versaset + 2% Econolite + 6% Salt (Yield = 1.796 cu.ft./sk, Weight = 13.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 600 psi. for 30 min.✓
2. INTERMEDIATE: 20 bbl Water Spacer + Lead - 405 sx (1105 cu.ft.) of "EXTENDACEM" + 5 #/sk pheno-seal + 5% Cal-Seal 60 + 0.5% D-Air-3000 (Yield = 2.73 cu.ft./sk, Weight = 11.5 #/gal.). Tail - 100 sx (117.8cu.ft.) of Premium cement + 0.125 #/sk Poly-E-Flake, (Yield = 1.178 cu.ft./sk, Weight = 15.6#/gal.). **SHOULD CIRCULATE TO SURFACE** Total volume = 1223 cu.ft. Bump Plug to 1,500 psi. WOC 12 hours. Test csg to 1500 psi. for 30 min.✓
3. PRODUCTION LINER: 20 bbl Gelled Water spacer. Cement: 270 sx (350 ft<sup>3</sup>) of "FRACCEM" +0.4% Halad-9 +2.5 lb/sk Kol-Seal + 0.05% HR-5 + 0.3% D-AIR 3000 + 0.4% Halad-413. (Yield = 1.31 ft<sup>3</sup>/sk, Weight = 13.5 #/gal.). Displace cement at a minimum of 8 BPM. **SHOULD COVER 150 FEET INTO 7" CASING** Total volume (350) ft<sup>3</sup>. WOC 12 hours. Casing will be tested at completion.✓

#### **IV COMPLETION**

##### **A. CBL**

1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings if cement is not circulated to surface.

##### **B. PRESSURE TEST**


1. Pressure test 7" & 4-1/2" casing to 1500# for 30 minutes.

##### **C. STIMULATION**

1. Perforate the Point Lookout as determined from the open hole logs.
2. Stimulate with approximately 80,000# of 20/40 sand in slick water.
3. Isolate Point Lookout with a CIBP.
4. Perforate the Menefee/Cliff House as determined from the open hole logs.
5. Stimulate with approximately 80,000# of 20/40 sand in slick water.
6. Test each zone before removing bridge plugs.

##### **D. RUNNING TUBING**

1. Mesa Verde: Run 2-3/8", 4.7#, J-55, EUE tubing with a SN (1.91" ID) on top of bottom joint. Land tubing approximately 25' above the bottom Point Lookout perforation.

FOR   
Brian Alleman  
Drilling Engineer

# 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)

