

# RECEIVED

Form 3160-3  
(September 2001)

JAN 20 2010

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Bureau of Land Management  
Farmington Field Office

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		6. If Indian, Allottee or Tribe Name	
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		7. If Unit or CA Agreement, Name and No. Rosa Unit	
Single Zone <input type="checkbox"/> Multiple Zone <input checked="" type="checkbox"/>		8. Lease Name and well No. Rosa Unit No. 193	
2. Name of Operator Williams Production Company, LLC		9. API Well No. 30-039-30910	
3a. Address P O. Box 640 Aztec, NM 87410	3b. Phone No. (include area code) (505) 634-4208	10. Field and Pool, or Exploratory Blanco MV / Basin MC / Basin DK	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 1305' FSL & 1135' FWL At proposed prod. zone		11. Sec., T., R., M., or Blk. and Survey or Area m Section 35, 31N, 5W	
14. Distance in miles and direction from nearest town or post office* approximately 31 miles northeast of Blanco, New Mexico		12. County or Parish Rio Arriba	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drg. unit line, if any) 1135'	16. No. of Acres in lease 1,920.0	17. Spacing Unit dedicated to this well 320 0 - (W/2) RCVD APR 6 '10 OIL CONS. DIV. DIST. 3	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,100' Rosa 272	19. Proposed Depth 8,455'	20. BLM/BIA Bond No. on file UT0899	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,636' GR	22. Approximate date work will start* April 1, 2010	23. Estimated duration 1 month	
24. Attachments This action is subject to technical and procedural review 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".	

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 1-20-10
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Title Drilling COM	
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed) AFM
Title AFM	Office FFO
	Date 4/5/2010

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 MV / Basin MC / Basin DK 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.

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 989.2 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 1,626.8 feet would be required for this well.

NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT

APR 08 2010

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

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

Form C-102  
Revised October 12, 2005  
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>30-03A-30910</b>	*Pool Code 97232 / 72319 / 71599	*Pool Name BASIN MANCOS / BLANCO MESAVERDE / BASIN DAKOTA
*Property Code 17033	*Property Name ROSA UNIT	*Well Number 193
*OGRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY	*Elevation 6636'

<sup>10</sup> Surface Location

UL or lot no M	Section 35	Township 31N	Range 5W	Lot Idn	Feet from the 1305	North/South line SOUTH	Feet from the 1135	East/West line WEST	County RIO ARriba
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<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 320.0 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

<div><p>16</p><p>5281.32'</p><p>LEASE SF-078773</p><p>5280.00</p><p>35</p><p>5280.00</p><p>LAT: 36.85247°N LONG: 107.33674°W DATUM: NAD1983</p><p>1135'</p><p>1305'</p><p>5280.00'</p></div>	<div><p><sup>17</sup> OPERATOR CERTIFICATION</p><p>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.</p><p><i>Larry Higgins</i> 1-20-10 Signature Date <i>LARRY HIGGINS</i> Printed Name</p><p><sup>18</sup> 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: JANUARY 12, 2010 Survey Date: OCTOBER 29, 2008</p><p>Signature and Seal of Professional Surveyor</p><div><p>JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR</p><p><i>JASON C. EDWARDS</i> Certificate Number 15269</p></div></div>
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## WILLIAMS PRODUCTION COMPANY

### Operations Plan

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

**DATE:** 11/10/2009 **FIELD:** Basin DK/ Basin MC/BlancoMV  
**WELL NAME:** Rosa #193 **SURFACE:** USFS  
**BH LOCATION:** SWSW Sec 35-31N-5W **MINERALS:** BLM  
Rio Arriba, NM  
**ELEVATION:** 6,636' GR **LEASE #** SF-078773  
**MEASURED DEPTH:** 8,455'

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

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

Name	MD	Name	MD
Ojo Alamo	2,750	Point Lookout	5,925
Kirtland	2,935	Mancos	6,220
Fruitland	3,285	Gallup	7,170
Pictured Cliffs	3,520	Greenhorn	7,930
Lewis	3,795	Graneros	7,980
Cliff House	5,670	Dakota	8,110
Menefee	5,720	Morrison	8,355
		<b>TD</b>	<b>8,455</b>

**B. MUD LOGGING PROGRAM:** Mudlogger on location from Int csg to TD. Mud logger to pick TD.

**C. LOGGING PROGRAM:** AIT from surface csg to TD. LDT/CNL over intervals of interest

**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: MUD PROGRAM:** Use Water + Gel/Polymer sweeps to drill Surface hole. Convert to a LSLD - EZ-MUD system mud (+/-50 Vis.) to drill 9-7/8 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 6-3/4 in. Flat btm. bit to drill-out of 7-5/8 in. csg. and to TD well at +/- 8,455 ft. (MD).

**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 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:**

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	14 3/4	300	10 3/4	40.5	K-55
Intermediate	9 7/8	3,995	7 5/8	26.4	K-55
Longstring	6 3/4	8,455	4 1/2	11.6	N-80

**B. FLOAT EQUIPMENT:**

- SURFACE CASING:** 10 3/4" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
- INTERMEDIATE CASING:** 7 5/8" 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).
- PRODUCTION LINER / CASING:** <sup>4.5"</sup>~~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)*

- SURFACE:** Slurry: 290sx (521 cu.ft.) of "Type III" + 2% Cal-Seal 60 + 1/4 # 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 1500psi, **For 30 min**
- INTERMEDIATE:** Lead - 535 sx (1461 cu.ft.) of "EXTENDACEM" + 5 #/sk pheno-seal + 5% Cal-Seal 60 (Yield = 2.723 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.). **NO EXCESS PUMP AS WRITTEN SHOULD CIRCULATE TO SURFACE** Total volume = 1578 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface. **Test eq. to 1800 psi For 30 min**
- PRODUCTION CASING:** 10 bbl Gelled Water spacer. Cement: 605 sx (846 ft<sup>3</sup>) of "FRACCCEM" + 0.8% Halad-9 + 0.1% CFR-3 + 5 #/sk Gilsonite + 0.125 #/sk Poly-E-Flake + 0.15% HR-800. (Yield = 1.398 ft<sup>3</sup>/sk, Weight = 13.1 #/gal.). Displace cement at a minimum of 8 BPM. **NO EXCESS SHOULD COVER 150 FEET INTO 7-5/8" CASING** Total volume (846) ft<sup>3</sup>. WOC 12 hours.

**IV. IV COMPLETION****A. CBL**

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

**B. PRESSURE TEST**

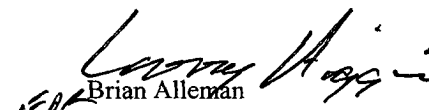
- Pressure test 4-1/2" casing to 6000 psi max, hold at 1500 psi for 30 minutes.

**C. STIMULATION**

1. Stimulate Dakota with approximately 5000# 100 mesh sand and 120,000# Ottawa Sand in slick water.
2. Isolate Dakota with a RBP.
3. Perforate Mancos as determined from the open hole logs
4. Stimulate Mancos with 2 stages of approximates 5000# 100 mesh sand and 150,000# 40/70 Ottawa sand
5. Stimulate Point Lookout with approximately 40,000# 20/40 Ottawa sand in slick water.
6. Isolate Point Lookout with a RBP.
7. Perforate the Menefee/Cliff House as determined from the open hole logs.
8. Stimulate with approximately 40,000# 20/40 Ottawa sand in slick water.
9. Test each zone before removing bridge plugs.

**D. RUNNING TUBING**

1. Production Tubing: 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

  
Brian Allenman  
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)

