

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

RECEIVED

OCT 9 2007

Bureau of Land Management
Farmington Field Office

5. Lease Serial No.

NMSF-078770

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

Rosa Unit

8. Lease Name and Well No.

186B

9. API Well No.

20-039-30391

10. Field and Pool, or Exploratory

Blanco Mesaverde

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

Section 27, 31N R.5W

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 1335' FNL & 1865' FWL

At proposed prod. zone 1335' FNL & 1865' FWL

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

approximately 34 miles northeast of Blanco, New Mexico

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drg. unit line, if any)

1335'

16. No. of Acres in lease

2,560.00

17. Spacing Unit dedicated to this well

320.0 (N/2)

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

2100'

19. Proposed Depth

6,350'

20. BLM/BIA Bond No. on file

UT0847

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

6,576' GR

22. Approximate date work will start*

Spring 2008

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

10-8-07

Drilling COM

Approved by (Signature)

Name (Printed/Typed)

Date

Title

Office

FFO

5/27/08

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 Blanco Mesaverde 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 La Plata Archaeological Consultants. Copies of their report have been submitted directly to the CNF/JRD.

This well will be twinned with the Rosa Unit No. 257A. An access road of 2,750 feet will be needed to access this twinned location. A pipeline tie of 59.7 feet would be required for this location. Williams Field Services has filed a pipeline route plan for the associated pipeline. The pipeline would be owned and operated by Williams Four Corners, LLC.

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".

NMOCD

JUN 03 2008

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

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 30-039-30391 | | *Pool Code 72319 | *Pool Name BLANCO MESAVERDE |
| *Property Code 17033 | *Property Name ROSA UNIT | | *Well Number 1868 |
| *GRID No. 120782 | *Operator Name WILLIAMS PRODUCTION COMPANY | | *Elevation 6576' |

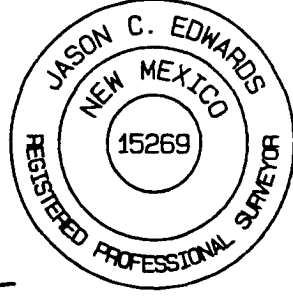
¹⁰ Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| F | 27 | 31N | 5W | | 1335 | NORTH | 1865 | 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 |
|--|---------|----------|-------|---------|-------------------------------|------------------|----------------------------------|----------------|-------------------------|
| | | | | | | | | | |
| ¹² Dedicated Acres 320.0 Acres - (N/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 5280.00' | 5278.68' | 1335' | LEASE SF-078710 | 5280.00' | ¹⁷ 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>10-8-07</u> Date |
| | 1865' | | | | |
| 27 | | | | | 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 Survey Date: DECEMBER 5, 2006 Signature and Seal of Professional Surveyor  <u>JASON C. EDWARDS</u> Certificate Number 15269 |
| 5277.36' | | | | | |

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. 30.039.30391 | |
| 5. Indicate Type of Lease FEDERAL <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/> | |
| 6. State Oil & Gas Lease No. SF-078770 | |
| 7. Lease Name or Unit Agreement Name Rosa Unit | |
| 8. Well Number | 186B |
| 9. OGRID Number | 120782 |
| Blanco Mesaverde | |

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 >1,000'

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
Unit Letter F: 1335 feet from the north line and 1865 feet from the west line
Section 27 Township 31N Range 5W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,576' 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.

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 10-8-07

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, District #3 DATE JUN 03 2008
Conditions of Approval (if any): _____



WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE: 5/14/2007 **FIELD:** Blanco MV
WELL NAME: Rosa #186B **SURFACE:** FOREST
BH LOCATION: SENW Sec 27-31N-5W **MINERALS:** FED
Rio Arriba, NM
ELEVATION: 6,576' GR **LEASE #** SE-078770
MEASURED DEPTH: 6,350'

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

| Name | MD | Name | MD |
|----------------|-------|---------------|-------|
| Ojo Alamo | 2,740 | Cliff House | 5,660 |
| Kirtland | 2,850 | Menefee | 5,705 |
| Fruitland | 3,220 | Point Lookout | 5,900 |
| Picture Cliffs | 3,435 | Mancos | 6,210 |
| Lewis | 3,735 | TD | 6,350 |

B. MUD LOGGING PROGRAM: None

C. LOGGING PROGRAM: High Resolution Induction log from surface casing to TD and intermediate shoe to TD. GR and Density/ Neutron log over zones of interest. Onsite geologist will pick Density/ Neutron log intervals on both logging runs.

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: Clear water with benex to 7" casing point. Convert to a LSND mud to log and run pipe. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses. Use air w/Air Hammer from 7 in. csg. to 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 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 | 12 1/4 | 300 | 9 5/8 | 36 | K-55 |
| Intermediate | 8 3/4 | 3,910 | 7 | 20 | K-55 |
| Liner | 6 1/4 | 3,810 6,350 | 4 1/2 | 10.5 | 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 (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" & 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.

IV. CEMENTING:

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

1. **SURFACE:** Slurry: 150sx (205 cu.ft.) of "Type III" + 2% CaCl₂ + ¼ # of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.
2. **INTERMEDIATE:** Lead - 495 sx (1035 cu.ft.) of "Premium Light" 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 (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 = 1105 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
3. **PRODUCTION LINER:** 10 bbl Gelled Water spacer. Cement: 155 sx (325 ft³) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, ¼ #/sk cello flake and 4% Phenoseal. (Yield = 2.15 ft³/sk, Weight = 12.3 #/gal.). Displace cement at a minimum of 8 BPM. The 20% excess in lead and tail should cover 100 ft into intermediate casing. Total volume 325 ft³. WOC 12 hours

V. 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 3300# for 15 minutes.

C. STIMULATION

1. Perforate the Point Lookout as determined from the open hole logs.
2. Stimulate with approximately 9,300# of 14/30 LiteProp™ 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 9,300# of 14/30 LiteProp™ 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 Larry Heggie
Gary Sizemore
Sr. Drilling Engineer

GENERAL ROSA DRILLING PLAN

Rosa Unit boundaries:

- 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 Dakota | Marine sand and shales | No | Yes | Possible | No | Possible |
| Lwr Dakota | Fluvial sands, shales, & coal | Possible | Yes | Possible | No | Possible |

DRILLING

Potential Hazards:

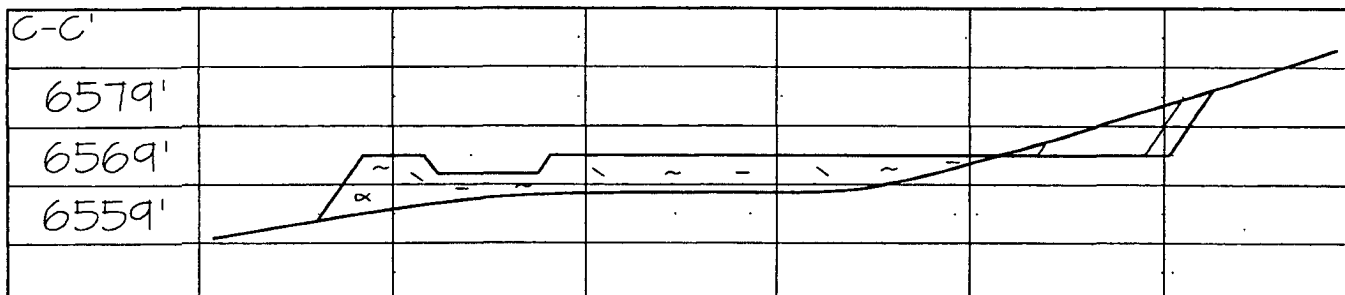
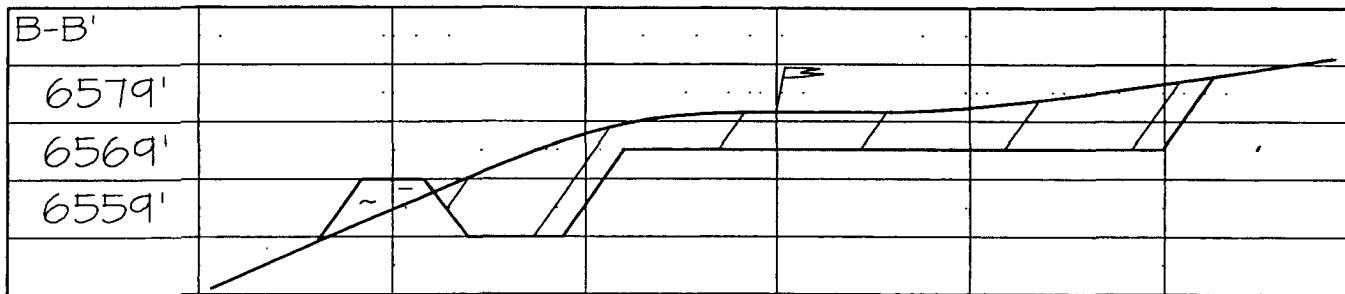
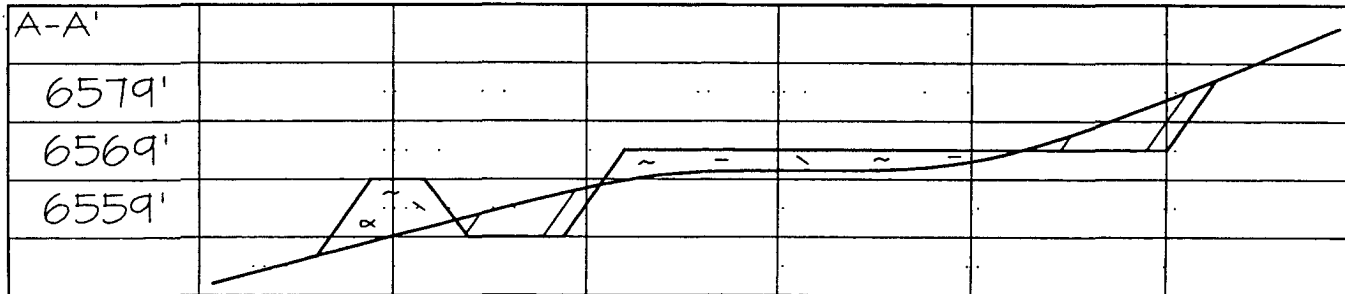
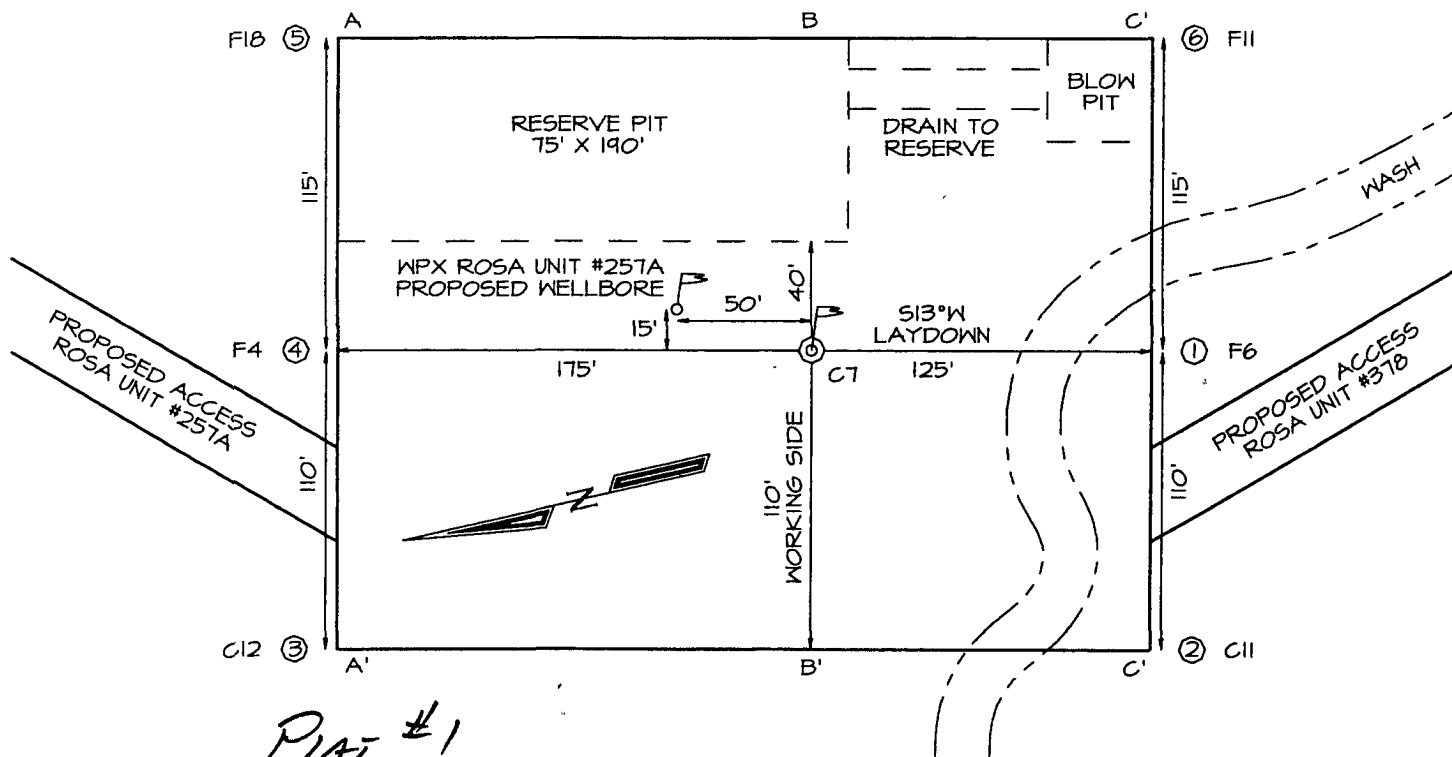
1. There are no overpressured zones expected in this well.
2. No H₂S zones will be penetrated while drilling this well.

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.

WILLIAMS PRODUCTION COMPANY ROSA UNIT #186B
1335' FNL & 1865' FWL, SECTION 27, T31N, R5W, NMPM
RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6576'

LATITUDE: 36.87415° N
LONGITUDE: 107.35228° W
 DATUM: NAD1983



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)

