

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires December 31, 1991

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2002 MAY 10 AM 9:49

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

| | | | |
|---|---|---|--|
| 1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> | | 5. LEASE DESIGNATION AND SERIAL NO. SF-078764 | |
| 1b. TYPE OF WELL OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/> | | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME | |
| 2. NAME OF OPERATOR Williams Production Company, LLC | | 7. UNIT AGREEMENT NAME Rosa Unit | |
| 3. ADDRESS OF OPERATOR c/o Walsh Engineering 7415 E. Main St., Farmington, NM 87402 (505) 327-4892 | | 8. FARM OR LEASE NAME, WELL NO. 137 B | |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At Surface 660' FSL and 265' FEL At proposed Prod. Zone | | 9. API WELL NO. 3003927002 | |
| 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* ~25 miles NE of Blanco, NM | | 10. FIELD AND POOL OR WILDCAT Blanco Mesaverde | |
| 15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 265' | 16. NO. OF ACRES IN LEASE 2507.30 | 11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 31, T31N, R5W | |
| 18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. 1350' | 19. PROPOSED DEPTH 6159' | 12. COUNTY OR PARISH Rio Arriba | |
| 21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6457' | | 13. STATE NM | |
| 23. PROPOSED CASING AND CEMENTING PROGRAM | | 17. NO. OF ACRES ASSIGNED TO THIS WELL 5/2 232.99 | |
| 20. ROTARY OR CABLE TOOLS Rotary | | 22. APPROX. DATE WORK WILL START* May 30, 2002 | |

| SIZE OF HOLE | SIZE OF CASING | WEIGHT/FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|--------------|----------------|-------------|---------------|--|
| 12-1/4" | 9-5/8" | 36.0# | +/- 250' | ~180 cu.ft. Type III with 2% CaCl ₂ |
| 8-3/4" | 7" | 20.0# | +/- 3729' | ~885 cu.ft. 65/35 poz & ~235 cu.ft. Type I |
| 6-1/4" | 4-1/2" | 10.5# | +/- 6159' | ~141 cu.ft. 50/50 poz & ~199 cu.ft. PL HS |

Williams Production Company, LLC proposes to drill a vertical well to develop the Mesa Verde formation at the above described location in accordance with the attached drilling and surface use plans.

This location has been archaeologically surveyed by Independent Contract Archaeology. Copies of their report have been submitted directly to your office.

This APD also is serving as an application to obtain BLM road and pipeline right-of-ways. This well will require ~1600' of new access road (see Pipeline & Well Plats #3 & #4). The well will be accessed by an existing road that crosses the SW/SW, NW/SW of section 32, NE/SE, NW/SE, SW/NE, SE/NW, SW/NW of section 31 all of 31N, 5W, SE/NE of section 36, T31N, R6W where it joins the main "Rosa Road".

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

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED John C. Thompson TITLE John C. Thompson, Agent DATE 5/9/02

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
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: David J. Mankiewicz
APPROVED BY _____ TITLE _____ DATE JUN 21 2002

*See Instructions On Reverse Side

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.

DRILLING OPERATIONS NOT FOR DEED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

NMOGE

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 30-039-27002 | | *Pool Code 72319 | *Pool Name BLANCO MESAVERDE |
| *Property Code 17033 | *Property Name ROSA UNIT | | *Well Number 1378 |
| *GRID No. 120782 | *Operator Name WILLIAMS PRODUCTION COMPANY | | *Elevation 6457' |

¹⁰ Surface Location

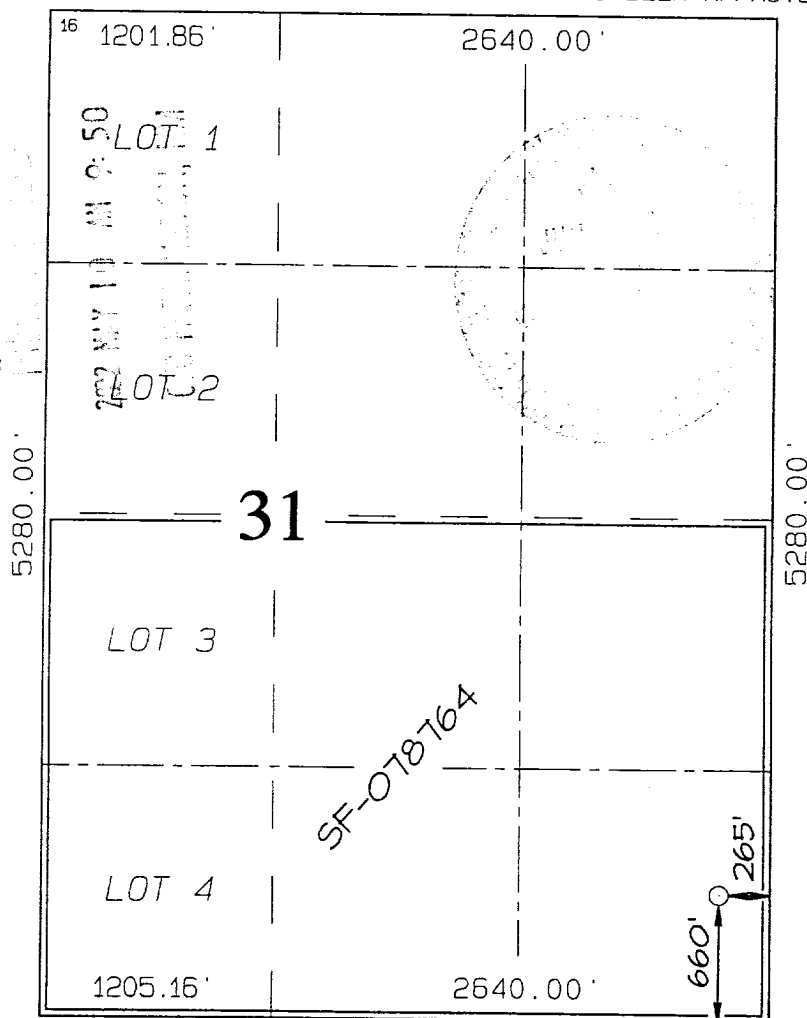
| | | | | | | | | | |
|--------------------|---------------|-----------------|-------------|---------|----------------------|---------------------------|----------------------|------------------------|----------------------|
| UL or lot no. P | Section 31 | Township 31N | Range 5W | Lot Idn | Feet from the 660 | North/South line SOUTH | Feet from the 265 | East/West line EAST | County 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 232.99 Acres - (S/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



¹⁷ OPERATOR CERTIFICATION

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

John C. Thompson
Signature

John C. Thompson

Printed Name

Agent/Engineer

Title

4/23/02

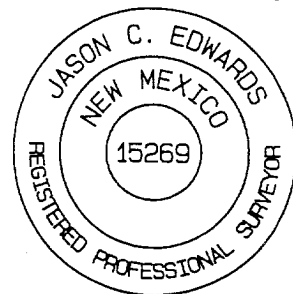
Date

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

Survey Date: FEBRUARY 22, 2002

Signature and Seal of Professional Surveyor

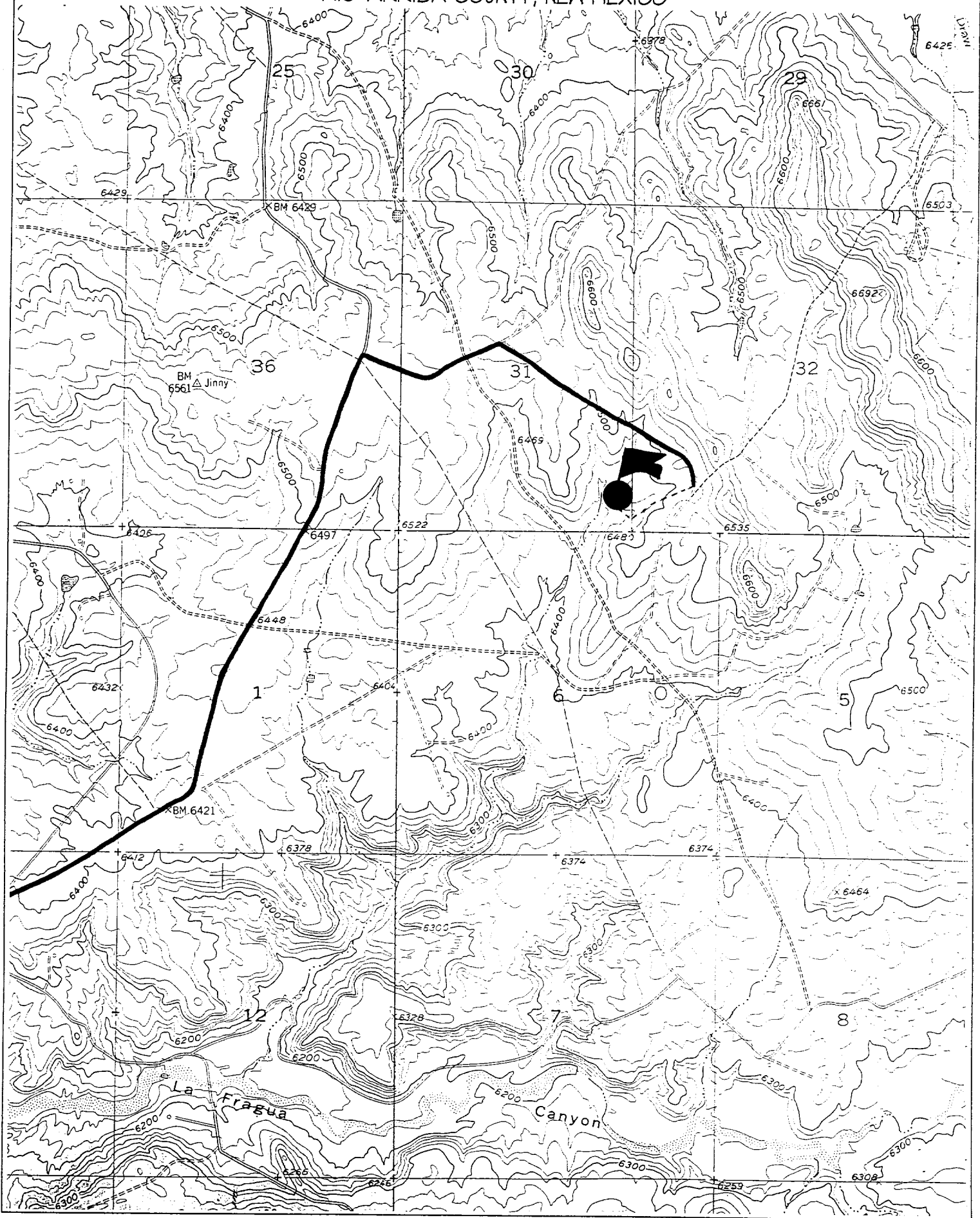


Jason C. Edwards
Certificate Number 15269

WILLIAMS PRODUCTION COMPANY ROSA UNIT #137B

660' FSL & 265' FEL, SECTION 31, T31N, R5W, N.M.P.M.

RIO ARriba COUNTY, NEW MEXICO





WILLIAMS PRODUCTION COMPANY

Operations Plan

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

| | | | |
|-------------------------------|---|-------------------------|-----------|
| <u>DATE:</u> | 4/22/2002 | <u>FIELD:</u> | Blanco MV |
| <u>WELL NAME:</u> | Rosa Unit 137B | <u>SURFACE:</u> | BLM |
| <u>LOCATION:</u> | SE/4 SE/4 Sec 31-31N-5W Rio Arriba, NM | <u>MINERALS:</u> | BLM |
| <u>ELEVATION:</u> | 6457' GR | <u>LEASE #</u> | SF-078764 |
| <u>MEASURED DEPTH:</u> | 6159' | | |

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

| | <u>MD</u> | | <u>MD</u> |
|-----------------|------------------|--------------------|------------------|
| Ojo Alamo | 2544' | Cliff House | 5429' |
| Kirtland | 2684' | Menefee | 5464' |
| Fruitland | 3049' | Point Lookout | 5709' |
| Pictured Cliffs | 3254' | Mancos | 6014' |
| Lewis | 3559' | Total Depth | 6159' |

B. LOGGING PROGRAM: Cased hole logs only (selected intervals by on-site Geologist). ***Subject to change as wellbore conditions dictate.***

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. 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.

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 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 (MD)</u> | <u>CASING SIZE</u> | <u>WT. & GRADE</u> |
|--------------------|------------------|-------------------|--------------------|------------------------|
| Surface | 12-1/4" | 250' | 9-5/8" | 36# K-55 |
| Intermediate | 8-3/4" | 3729' | 7" | 20# K-55 |
| Prod. Liner | 6-1/4" | 3629'-6159' | 4-1/2" | 10.5# 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 (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 one Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (4) joints to the surface casing. Total centralizers = (26) regular and (3) turbulent.
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 5630'. Place one positive standoff turbolizer every other joint. Total turbolizers is 34.

C. CEMENTING:

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

1. SURFACE: Slurry: 140sx (180 cu.ft.) of "Type III" + 2% CaCl₂ + 1/4 # of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). The 125% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.
2. INTERMEDIATE: Lead: 425sx (885 ft³) of "Type III" 65/35 poz + 8% gel + 1% CaCl₂ + 1/4 # cello-flake/sk (Yield = 2.09 ft³/sk, Weight = 12.1 #/gal.). Tail: 170x (235 ft³) of class "Type III" + 1% CaCl₂ + 1/4 # cello-flake/sk. (Yield = 1.39 ft³/sk, Weight = 14.5#/gal.). The 100% excess in lead and tail should circulate cement to the surface. Total volume = 1120 ft³. WOC 12 hours. Run a temperature survey after 8 hours if cement is not circulated to the surface. Test csg. to 1500psi.
3. PRODUCTION LINER: Scavenger: 30sx of Premium Light HS + 1% FL-52 + .3% CD-32 + 2% KCl (Weight = 11 #/gal). Lead: 70sx (141 ft³) of Premium Light HS + 1% FL-52 + .3% CD-32 + 2% KCl. (Yield = 2.02 cu.ft./sk, Weight = 12.5 #/gal.). Tail: 100 sx (199 ft³) of Premium Light HS + 1% FL-52 + .3% CD-32 + 2% KCl + .25 #/sk Celloflake + 4% Phenoseal. (Yield = 2.02 ft³/sk, Weight = 12.5 #/gal.). Displace cement at a minimum of 8 BPM. The 30% excess in lead and tail should cover liner top. Total volume 340ft³. WOC 12 hours.

100' cmt overtop

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

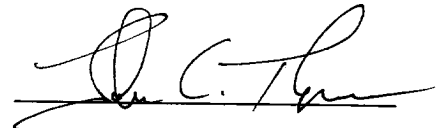
1. Pressure test 7" & 4-1/2" casing to 3300# for 15 minutes.

C. STIMULATION

1. Stimulate with approximately 80,000# of 20/40 sand in slick water.
2. Isolate Point Lookout with a DBP.
3. Perforate the Menefee/Cliff House as determined from the open hole logs.
4. Stimulate with approximately 80,000# of 20/40 sand in slick water.
5. 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.



John C. Thompson
Engineer

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)

