

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
1b. TYPE OF WELL

DRILL ☒ DEEPEN ☐

OIL WELL ☐ GAS WELL ☒ OTHER ☐ SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Williams Production Company

3. ADDRESS OF OPERATOR

P.O. Box 316 - Ignacio, CO 81137 - Phone (970) 563-3308

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. \*)

At Surface 140' FSL & 340' FWL

At proposed Prod. Zone

330' FNL & 1300' FEL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

30 miles NE of Blanco, NM

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest dlig. unit line, if any)

330'

16. NO. OF ACRES IN LEASE

2460.23

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT.

1708

19. PROPOSED DEPTH

6794'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6404' GR

5. LEASE DESIGNATION AND SERIAL NO.

06 SF-078765

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Rosa Unit

8. FARM OR LEASE NAME, WELL NO.

181C

9. API WELL NO.

30-039-27714

10. FIELD AND POOL OR WILDCAT

Blanco Mesa Verde

11. SEC. T, R, M, OR BLK. AND SURVEY OR AREA

Sec. 2, T31N, R6W (M) Surface  
Sec. 10, T31N, R6W (A) BH

12. COUNTY OR PARISH

Rio Arriba

13. STATE

NM

17. NO. OF ACRES ASSIGNED TO THIS WELL

320 E/2 Sec. 10

20. ROTARY OR CABLE TOOLS

Rotary

22. APPROX. DATE WORK WILL START\*

September 10, 2004

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36#	+/- 300'	~205 cu.ft. Type III w/ 2% CaCl <sub>2</sub>
8-3/4"	7"	20#	+/- 4419'	~1189 cu.ft. 65/35 poz & ~70 cu.ft. Type II
6-1/4"	4-1/2"	10.5#	+/- 4319'-6934"	~317 cu.ft. Prem. Lite HS w/ additives

Williams Production Company proposes to drill a <sup>directional</sup> ~~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 approximately 1850' of new road. This well will share a location with the Rosa Unit #169C. This new road will go East across the SW qtr sec 2, T31N, R6W where it joins an existing road. This road then goes South through the SW qtr sec 2 and the E/2 sec 11, T31N, R6W where it joins the main "Rosa Road in the SE qtr sec 11, T31N, R6W.

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 Larry Higgins TITLE Larry Higgins, Drlg COM DATE 8/17/2004

(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:

APPROVED BY [Signature] TITLE AFM DATE 9-17-04

\*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.

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".

HOLD C104 FOR Directional Survey

District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer 00, 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>30039-27714</b>		*Pool Code 72319	*Pool Name BLANCO MESAVERDE
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 181C
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6404'

#### 10 Surface Location

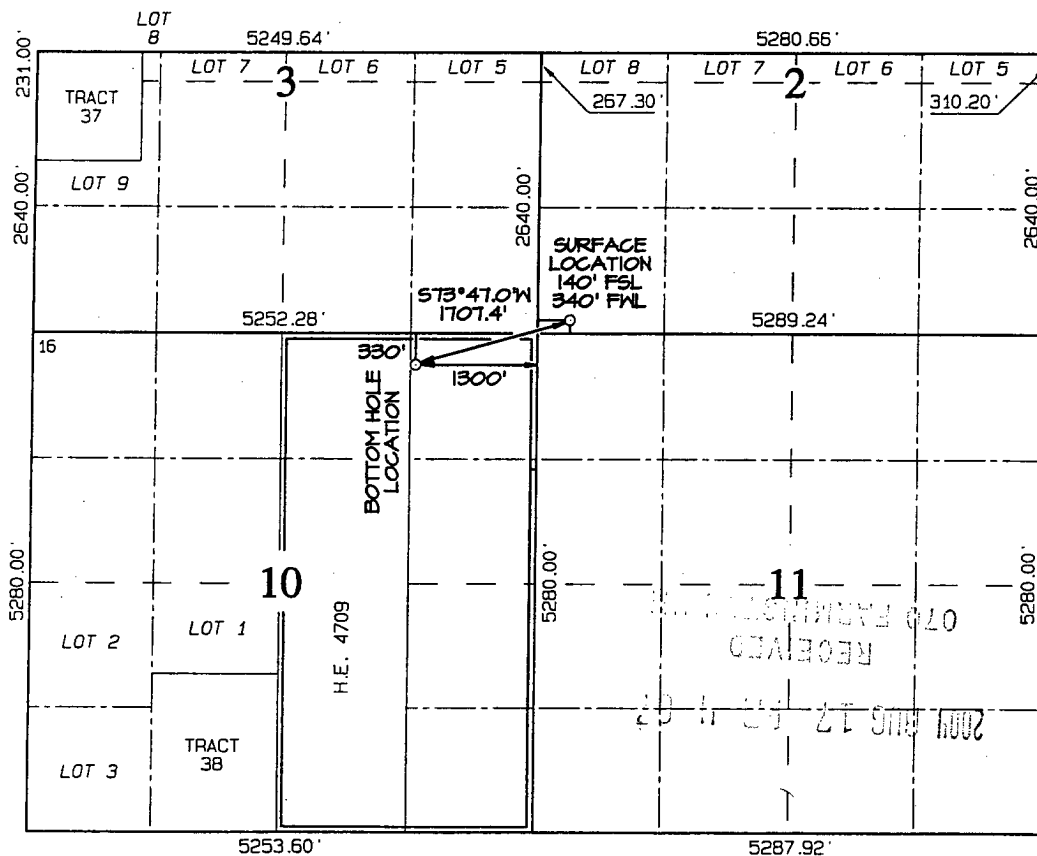
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	2	31N	6W		140	SOUTH	340	WEST	RIO ARriba

#### 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
A	10	31N	6W		330	NORTH	1300	EAST	RIO ARriba

12 Dedicated Acres 320.0 Acres - E/2 Section 10	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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

Signature: Larry Higgins  
Printed Name: LARRY HIGGINS  
Title: DRILLING COM  
Date: 8-13-04

#### 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.

Date Revised: MAY 9, 2004  
Survey Date: FEBRUARY 5, 2004  
Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

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

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

WELL API NO.

5. Indicate Type of Lease  
Federal

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Rosa Unit

8. Well Number 169C/181C

9. OGRID Number 120782

10. Pool name or Wildcat  
Basin Fruitland Coal

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: Gas Well ☒ ☐

2. Name of Operator

Williams Production Company

3. Address of Operator

P.O. Box 316, Ignacio, CO 81137

4. Well Location

Unit Letter M : 140 feet from the South line and 340 feet from the West line

Section 2 Township 31N Range 6W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6404' GR

Pit or Below-grade Tank Application ☒ ☐

Pit type Drilling Depth to Groundwater >100' Distance from nearest fresh water well >1000' Distance from nearest surface water 800'

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 ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

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

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.

Reserve pit to be constructed in accordance with NMOCD Interim Pit and Below-Grade Tank Guidelines

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 XX, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Larry Higgins TITLE Drilling COM DATE 8-13-04  
7-23-2004

Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 08 DATE SEP 17 2004

Conditions of Approval (if any):

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

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

Form C-103

May 27, 2004

WELL API NO.

5. Indicate Type of Lease  
Federal

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Rosa Unit

8. Well Number 169C/181C

9. OGRID Number 120782

10. Pool name or Wildcat  
Basin Fruitland Coal

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Section 2 Township 31N Range 6W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6404' GR

Pit or Below-grade Tank Application ☒

Pit type Production Depth to Groundwater >100' Distance from nearest fresh water well >1000' Distance from nearest surface water 800'

Pit Liner Thickness: mil Below-Grade Tank: Volume bbls; Construction Material Fiberglass

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 ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ P AND A ☐

CASING/CEMENT JOB ☐

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.

Below-grade tank to be constructed in accordance with NMOCD Interim Pit and Below-Grade Tank Guidelines

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 XX, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Larry Higgins TITLE Drilling COM DATE 7-13-04  
7-23-2004

Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

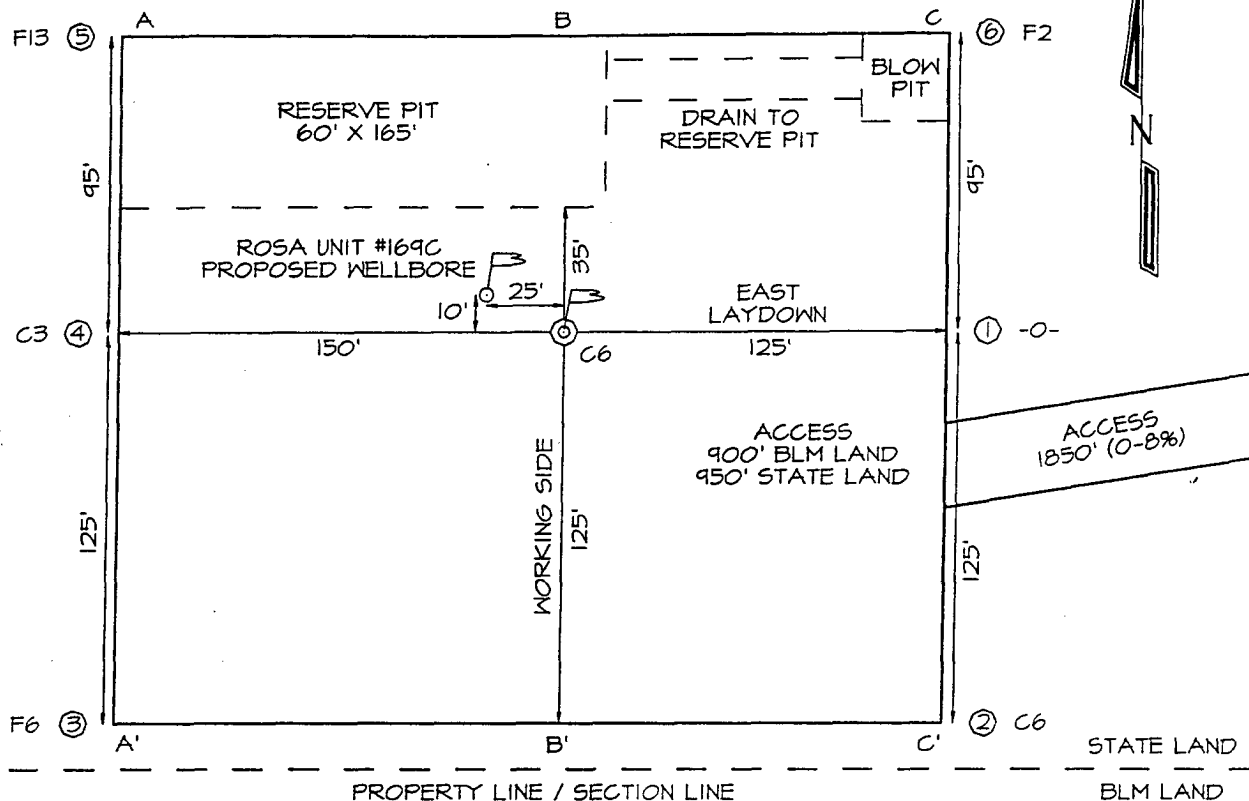
**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

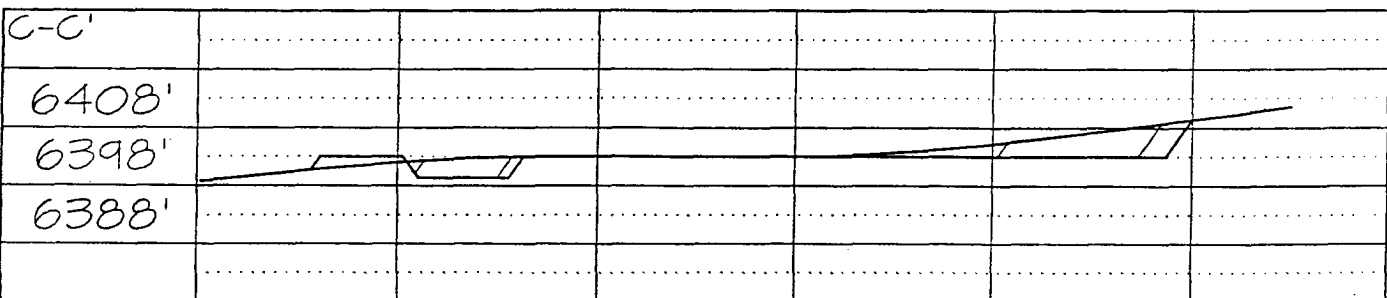
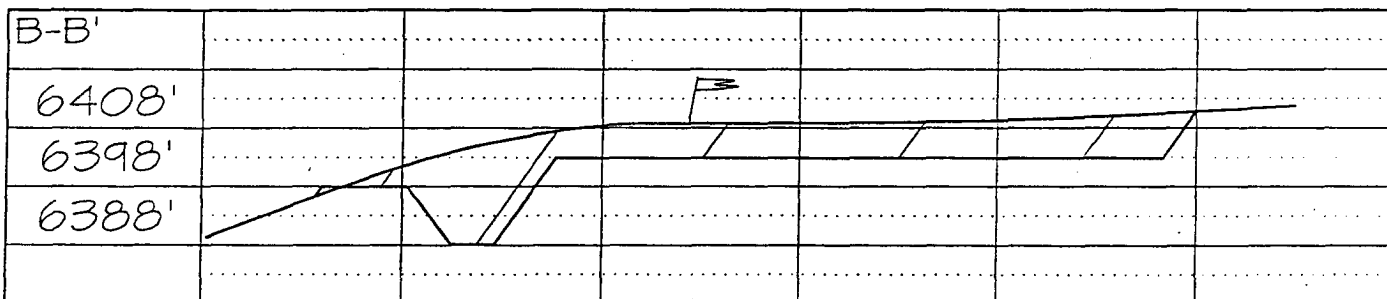
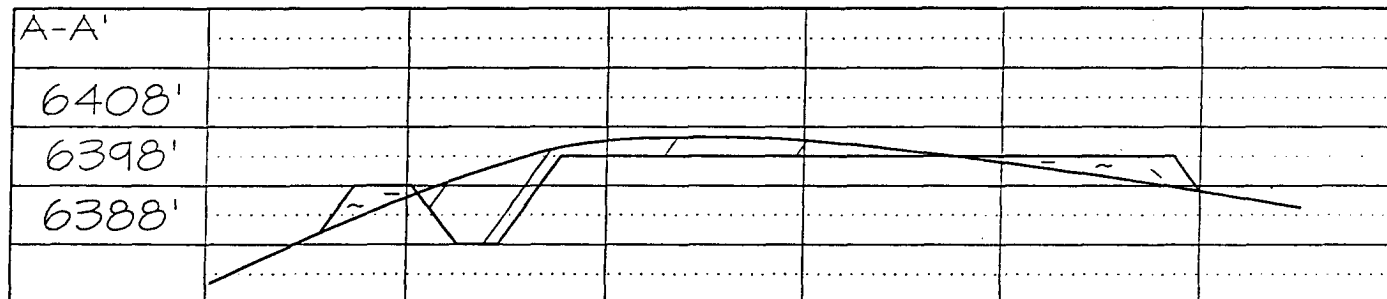
Conditions of Approval (if any): \_\_\_\_\_

**WILLIAMS PRODUCTION COMPANY ROSA UNIT #181C**  
**140' FSL & 340' FWL, SECTION 2, T31N, R6W, NMPM**  
**RIO ARriba COUNTY, NEW MEXICO**  
**GROUND ELEVATION: 6404'**

LATITUDE: 36°55'18"  
 LONGITUDE: 107°26'22"  
 DATUM: NAD1927



**Plat #2 - Cut & Fill**





## WILLIAMS PRODUCTION COMPANY

### Operations Plan

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

<b><u>DATE:</u></b>	8/11/2004	<b><u>FIELD:</u></b>	Blanco MV
<b><u>WELL NAME:</u></b>	Rosa Unit #181C	<b><u>SURFACE:</u></b>	State
<b><u>BH LOCATION:</u></b>	NENE Sec 10-31N-6W Rio Arriba, NM	<b><u>MINERALS:</u></b>	Fed
<b><u>SURF. LOCATION:</u></b>	SWSW Sec 2-31N-6W		
<b><u>ELEVATION:</u></b>	6,404' GR	<b><u>LEASE #</u></b>	SF-078765
<b><u>MEASURED DEPTH:</u></b>	6,794'		

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

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

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,388	2,822	Cliff House	5,438	5,964
Kirtland	2,493	2,946	Menefee	5,483	6,009
Fruitland	2,933	3,436	Point Lookout	5,703	6,229
Picture Cliffs	3,188	3,705	Mancos	6,038	6,465
Lewis	3,508	4,032	TD	6,178	6,704

##### **B. MUD LOGGING PROGRAM:** None

##### **C. LOGGING PROGRAM:** Cased Hole Logs

##### **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 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. &amp; GRADE</u>
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 4,419'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 4,319'-6,934'	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: 150sx (205 cu.ft.) of "Type III" + 2% CaCl<sub>2</sub> + 1/4 # 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 - 505 sx (1,050 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 - 100 sx (139cu.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 = 1,189 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
3. PRODUCTION LINER: 10 bbl Gelled Water space. Lead: 50sx (130ft<sup>3</sup>) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE. (Yield = 2.59 cu.ft./sk, Weight = 11.6 #/gal.). Tail: 90 sx (187 ft<sup>3</sup>) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, 1/4 #/sk cello flake and 4% Phenoseal. (Yield = 2.15 ft<sup>3</sup>/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 322 ft<sup>3</sup>. WOC 12 hours

# 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)

**BOP Stack**

Rotating Head (optional)

Fill Line

Mud Flow to Pit

Double Ram Preventer

Drilling Spool

Kill line (2" Min)

Choke line to Manifold (2" Min)

Ground Level

Casing Head

Bull Plug

Ball Valve 2000 psi WP

Surface Casing

Production Casing

**Choke & Kill Manifold**

Positive Choke

Bypass to  
Steel Pit  
(Optional)

2" Minimum Size

Pressure Gauge

From BOP  
Stack

Straight-thru  
to Tank or Pit

2" Minimum Size

2" Minimum Size

Working Pressure for all equipment  
is 2,000 psi or greater

2" Minimum Size

To Tank or Pit

Adjustable  
Choke

