

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

2004 JUL 27

5. LEASE DESIGNATION AND SERIAL NO.

PM 3F-028772

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

1b. TYPE OF WELL

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

7. UNIT AGREEMENT NAME

Rosa Unit

8. FARM OR LEASE NAME, WELL NO.

44C

2. NAME OF OPERATOR

Williams Production Company, LLC

3. ADDRESS OF OPERATOR

P. O. Box 316 - Ignacio, CO 81137 (970) 563-3333

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

At Surface 1660' FSL &amp; 1390' FWL

At proposed Prod. Zone 330' FSL &amp; 330' FWL

9. API WELL NO.

30039 27846

10. FIELD AND POOL OR WILDCAT

Blanco Mesa Verde

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

K Sec. 35, T32N, R6W (M)

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

26 miles NE of Blanco, NM

12. COUNTY OR PARISH

Rio Arriba ✓

13. STATE

NM

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

330'

16. NO. OF ACRES IN LEASE

2561.86

17. NO. OF ACRES ASSIGNED TO THIS WELL

320.0 (W/2)

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

125'

19. PROPOSED DEPTH

6574'

20. ROTARY OR CABLE TOOLS

Rotary

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

6319' GR

22. APPROX. DATE WORK WILL START\*

August 26, 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"	36.0#	+/- 250'	~205 cu.ft. Type III with 2% CaCl <sub>2</sub>
8-3/4"	7"	20.0#	+/- 4303'	~1153 cu.ft. 65/35 poz & ~70 cu.ft. Type II
6-1/4"	4-1/2"	10.5#	+/- 4203'-6574'	~309 cu.ft. Premium Light HS

Williams Production Company proposes to drill a well to develop the Blanco Mesa Verde formation at the above described location in accordance with the attached drilling and surface use plans. The surface is under the jurisdiction of the Bureau of Land Management (BLM).

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 road and pipeline right-of-ways. This well will require no new access road (see Pipeline & Well Plats #3 & #4). This well will be on the existing site of the Rosa Unit #44. This well is accessed by an existing road that crosses the S/2 of sec 35, the SW qtr, NW qtr and NE qtr sec 36, T32N, R6W and the NW qtr sec 31, T32N, R5W where it connects with the "Rosa Road".

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 7/27/2004

(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

TITLE

DATE

\*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 AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

NMOC

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  
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 <b>30-039-27846</b>		*Pool Code 72319	*Pool Name BLANCO MESAVERDE
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 44C
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6319'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	35	32N	6W		1660	SOUTH	1390	WEST	RIO ARriba

<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
M	35	32N	6W		330	SOUTH	330	WEST	RIO ARriba

<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.
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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

<p>Diagram details: A survey plat for Section 35, Township 32N, Range 6W. It shows a 'LEASE SF-078772' covering a portion of the section. A 'SURFACE LOCATION' is marked at the intersection of a 1390' horizontal line and a 1660' vertical line. A 'BOTTOM-HOLE' location is marked at the intersection of a 330' horizontal line and a 330' vertical line. A bearing of S37°54.3'W and a distance of 1694.0' are shown between the surface and bottom-hole locations. The section is bounded by 2632.74' and 2657.82' on the top, and 2691.48' and 2696.76' on the bottom. The section number '35' is prominently displayed in the center.</p>	<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</p> <p><i>Larry Higgins</i> Signature</p> <p>LARRY HIGGINS Printed Name</p> <p>DAILLING COM Title</p> <p>7-27-04 Date</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 of Survey: MAY 21, 2004</p> <p>Signature and Seal of Professional Surveyor</p> <div style="text-align: center;"><p>JASON C. EDWARDS Certificate Number 15269</p></div>

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

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (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.)		WELL API NO.
1. Type of Well: Gas Well <input checked="" type="checkbox"/> <input type="checkbox"/>		5. Indicate Type of Lease Federal
2. Name of Operator Williams Production Company		6. State Oil & Gas Lease No.
3. Address of Operator P.O. Box 316, Ignacio, CO 81137		7. Lease Name or Unit Agreement Name Rosa Unit
4. Well Location Unit Letter K : 1660 feet from the South line and 1390 feet from the West line Section 35 Township 32N Range 6W NMPM County Rio Arriba		8. Well Number 44C
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6319' GR		9. OGRID Number 120782
Pit or Below-grade Tank Application <input checked="" type="checkbox"/>		
Pit type <u>Drilling</u> Depth to Groundwater <u>&gt;100'</u> Distance from nearest fresh water well <u>&gt;1000'</u> Distance from nearest surface water <u>&gt;1000'</u>		
Pit Liner Thickness: <u>12</u> mil Below-Grade Tank: Volume <u>    </u> bbls; Construction Material <u>    </u>		

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 7-27-2004

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. 28 DATE SEP - 7 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

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May 27, 2004

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 44C

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 K : 1660 feet from the South line and 1390 feet from the West line

Section 35 Township 32N Range 6W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6319' 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 >1000'

Pit Liner Thickness: mil Below-Grade Tank: Volume 120 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 7-27-2004

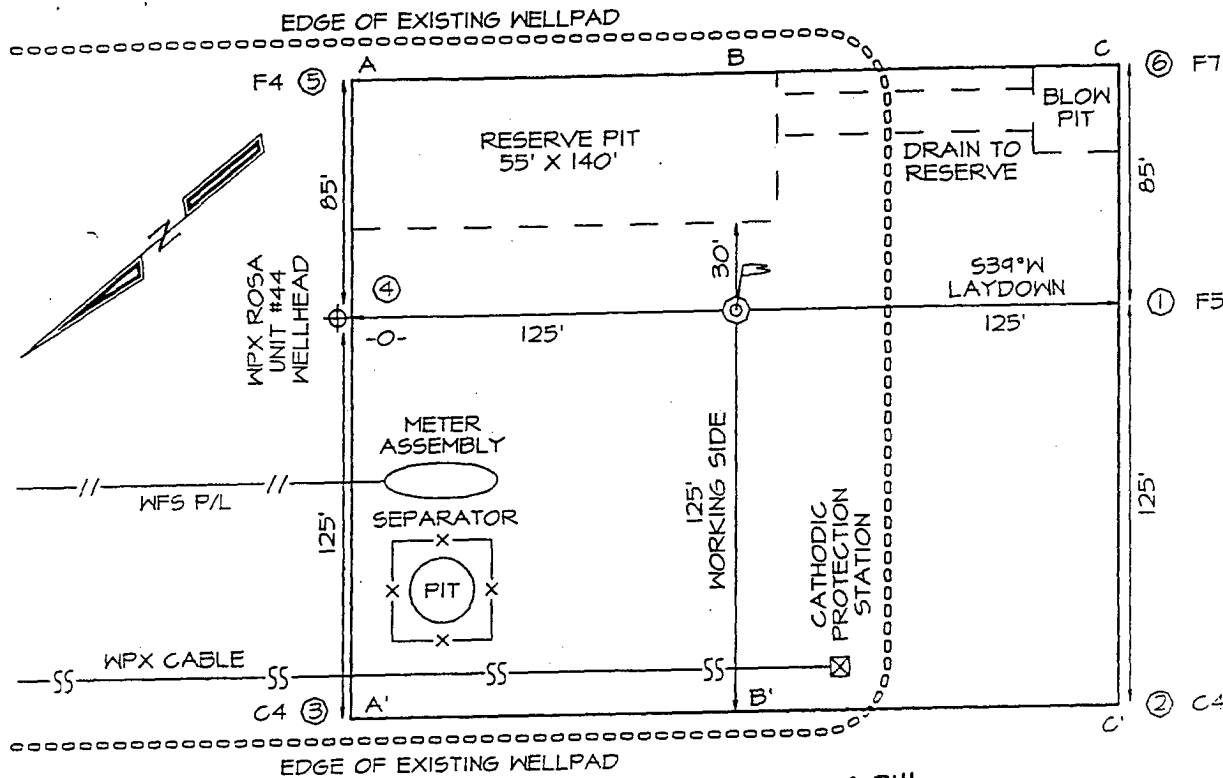
Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

For State Use Only

APPROVED BY: [Signature] TITLE \_\_\_\_\_ DATE \_\_\_\_\_

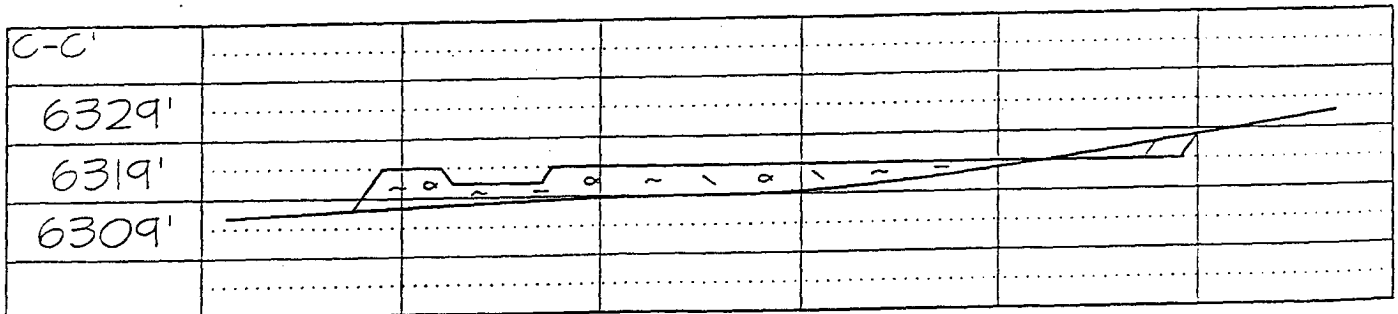
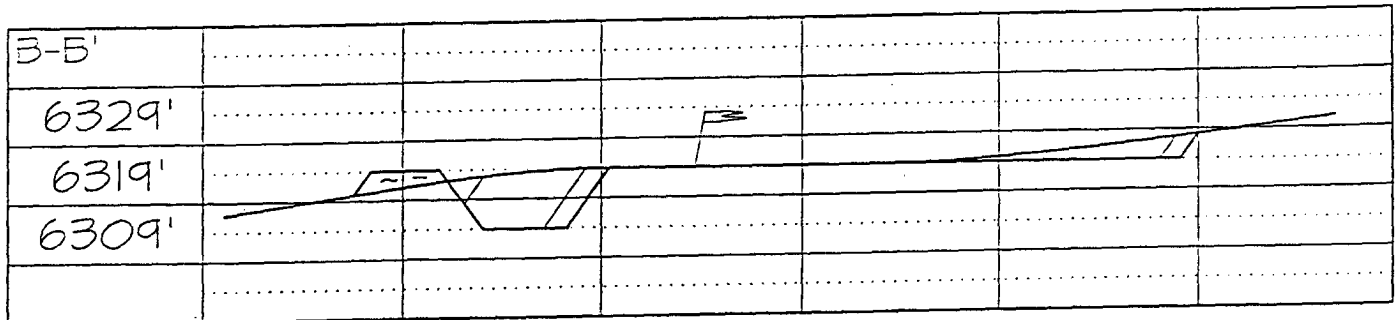
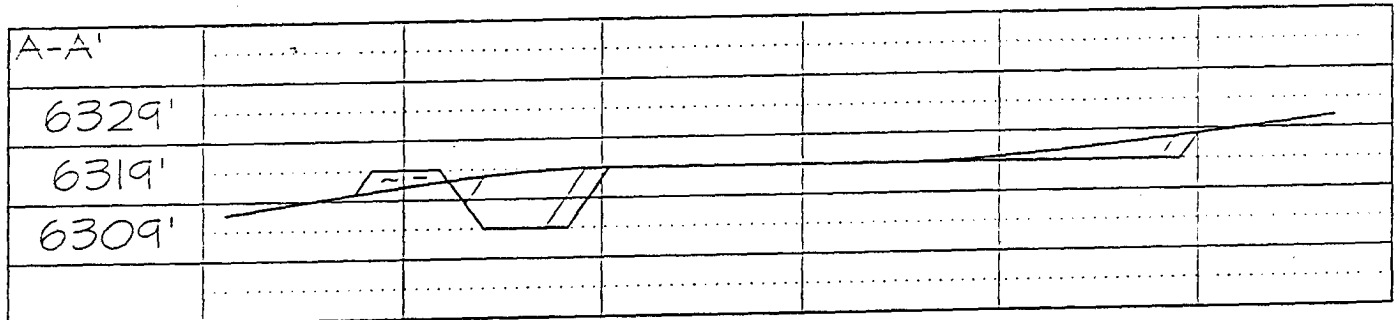
Conditions of Approval (if any): [Signature]

**WILLIAMS PRODUCTION COMPANY ROSA UNIT #44C**  
**1660' FSL & 1390' FWL, SECTION 35, T32N, R6W, NMPM**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6319'**



**LATITUDE: 36°56'02"**  
**LONGITUDE: 107°25'51"**  
 DATUM: NAD1927

**Plat #2 - Cut & Fill**





## WILLIAMS PRODUCTION COMPANY

### Operations Plan

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

**DATE:** 7/23/2004 **FIELD:** Blanco MV  
**WELL NAME:** Rosa Unit #44C **SURFACE:** BLM  
**BH LOCATION:** SWSW Sec 35-32N-6W **MINERALS:** FED  
Rio Arriba, NM  
**SURF. LOCATION:** NESW Sec 35-32N-6W  
**ELEVATION:** 6,319' GR **LEASE #** SF-078772  
**MEASURED DEPTH:** 6,574'

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

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

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,336	2,738	Cliff House	5,361	5,864
Kirtland	2,446	2,870	Menefee	5,404	5,909
Fruitland	2,861	3,336	Point Lookout	5,596	6,099
Picture Cliffs	3,126	3,617	Mancos	5,921	6,424
Lewis	3,436	3,936	TD	6,071	6,574

##### **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"	+/- 250'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 4303'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 4203'-6574'	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 - 550 sx (1153) 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 - 50 sx (70cu.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 = 1133 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, 1/4 #/sk cello flake. (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 309 ft<sup>3</sup>. WOC 12 hours

#### 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 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 Gary Sizemore  
Sr. Drilling 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)

**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

2" Minimum Size

Bypass to  
Steel Pit  
(Optional)

From BOP  
Stack

2" Minimum Size

Pressure Gauge

Straight-thru  
to Tank or Pit

2" Minimum Size

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

2" Minimum Size

To Tank or Pit

Adjustable  
Choke

