

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK <b>DRILL</b> <input checked="" type="checkbox"/> <b>DEEPEN</b> <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. <i>Jicarilla Apache Contract #60</i>	
1b. TYPE OF WELL <b>OIL</b> <input type="checkbox"/> <b>GAS</b> <input checked="" type="checkbox"/> <b>OTHER</b> <input type="checkbox"/> <b>SINGLE</b> <input checked="" type="checkbox"/> <b>MULTIPLE</b> <input type="checkbox"/> <b>WELL</b> <input type="checkbox"/> <b>WELL</b> <input type="checkbox"/> <b>ZONE</b> <input type="checkbox"/> <b>ZONE</b> <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME <i>Jicarilla Apache Nation</i>	
2. NAME OF OPERATOR <i>Williams Production Company LLC</i>		7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR <i>P.O. Box 316 - Ignacio, CO 81137 (970) 563-3308</i>		8. FARM OR LEASE NAME, WELL NO. <i>Indian "H" #4</i>	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements*) At Surface <i>870' FNL &amp; 1085' FWL</i> At proposed Prod. Zone		9. API WELL NO. <i>3003929288</i>	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* <i>21 miles NE of Lindrith, NM</i>		10. FIELD AND POOL OR WILDCAT <i>Blanco Mesa Verde</i>	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) <i>870'</i>		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <i>D Sec. 22, T28N, R3W</i>	
16. NO. OF ACRES IN LEASE <i>2560</i>		12. COUNTY OR PARISH <i>Rio Arriba</i>	
17. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. <i>1950'</i>		13. STATE <i>NM</i>	
18. PROPOSED DEPTH <i>6423'</i>		14. NO. OF ACRES ASSIGNED TO THIS WELL <i>320.00 w/p</i>	
19. ROTARY OR CABLE TOOLS <i>Rotary</i>		20. APPROX. DATE WORK WILL START* <i>September 1, 2004</i>	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) <i>6994 7048 GR</i>		22. APPROX. DATE WORK WILL START*	
23. PROPOSED CASING AND CEMENTING PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH
12-1/4"	9-5/8"	36.0#	~250 ft
8-3/4"	7"	20.0#	~4304 ft
6-1/4"	4-1/2"	10.5#	~4204'-6423' ft
QUANTITY OF CEMENT			
~205 cu.ft. Type III with 2% CaCl <sub>2</sub>			
~1016 cu.ft. 65/35 poz & ~139 cu.ft. Type III			
~290 cu.ft. Premium Light w/ additives			

Williams Production Company 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 Velarde Energy Service. 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 be accessed by an existing road that ties in J-62 in the NW qtr se, 22, T28N, R3W

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 4/28/2004

(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 2-17-05

\*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"

NMOCD

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>30-039-29288</b>	*Pool Code <b>72319</b>	*Pool Name <b>BLANCO MESAVERDE</b>
*Property Code <b>19030</b>	*Property Name <b>INDIAN H</b>	*Well Number <b>4</b>
*GRID No. <b>120782</b>	*Operator Name <b>WILLIAMS PRODUCTION COMPANY</b>	*Elevation <b>6995'</b>

<sup>10</sup> Surface Location

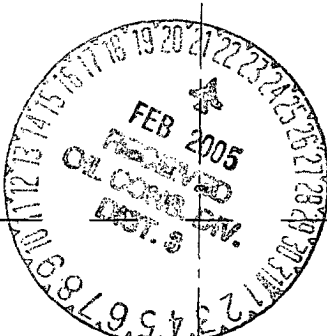
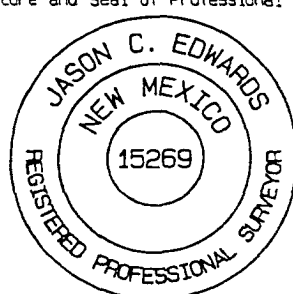
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>D</b>	<b>22</b>	<b>28N</b>	<b>3W</b>		<b>870</b>	<b>NORTH</b>	<b>1085</b>	<b>WEST</b>	<b>RIO ARriba</b>

<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 <b>320.0 Acres - (W/2)</b>	<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

<sup>16</sup> 5274.72' 870' 1085' 5280.00' 22 5265.48'		<sup>17</sup> 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>4-28-04</u> Date
		<sup>18</sup> 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: <u>SEPTEMBER 14, 2003</u> Signature and Seal of Professional Surveyor  <u>JASON C. EDWARDS</u> Certificate Number 15269

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  
March 4, 2004

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

WELL API NO.  
**3003929288**

5. Indicate Type of Lease  
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name  
**Jicarilla Apache Contract #60**

8. Well Number  
**Indian H 4**

9. OGRID Number  
**120782**

9. Pool name or Wildcat  
**Blanco MV**

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**

3. Address of Operator  
**PO BOX 3102 Tulsa, OK 74101**

4. Well Location

**Unit Letter D : 870 feet from the N line and 1085 feet from the West line**

Section **22** Township **28N** Range **3W** NMPM County **Rio Arriba**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
**7048' GR**

**Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)**

Pit Location: UL **D** Sect **22** Twp **28N** Rng **3W** Pit type **Drilling** Depth to Groundwater **>50 feet** Distance from nearest fresh water **>1000 ft**

Distance from nearest surface water **<500 feet** Below-grade Tank Location UL \_\_\_\_\_ Sect \_\_\_\_\_ Twp \_\_\_\_\_ Rng \_\_\_\_\_ ;

GPS: Long: - Lat

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 COMPLETION ☐

OTHER: **New Drill Pit** ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND 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.


**Drilling pit to be located approximately 50 feet from well head. Pit to be lined, 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 X, a general permit X or an (attached) alternative OCD-approved plan ☐.

SIGNATURE  TITLE **EH&S Specialist** DATE **2/22/05**

Type or print name **Michael K. Lane** E-mail address: **myke.lane@williams.com** Telephone No. **970-563-3319**

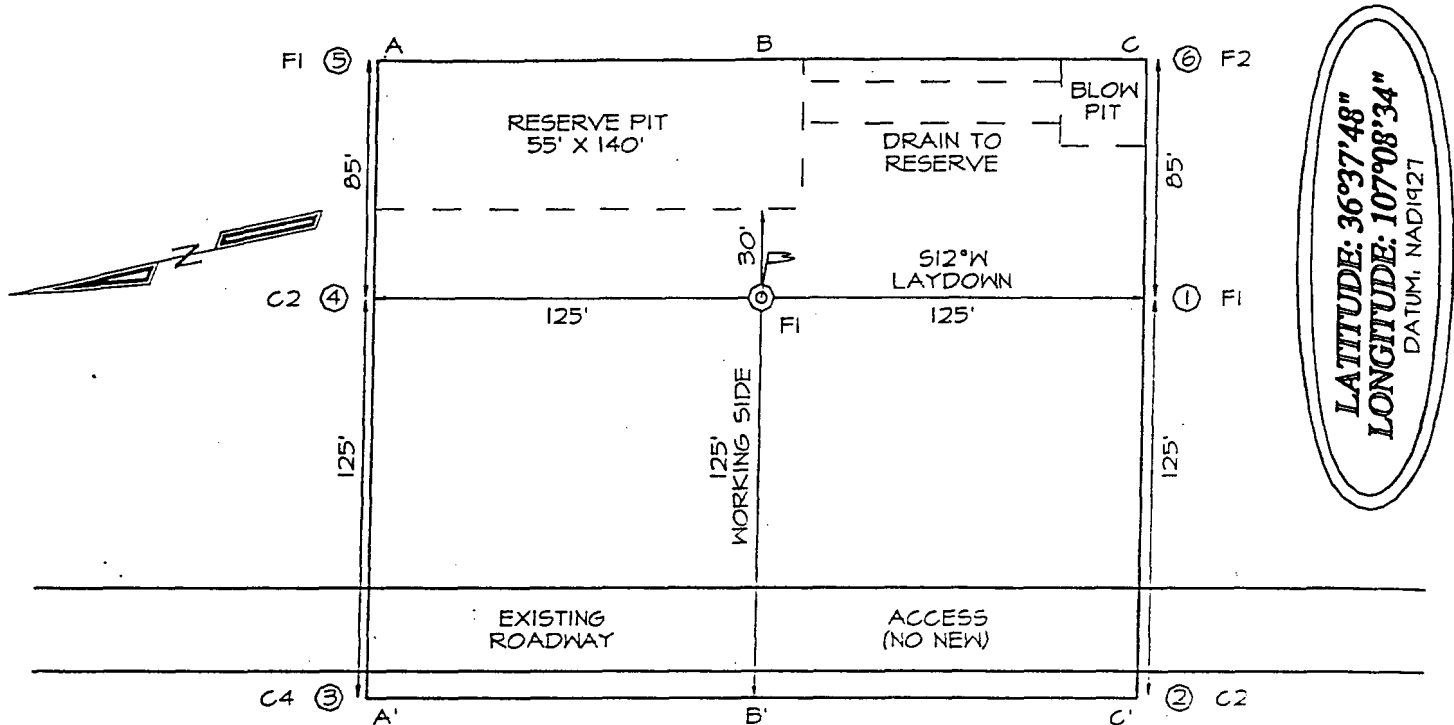
(This space for State use)

APPROVED BY  TITLE **DEPUTY OIL & GAS INSPECTOR, DIST. 03**

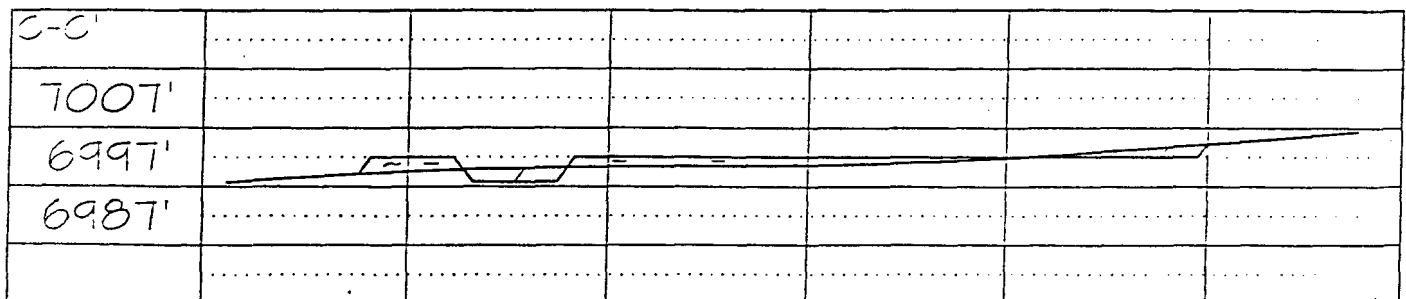
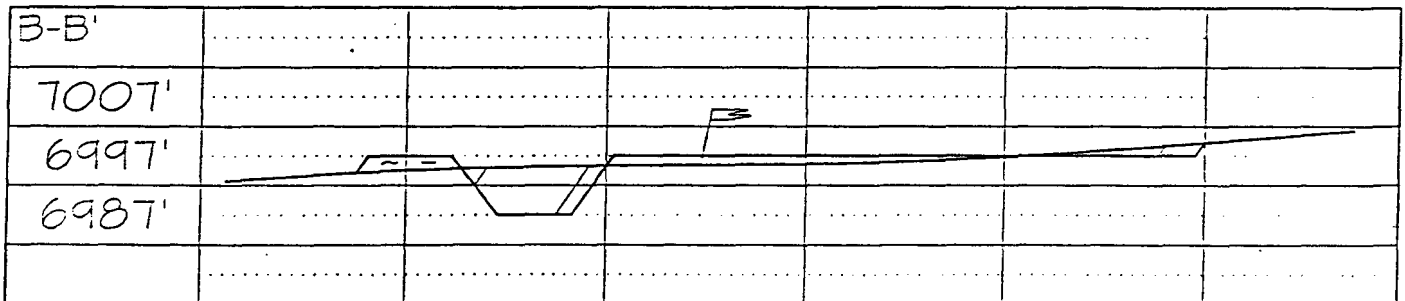
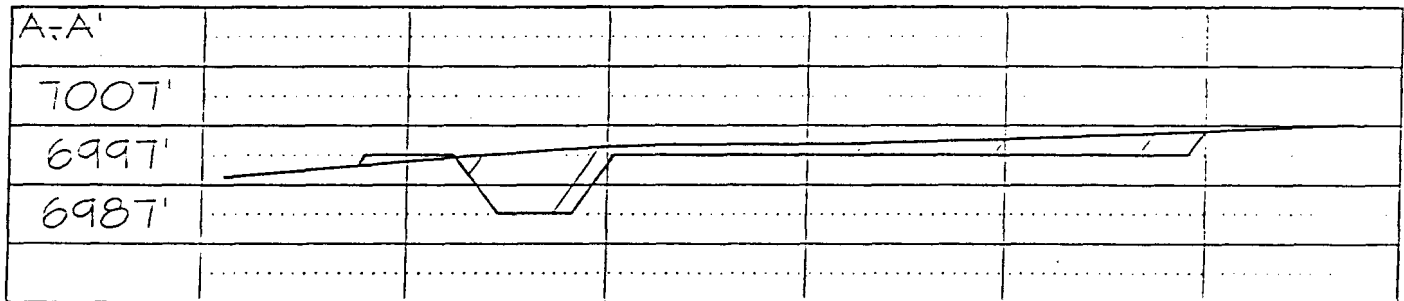
DATE **FEB 22 2005**

Conditions of approval, if any:

**WILLIAMS PRODUCTION COMPANY INDIAN H #4**  
**870' FNL & 1085' FWL, SECTION 22, T28N, R3W, NMMP**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6996'**



**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>	11/17/2003	<b><u>FIELD:</u></b>	Blanco MV
<b><u>WELL NAME:</u></b>	Indian H #4	<b><u>SURFACE:</u></b>	Jicarilla
<b><u>LOCATION:</u></b>	NWNW Sec 22-28N-3W Rio Arriba, NM	<b><u>MINERALS:</u></b>	Jicarilla
<b><u>ELEVATION:</u></b>	7048' GR	<b><u>LEASE #</u></b>	Jicarilla Apache Contract #60
<b><u>MEASURED DEPTH:</u></b>	6423'		

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

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

Ojo Alamo	3,300	Cliff House	5,679
Kirtland	3,454	Menefee	5,743
Fruitland	3,454	Point Lookout	5,973
Picture Cliffs	3,644	TD	6,423
Lewis	4,029		

**B. MUD LOGGING PROGRAM:** Mud logger on location from approximately 3,000' to intermediate casing point.

**C. LOGGING PROGRAM:** High Resolution Induction/ GR and Density/ Neutron log from surface to intermediate casing point and High Resolution Induction/ GR and Density/ Neutron log from intermediate shoe to TD. 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 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"	+/- 4304'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 4204'-6423'	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 - 485 sx (1016) 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 = 1155 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: 80 sx (167 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 285 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.

*Larry Higgins*  
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)

