

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

2005 JUN 3 AM 10 29

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☒

RECEIVED

2. NAME OF OPERATOR

Williams Production Company, LLC

3. ADDRESS AND TELEPHONE NO.

P.O. Box 316— Ignacio, Colorado 81137-0316

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

At surface

1,740' FNL, 2,255' FWL SE/4 NW/4 Lot 1 (F)

At proposed prod. zone

1,740' FNL, 2,255' FWL SE/4 NW/4 Lot 1 (F)

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

12.65 miles NE of Navaho City, NM

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any)

+/- 1,740'

16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320 acres

N/A

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

+/- 100'

19. PROPOSED DEPTH

+/- 6,196' MD

20. ROTARY OR CABLE TOOLS

Rotary

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

6,427' GR

22. APPROX. DATE WORK WILL START\*

August 1, 2005

23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | GRADE, SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH    | QUANTITY OF CEMENT  |
|--------------|-----------------------|-----------------|------------------|---|
| 12-1/4"      | 9-5/8" K-55           | 36#             | +/- 300'         | 150 sacks Type III cement + 2% CaCl <sub>2</sub> + 1/4 #/sk. Cello-Flakes |
| 8-3/4"       | 7" K-55               | 20#             | +/- 3,771'       | 475 sacks Lead and 50 sacks Tail (see Drilling Plan)                      |
| 6-1/4"       | 4-1/2" K-55           | 10.5#           | +/- 3,671-6,196' | 50 sacks Lead and 100 sacks Tail (see Drilling Plan)                      |

Other Information:

Drilling Plan, Surface Use Plan and pit application are attached.



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data 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 Don Hamilton Don Hamilton TITLE Agent for Williams

DATE May 31, 2005

(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 or the

DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

This action is subject to technical and  
procedural review pursuant to 43 CFR 3165.9  
and appeal pursuant to 43 CFR 3165.10

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<br><b>30-045-33086</b> |  | *Pool Code<br><b>72319</b> | *Pool Name<br><b>BLANCO MESAVERDE</b> |
| *Property Code<br><b>17033</b>     | *Property Name<br><b>ROSA UNIT</b>                   |                            | *Well Number<br><b>145C</b>           |
| *GRID No.<br><b>120782</b>         | *Operator Name<br><b>WILLIAMS PRODUCTION COMPANY</b> |                            | *Elevation<br><b>6427'</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>F</b>      | <b>16</b> | <b>31N</b> | <b>6W</b> |         | <b>1740</b>   | <b>NORTH</b>     | <b>2255</b>   | <b>WEST</b>    | <b>SAN JUAN</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<br><b>320.0 Acres - (N/2)</b> |         |          |       |         | <sup>13</sup> Joint or Infill |                  | <sup>14</sup> Consolidation Code |                | <sup>15</sup> 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

|                                    |  |                    |  |
|------------------------------------|--|--------------------|--|
| <b>2638.68'</b>                    |  | <b>2638.68'</b>    |  |
| <i>state lease<br/>EO 03460022</i> |  | <i>EO 03460022</i> |  |
| <b>LOT 1</b>                       |  | <b>LOT 2</b>       |  |
| <b>LOT 3</b>                       |  |                    |  |
| <b>2255'</b>                       |  | <b>2255'</b>       |  |
| <i>EO 03460022</i>                 |  | <i>EO 03460022</i> |  |
| <b>5280.00'</b>                    |  | <b>5280.00'</b>    |  |
| <b>LEASE 16</b>                    |  | <b>STATE E-346</b> |  |
| <b>TRACT 40</b>                    |  | <b>TRACT 39</b>    |  |
| <b>5280.00'</b>                    |  | <b>5280.00'</b>    |  |

<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  
**Don Hamilton**  
Signature  
**Don Hamilton**  
Printed Name  
**Agent**  
Title  
**May 31, 2005**  
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  
Date of Survey: **MARCH 11, 2005**  
Signature and Seal of Professional Surveyor  
**JASON C. EDWARDS**  
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  
May 27, 2004

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

|  |
|--|
| WELL API NO. <u>30-045-33086</u>   |
| 5. Indicate Type of Lease Federal<br>STATE <input type="checkbox"/> FEE <input type="checkbox"/> |
| 6. State Oil & Gas Lease No.<br>SF-078766  |
| 7. Lease Name or Unit Agreement Name<br>Rosa Unit  |
| 8. Well Number 145C  |
| 9. OGRID Number<br>120782  |
| 10. Pool name or Wildcat<br>Blanco MV  |

Pit or Below-grade Tank Application ☐ or Closure ☐

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

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbbls 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  
999 Goddard Ave, Ignacio, CO 81137

4. Well Location  
Unit Letter F : 1,740 feet from the N line and 2,255 feet from the W line  
Section 16 Township 31N Range 6W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6427' GL

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.

Pit to be located approximately 50 to 75 feet from well head. Pit will be for 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.

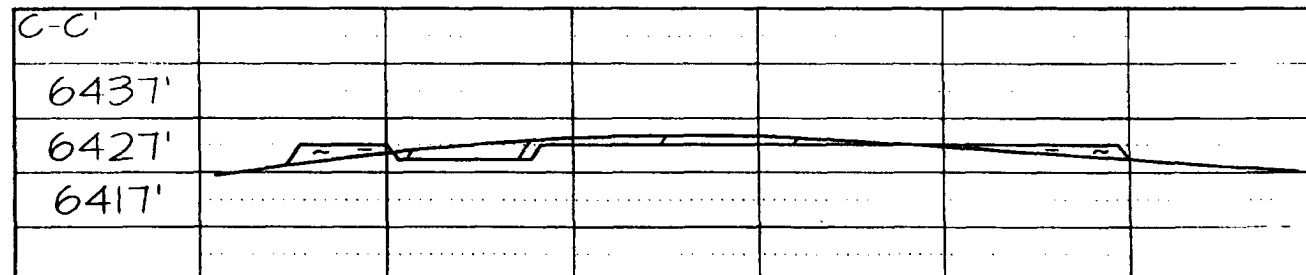
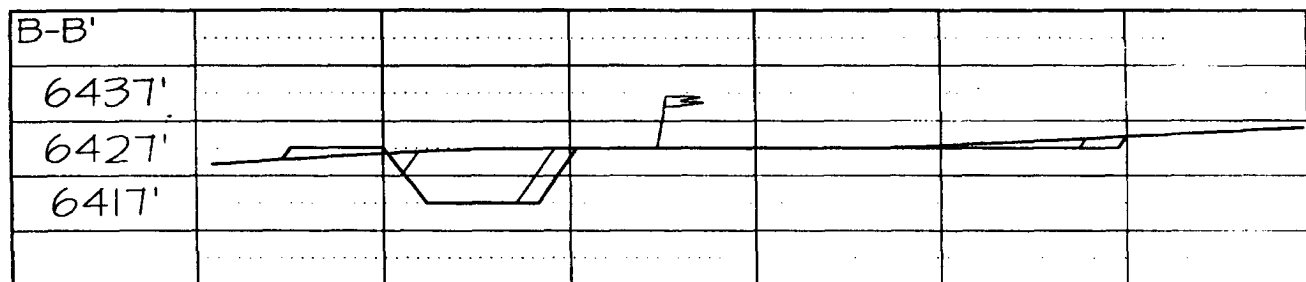
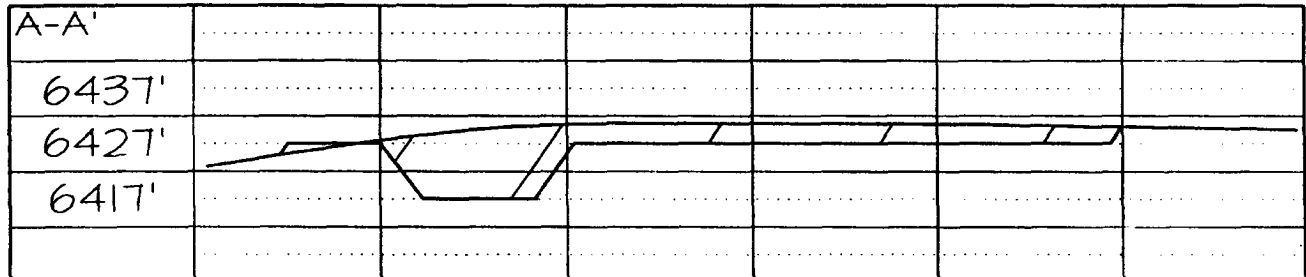
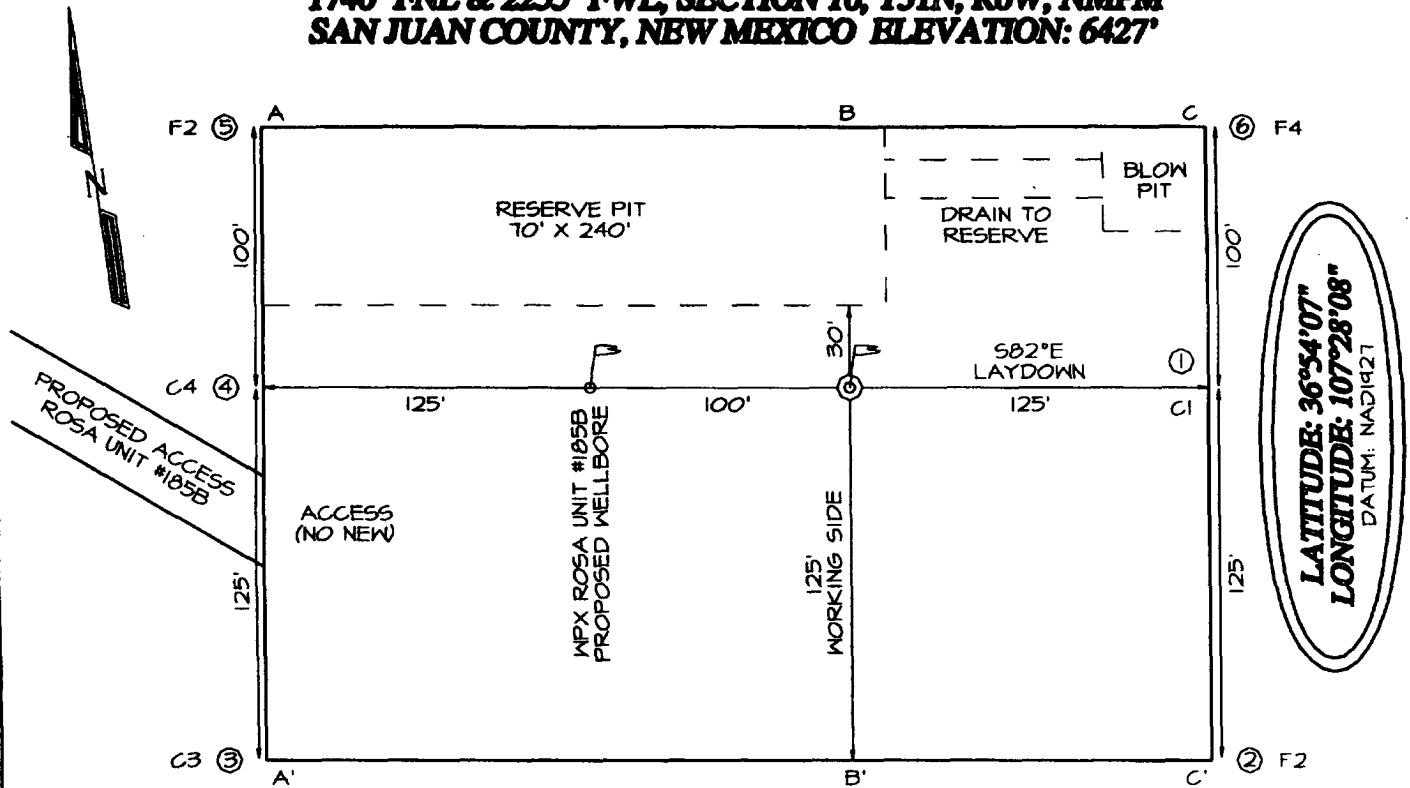
I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Don Hamilton TITLE Agent DATE 5/31/05

Type or print name Don Hamilton E-mail address: starpoin@etv.net Telephone No. 435-719-2018  
For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 03 DATE DEC 02 2005  
Conditions of Approval (if any):

**WILLIAMS PRODUCTION COMPANY ROSA UNIT #145C**  
**1740' FNL & 2255' FWL, SECTION 16, T31N, R6W, NMPM**  
**SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6427'**





## **WILLIAMS PRODUCTION COMPANY**

### **Operations Plan**

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

|                               |                                    |                         |           |
|-------------------------------|------------------------------------|-------------------------|-----------|
| <b><u>DATE:</u></b>           | 5/30/2005                          | <b><u>FIELD:</u></b>    | Blanco MV |
| <b><u>WELL NAME:</u></b>      | Rosa #145C                         | <b><u>SURFACE:</u></b>  | BLM       |
| <b><u>BH LOCATION:</u></b>    | SENW Sec 16-31N-6W<br>San Juan, NM | <b><u>MINERALS:</u></b> | BLM       |
| <b><u>ELEVATION:</u></b>      | 6,427' GR                          | <b><u>LEASE #</u></b>   | SF-078766 |
| <b><u>MEASURED DEPTH:</u></b> | 6,196'                             |                         |           |

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

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

| <b>Name</b>    | <b>MD</b> | <b>Name</b>   | <b>MD</b> |
|----------------|-----------|---------------|-----------|
| Ojo Alamo      | 2,446     | Cliff House   | 5,466     |
| Kirtland       | 2,556     | Menefee       | 5,516     |
| Fruitland      | 2,941     | Point Lookout | 5,746     |
| Picture Cliffs | 3,296     | Mancos        | 6,046     |
| Lewis          | 3,611     | TD            | 6,196     |

##### **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"           | +/- 3,771'        | 7"                 | 20# K-55               |
| Prod. Liner        | 6-1/4"           | +/- 3,671'-6,196' | 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 (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.

#### 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 - 475 sx (993) 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 = ~~1,022~~ <sup>1,022</sup> 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: 100 sx (215 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 ~~330~~ <sup>346</sup> 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.

Gary Sizemore  
Sr. Drilling Engineer

## Well Control Equipment Schematic for 2M Service

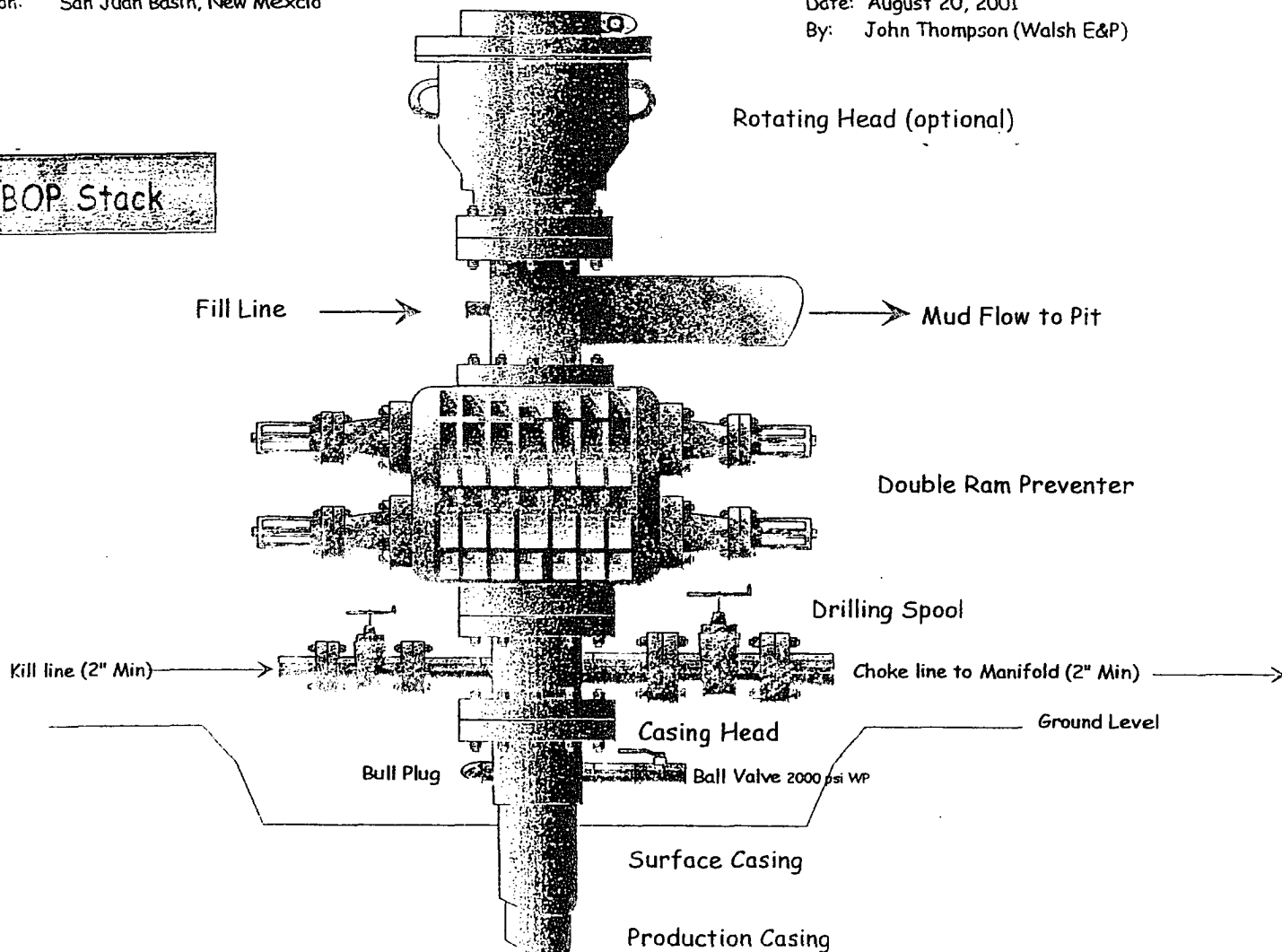
### Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

BOP Stack



Choke & Kill Manifold

