

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

ROW/APD

FORM APPROVED  
Budget Bureau No. 1004-0136  
Expires: February 28, 1995

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. Lease Designation and Serial No.  
SF-078767

1a. Type of Work

DRILL ☒DEEPEN ☐

6. If Indian, Allottee or Tribe Name

b. Type of Well

Oil Well ☐Gas Well ☒Other ☐Single Well ☒Multiple Zone ☐

7. If Unit or CA, Agreement Designation

Rosa Unit

2. Name of Operator

Williams Production Company

3. Address and Telephone No

P.O. Box 3102, MS 37-2, Tulsa, OK. 74101

4. Location of Well (Footages)

At Surface

1440' FNL 335' FWL, SWNW

proposed prod. zone

8. Well Name and No.

RU-#149B

9. API Well No.

30-039-26599

10. Field and Pool, or Exploratory Area

Blanco-Mesa Verde

11. Sec., T., R., M., or BLK.  
and Survey or Area

E Section 12, T31N, R6W

14. Distance in Miles and Directions from Nearest Town or Post Office

Approximately 18.7 miles northeast of Navajo Dam Post Office (straight line)

12. County or Parish

Rio Arriba

13. State

NM

15. Distance from Proposed Location to Nearest

Property or Lease Line, Ft 335'

16. No. of Acres in Lease

2518.04 acres

17. No. of Acres Assigned to This Well

271.17 acres, N/2

18. Distance from Proposed Location to Nearest Well Drilling, Completed, or Applied for, on this Lease, FT

1100'

19. Proposed Depth

6193' KB

20. ~~Drilling Costs~~ ~~See attached~~ ~~subject to compliance with attached~~ ~~"GENERAL REQUIREMENTS"~~

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

6421' GR

22. Approximate Date Work will Start

April 1, 2001

~~This action is subject to technical and procedural review pursuant to 43 CFR 3160.3 and approved pursuant to 43 CFR 3160.4~~

## PROPOSED CASING AND CEMENTING PROGRAM

| SIZE & GRADE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT   |
|------------------------|-----------------|---------------|--|
| 12-1/4"                | 9-5/8"          | 500'          | 255 sx-352 cu ft Type III - Circ                             |
| 8-3/4"                 | 7"              | 3733'         | 430 sx-898 cu ft Type III - Circ<br>160sx-224 cu ft Type III |
| 6-1/4"                 | 4-1/2"          | 3633'-6193'   | 80sx-116 cu ft 190sx-278 cu ft Class H + 50/50 poz+4%gel     |

Williams Production Co. proposes to drill a vertical well to develop the Blanco Mesa Verde Formation in the described location above, and in accordance with the attached Operation and Surface Use plans. **The surface is under the jurisdiction of the Bureau of Land Management-Farmington Field Office.** Independent Contract Archaeology has surveyed the proposed location for Cultural Resources, and the report has been submitted to BLM for review. Nelson Consulting has submitted an environmental assessment to BLM-FFO for review.

This proposed well would require the construction of a new 300-foot long by 20-foot wide access road (see Pipeline & Well Plats #3 and #4). The proposed 433-foot long pipeline would tie into the Williams Gas Gathering System on the Rosa Unit #226. This proposed well gathering pipeline would follow the proposed access road and an existing gas field road (see the attached Pipeline Plat Map # 4).

24. Above and below the proposed well, the applicant proposes to deepen, give present productive zone and proposed new productive zone.

Signed

Steve Nelson

Title Agent

COPIES: BLM+4, WELL FILE+1

Date December 8, 2000

(This space for Federal or State office use)

Permit No.

Approval Date

Application approval does not warrant or certify that 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:

/s/ Jim Lovato

TITLE

Team Lead, Petroleum Management

DATE

FEB 15 2001

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-  
Revised February 21, 19  
Instructions on b  
Submit to Appropriate District Off  
State Lease - 4 Cop  
Fee Lease - 3 Cop.

200 DEC 11 PM 5:35 AMENDED REPOF

WELL LOCATION AND ACREAGE DEDICATION PLAT  
070 FARMINGTON, NM

|                             |   |                                  |
|-----------------------------|---|----------------------------------|
| *API Number<br>30-039-26599 | *Pool Code<br>72319 -                         | *Pool Name<br>Blanco Mesaverde - |
| *Property Code<br>17033     | *Property Name<br>ROSA UNIT                   | *Well Number<br>1498             |
| *OGRIID No.<br>120782       | *Operator Name<br>WILLIAMS PRODUCTION COMPANY | *Elevation<br>6421'              |

10 Surface Location

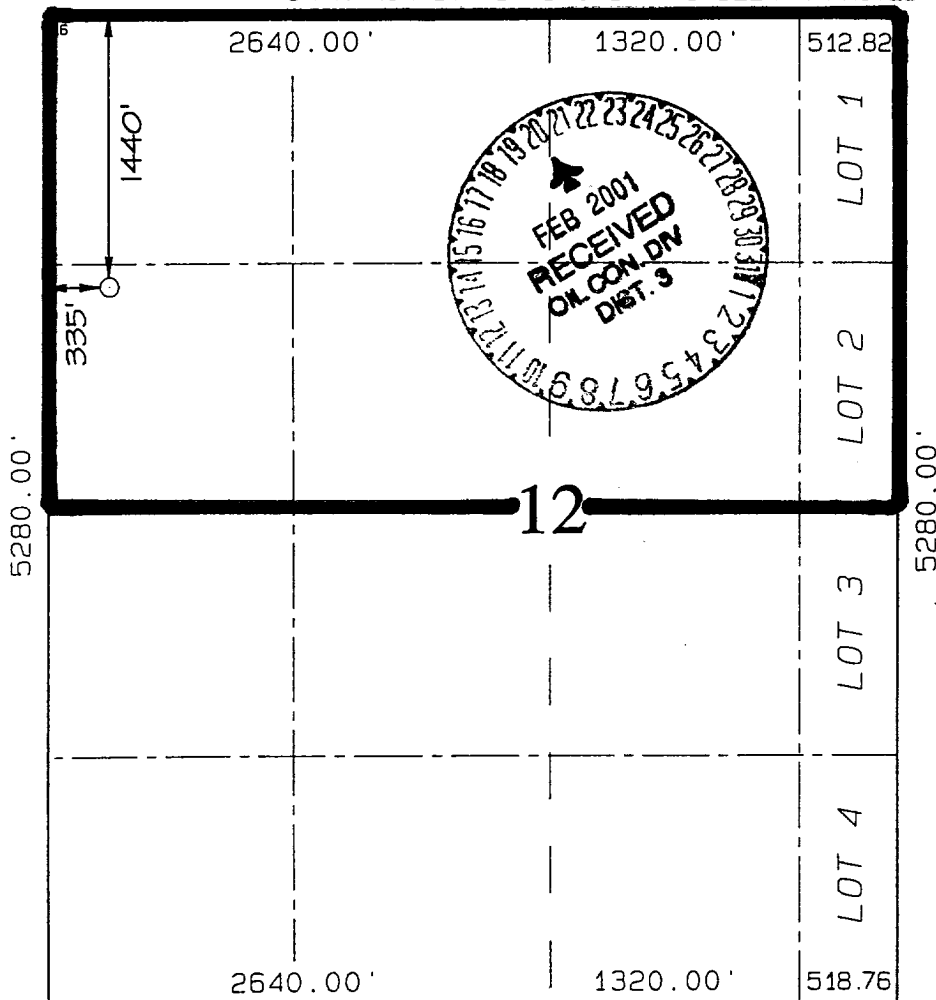
|                    |               |                 |             |         |                       |                           |                      |                        |                      |
|--------------------|---------------|-----------------|-------------|---------|-----------------------|---------------------------|----------------------|------------------------|----------------------|
| UL or lot no.<br>E | Section<br>12 | Township<br>31N | Range<br>6W | Lot Idn | Feet from the<br>1440 | North/South line<br>NORTH | Feet from the<br>335 | East/West line<br>WEST | County<br>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<br>271.17 - N/2 | 13 Joint or Infill<br>I | 14 Consolidation Code<br>U | 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.

*Steve Nelson*  
Signature

Steve Nelson  
Printed Name

Agent, Nelson Consulting  
Title

December 8, 2000  
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.

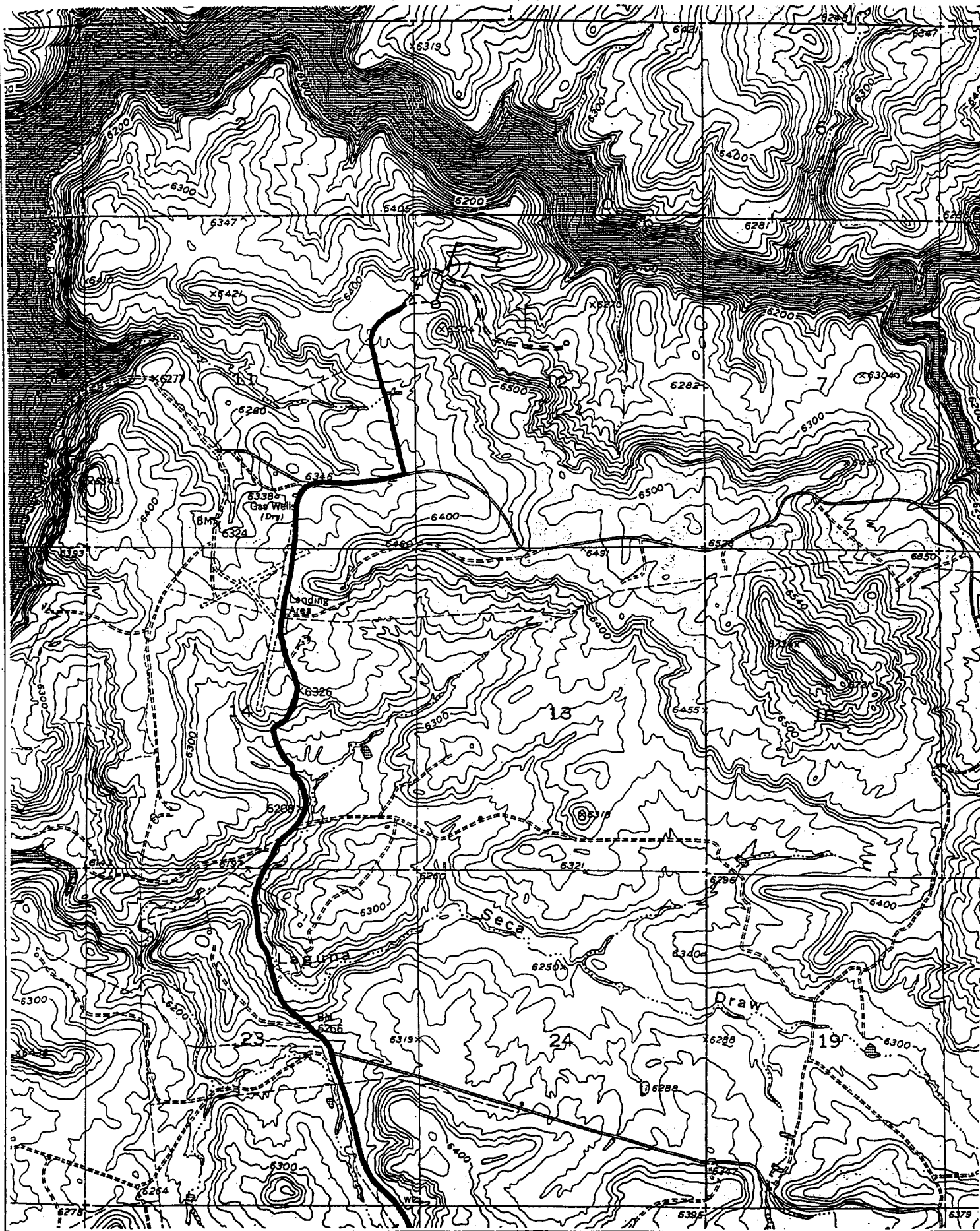
SEPTEMBER 25, 2000  
Date of Survey

Signature and Seal of Professional Surveyor

NEALE C. EDWARDS  
NEW MEXICO  
6857  
REGISTERED PROFESSIONAL SURVEYOR  
Certificate Number 6857

WILLIAMS PRODUCTION COMPANY ROSA UNIT #149B

1440' FNL & 335' FWL, SECTION 12, T31N, R6W, N.M.P.M.  
RIO ARriba COUNTY, NEW MEXICO



**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:**

1. SURFACE: Slurry: 255sx (352 cu.ft.) of "Type III" + 2% CaCl<sub>2</sub> + ¼ # 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: 430sx (898 ft<sup>3</sup>) of "Type III" 65/35 poz + 8% gel + 1% CaCl<sub>2</sub> + ¼ # cello-flake/sk (Yield = 2.09 ft<sup>3</sup>/sk, Weight = 12.1 #/gal.). Tail: 160sx (224 ft<sup>3</sup>) of class "Type III" + 1% CaCl<sub>2</sub> + ¼ # cello-flake/sk. (Yield = 1.39 ft<sup>3</sup>/sk, Weight = 14.5#/gal.). The 100% excess in lead and tail should circulate cement to the surface. Total volume = 1122 ft<sup>3</sup>. 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: Lead: 80sx (116 ft<sup>3</sup>) of Class-H + 50/50 poz + 4 % gel + 0.4% FL-52. (Yield = 1.45 cu.ft./sk, Weight = 13.2 #/gal.). Tail: 190sx (278 ft<sup>3</sup>) of Class-H + 50/50 poz + 4 % gel + 0.4% FL-5 + ¼# celloflake/sk and 4% Phenoseal (Yield = 1.45 ft<sup>3</sup>/sk, Weight = 13.2 #/gal.). Displace cement at a minimum of 8 BPM. The 50% excess in lead and tail should cover liner top. Total volume 394 ft<sup>3</sup>. WOC 12 hours.

**IV COMPLETION**

**A. CBL**

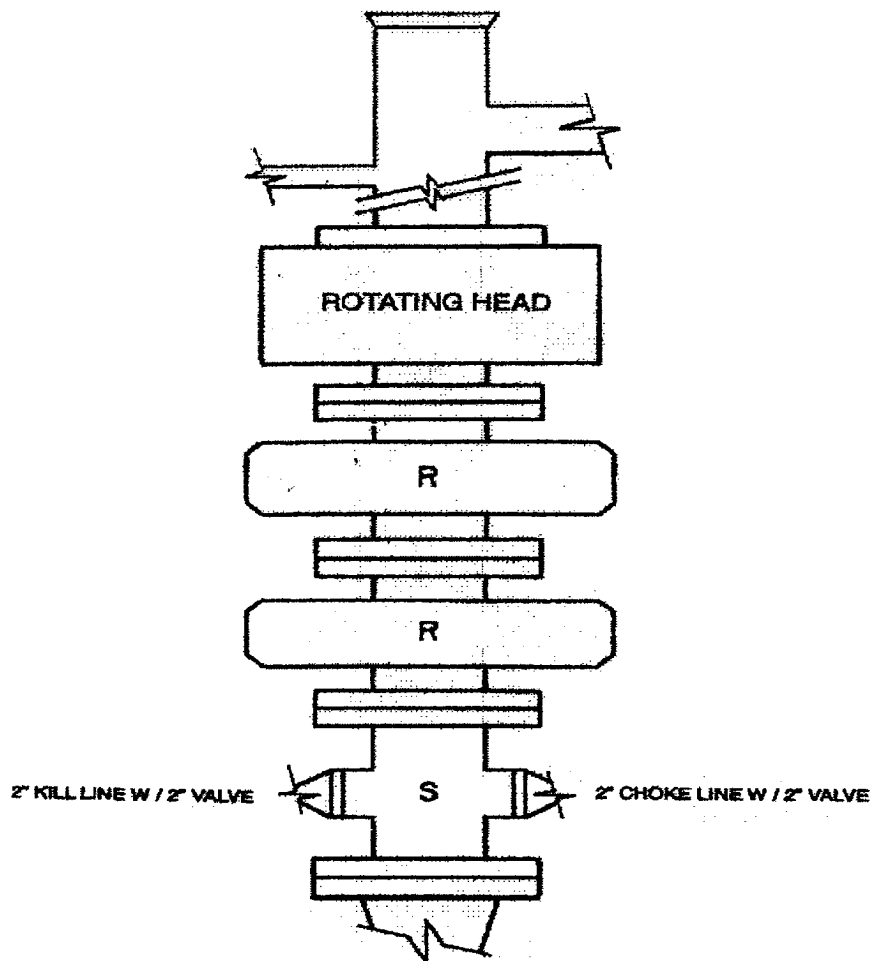
1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings.

**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 CIBP.
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.



2M – BOP ARRANGEMENT

**2M SYSTEM:**

- Annular preventer or double ram or two rams with one being blind and one being a pipe ram
- Kill line (2 inch minimum)
- 1 kill line valve (2 inch minimum)
- 1 choke line valve
- 2 chokes (refer to diagram)
- Upper kelly cock valve with handle available
- Safety valve and subs to fit all drill strings in use
- Pressure gauge on choke manifold
- 2 inch minimum choke line
- Fill-up line above uppermost preventer

Anticipated reservoir pressure is expected to be less than 1300 psi on all encountered zones.

All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1500 psi. The pipe and blind rams will be activated and checked for operational readiness each trip. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock with handle, floor safety valve with changeovers for each tool joint in the string and choke manifold all rated to 2000 psi