

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

Form C-101  
Revised 10-1-78

|                        |  |
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5A. Indicate Type of Lease  
STATE ☒ FEE ☐

5. State Oil & Gas Lease No.  
NM-752

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

|   |  |   |
|---|--|---|
| 1a. Type of Work<br>b. Type of Well<br>OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/><br>DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/><br>SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/> |  | 7. Unit Agreement Name                                |
| 2. Name of Operator<br>Arco Oil & Gas Company   |  | 8. Farm or Lease Name<br>Atlantic State 30            |
| 3. Address of Operator<br>P.O. Box 1610, Midland, Texas 79702   |  | 9. Well No.<br>2                                      |
| 4. Location of Well<br>UNIT LETTER <u>A</u> LOCATED <u>990</u> FEET FROM THE <u>North</u> LINE<br>AND <u>990</u> FEET FROM THE <u>East</u> LINE OF SEC. <u>30</u> TWP. <u>17S</u> RGE. <u>36E</u> NMPM  |  | 10. Field and Pool, or Wildcat<br>Double-A Abo, South |
|   |  | 12. County<br>Lea                                     |
|   |  | 19. Proposed Depth<br>9550                            |
|   |  | 19A. Formation<br>Abo Detrital                        |
|   |  | 20. Rotary or C.T.<br>Rotary                          |
| 21. Elevations (show whether DF, RT, etc.)<br>3875.2S GR  | 21A. Kind & Status Plug. Bond<br>Statewide Blanket | 21B. Drilling Contractor<br>Not Assigned              |
|   |  | 22. Approx. Date Work will start<br>4-25-88           |

PROPOSED CASING AND CEMENT PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | SACKS OF CEMENT | EST. TOP |
|--------------|----------------|-----------------|---------------|-----------------|----------|
| 17 1/2       | 13 3/8         | 54.5            | 400           | 500             | Surf     |
| 11           | 8 5/8          | 24              | 3600          | 1400            | Surf     |
| 7 7/8        | 5 1/2          | 15.5 & 17       | 9550          | 2250            | 950      |

Attachments:

1. Drilling prognosis
2. BOP Program

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. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Ken A. Gosnell Title Engr. Tech. 915 688-5672 Date 4-7-88

(This space for State Use)

ORIGINAL SIGNED BY JERRY SEXTON

APPROVED BY DISTRICT 1 SUPERVISOR TITLE  DATE APR 11 1988

CONDITIONS OF APPROVAL, IF ANY:

Permit Expires 6 Months From Approval  
Date Unless Drilling Underway.

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

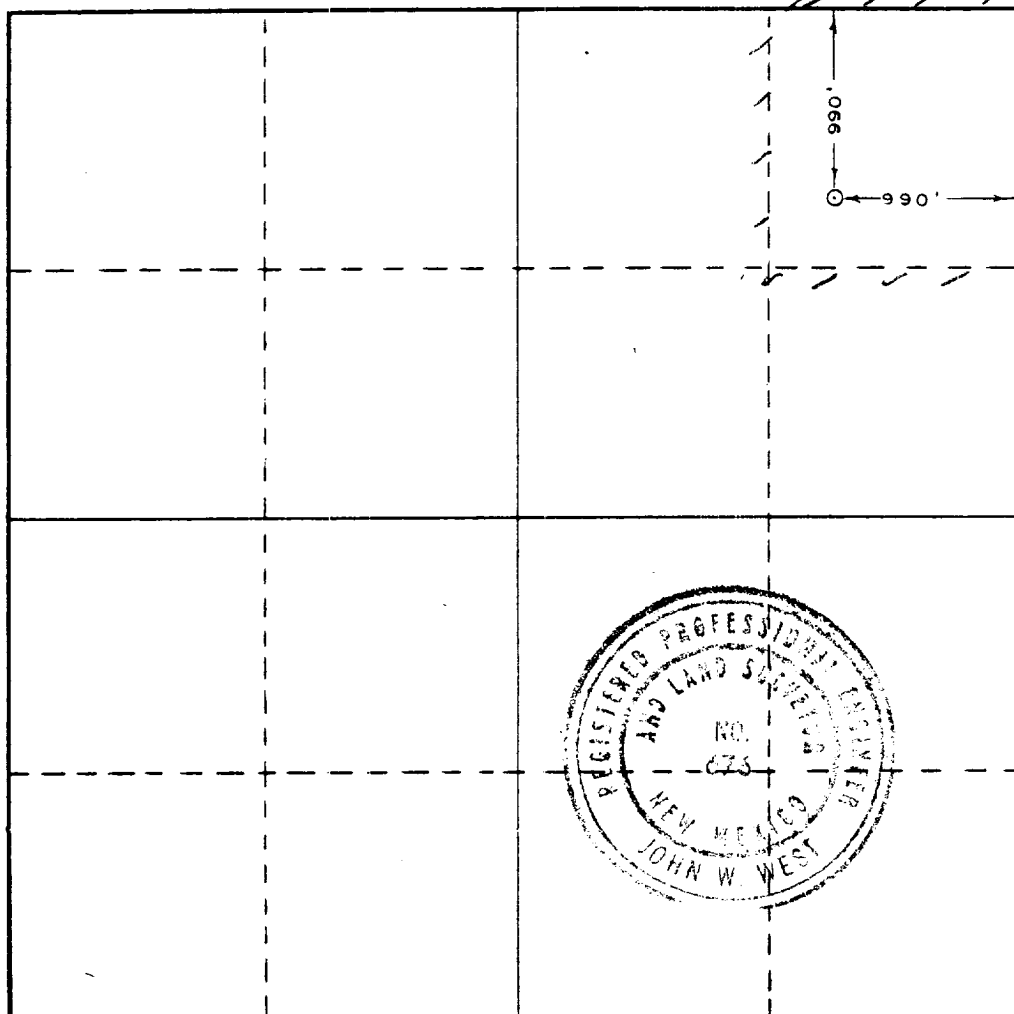
|  |  |                                   |                                  |                                       |
|--|--|-----------------------------------|----------------------------------|---------------------------------------|
| Operator<br><b>ARCO OIL &amp; GAS CO</b>   |  | Lease<br><b>Atlantic State 30</b> |                                  | Well No.<br><b>2</b>                  |
| Unit Letter<br><b>A</b>  | Section<br><b>30</b>                       | Township<br><b>17 South</b>       | Range<br><b>36 East</b>          | County<br><b>Lea</b>                  |
| Actual Footage Location of Well:<br><b>990</b> feet from the <b>north</b> line and <b>990</b> feet from the <b>east</b> line |  |                                   |                                  |                                       |
| Ground Level Elev.<br><b>3875.25</b>   | Producing Formation<br><b>ABO Detrital</b> |                                   | Pool<br><b>Double - A, South</b> | Dedicated Acreage:<br><b>40</b> Acres |

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

*Ken W. Gosnell*  
Ken W. Gosnell

|          |                               |
|----------|-------------------------------|
| Name     | <b>Engr. Tech.</b>            |
| Position | <b>ARCO Oil &amp; Gas Co.</b> |
| Company  | <b>4-7-88</b>                 |
| Date     |                               |

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 knowledge and belief.

|   |                      |
|---|----------------------|
| Date Surveyed   | <b>Mar. 30, 1988</b> |
| Registered Professional Engineer and/or Land Surveyor | <i>John W. West</i>  |

Certificate No. **JOHN W. WEST, 676**  
**RONALD J. EIDSON, 3239**



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HQCB'S OFFICE

# Drilling Prognosis



|  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
|--|---------|----------------------|---------|-------|---------|-----------|---------|------------|---------|-----------|---------|----------|---------|----------|---------|------|---------|--|--|
| Well name  |         | Date                 |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Atlantic State "30" No.2   |         | February 18, 1988    |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Authorization numbers  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| District or province   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Central District   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Location   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 990' FNL & 990' FEL, Sec 30-T17S-R36E  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Lea County, New Mexico.  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Objectives   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Lower Abo; Upper Abo   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Total vertical depth   |         | Total measured depth |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 9500'  |         | 9500'                |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Elevation  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Record KB. and GL. elevation on the first Daily Drilling Report  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Estimated formation tops   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| <table border="0"><tr><td>Queen</td><td>- 4180'</td><td>Upper Abo</td><td>- 8813'</td></tr><tr><td>San Andres</td><td>- 4950'</td><td>Lower Abo</td><td>- 9135'</td></tr><tr><td>Glorieta</td><td>- 6600'</td><td>Abo Reef</td><td>- 9329'</td></tr><tr><td>Tubb</td><td>- 7380'</td><td></td><td></td></tr></table> |         |                      |         | Queen | - 4180' | Upper Abo | - 8813' | San Andres | - 4950' | Lower Abo | - 9135' | Glorieta | - 6600' | Abo Reef | - 9329' | Tubb | - 7380' |  |  |
| Queen  | - 4180' | Upper Abo            | - 8813' |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| San Andres   | - 4950' | Lower Abo            | - 9135' |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Glorieta   | - 6600' | Abo Reef             | - 9329' |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Tubb   | - 7380' |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Well design  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Conductor  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 20" Conductor will be set at +/- 40'. Grouted to surface with redi-mix   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Surface casing   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 13-3/8" 54.5#, K-55, STC Casing will be set at +/- 400'<br>Cemented to surface with 500 sxs. of Class "C" with 2% CaCl2  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Protective casings and liners  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 8-5/8" 24#, K-55, STC Casing will be set in 11" hole at +/- 3600'<br>Cemented to surface with 1200 sxs of "Lite" and 200sxs of Cl."C" Neat   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Production casing  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 5-1/2" 15.5# & 17# K-55, LTC Casing will be set in a 7-7/8" hole at TD<br>Cemented to 8-5/8" CSG with 2000 sxs. of "Lite" followed by 250 sxs. of<br>Neat Class "H" cement.  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Production liner   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Casinghead   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 8-5/8" X 11" 3000 psi. W.P. Welded casinghead  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Mud program  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 0 - 400' F.W. Spud mud; use gel and lime as required for sweeps  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 400' - 3600' Brine Water with viscous pills to clean hole.   |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 3600' - 8200' Fresh water system.  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| 8200' - TD Drispac and XC Polymer to reduce W.L. to 15cc. Visc.30-40 sec.  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Logging program  |         |                      |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| Open Hole  |         | Cased Hole           |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| GR-CNL-LDT   |         | Temp. Survey         |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
| GR-DLL-MSFL  |         | TD. to 3600'         |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |
|  |         | TD. to 3600'         |         |       |         |           |         |            |         |           |         |          |         |          |         |      |         |  |  |

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Coring program

N/A

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Drill stem tests

N/A

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Samples

Every 10' from 3600' to TD.

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Fluid samples

Send all fluid samples recovered to lab. for chemical analysis.

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Mud logging

Two man unit from 3600' to TD.

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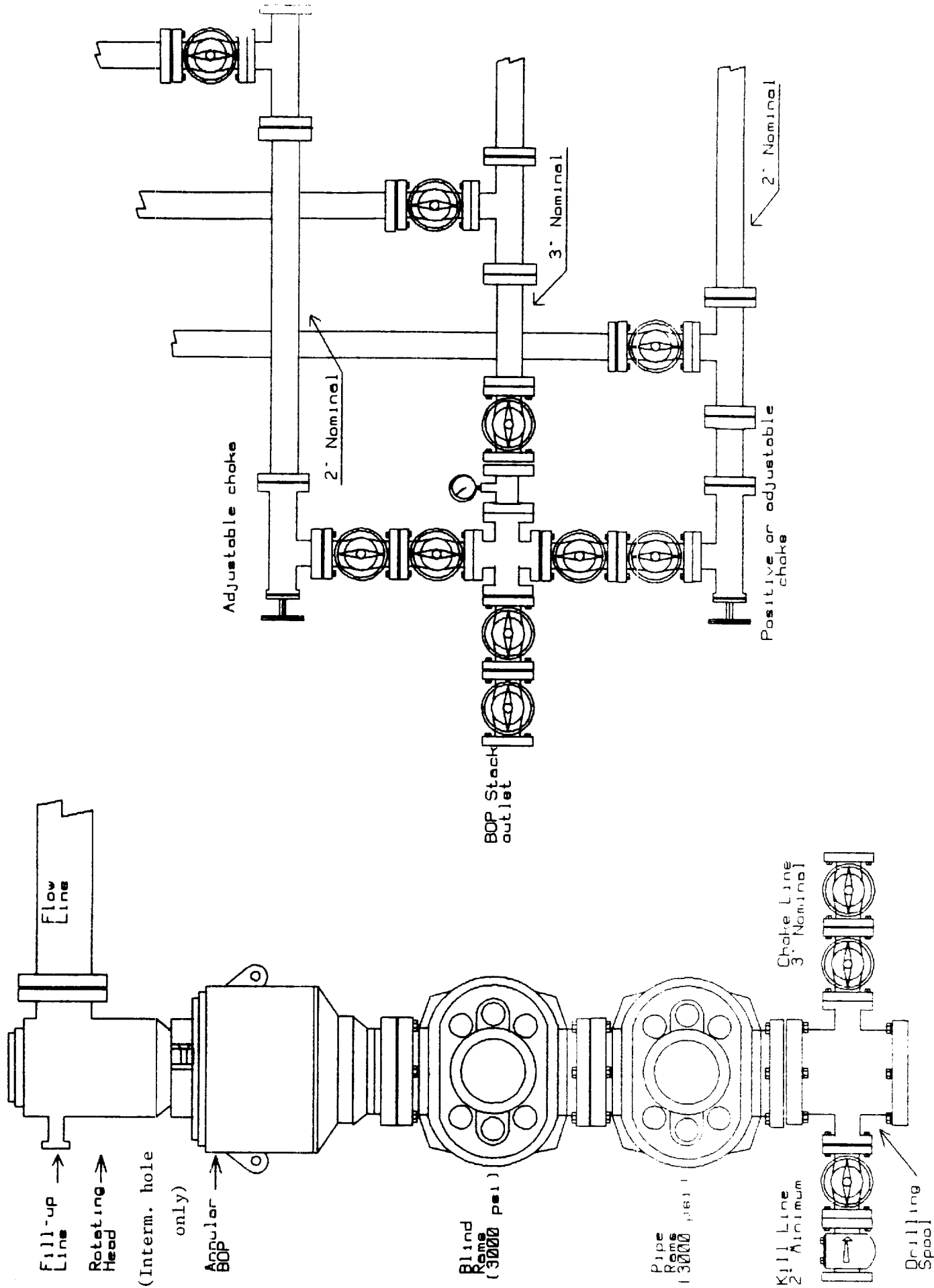
Evaluation

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Completion

Set 5-1/2" production casing at 9500'. Cement back to 8-5/8" CSG; bump cement plug with 2% KCL water. Perforate Lower Abo in 9160'-9200' and Upper Abo in 8850-8950' intervals. Stimulate Lower Abo with 4000 gal. 15% HCL NEFE at 3-4 BPM, and Upper Abo with 6000 gal. 15% HCL NEFE at 3-4 BPM.

# MINIMUM BOP AND CHOKE MANIFOLD REQUIREMENTS



7008 8-1-88

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