

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 ☒ REC ☐

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>SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/> |  | 2. Name of Operator<br>ARCO Oil & Gas Company   |  | 7. Unit Agreement Name                                |  |
| 3. Address of Operator<br>Box 1610, Midland, tx 79702  |  | 4. Location of Well<br>UNIT LETTER B LOCATED 990 FEET FROM THE North LINE<br>AND 1655 FEET FROM THE East LINE OF SEC. 30 TWP. 17S RGE. 36E NMPM |  | 8. Farm or Lease Name<br>Atlantic State 30            |  |
| 5. Elevations (Show whether DF, RT, etc.)<br>3878.6 GR   |  | 21A. Kind & Status Plug. Bond<br>Statewide Blanket  |  | 9. Well No.<br>1                                      |  |
| 20. Rotary or C.T.<br>Rotary   |  | 19. Proposed Depth<br>9600  |  | 10. Field and Pool, or Wildcat<br>Double-A Abo, South |  |
| 21B. Drilling Contractor<br>Not Assigned   |  | 19A. Formation<br>Abo Detrital  |  | 12. County<br>Lea                                     |  |
| 22. Approx. Date Work will start<br>11-4-87  |  | 23.   |  |   |  |

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           | 425             | Surf     |
| 11           | 8 5/8          | 24              | 3600          | 1050            | Surf     |
| 7 7/8        | 5 1/2          | 15.5 & 17       | 9600          | 850             | 3500     |

see attached:

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 W. Gosnell Title Engr. Tech. 915 688-5672 Date 10-27-87

(This space for State Use)

ORIGINAL SIGNED BY JERRY SEXTON

APPROVED BY DISTRICT I SUPERVISOR

TITLE

DATE OCT 30 1987

CONDITIONS OF APPROVAL, IF ANY:

Permit Expires 6 Months From Approval  
Date Unless Drilling Underway.

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**N 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.

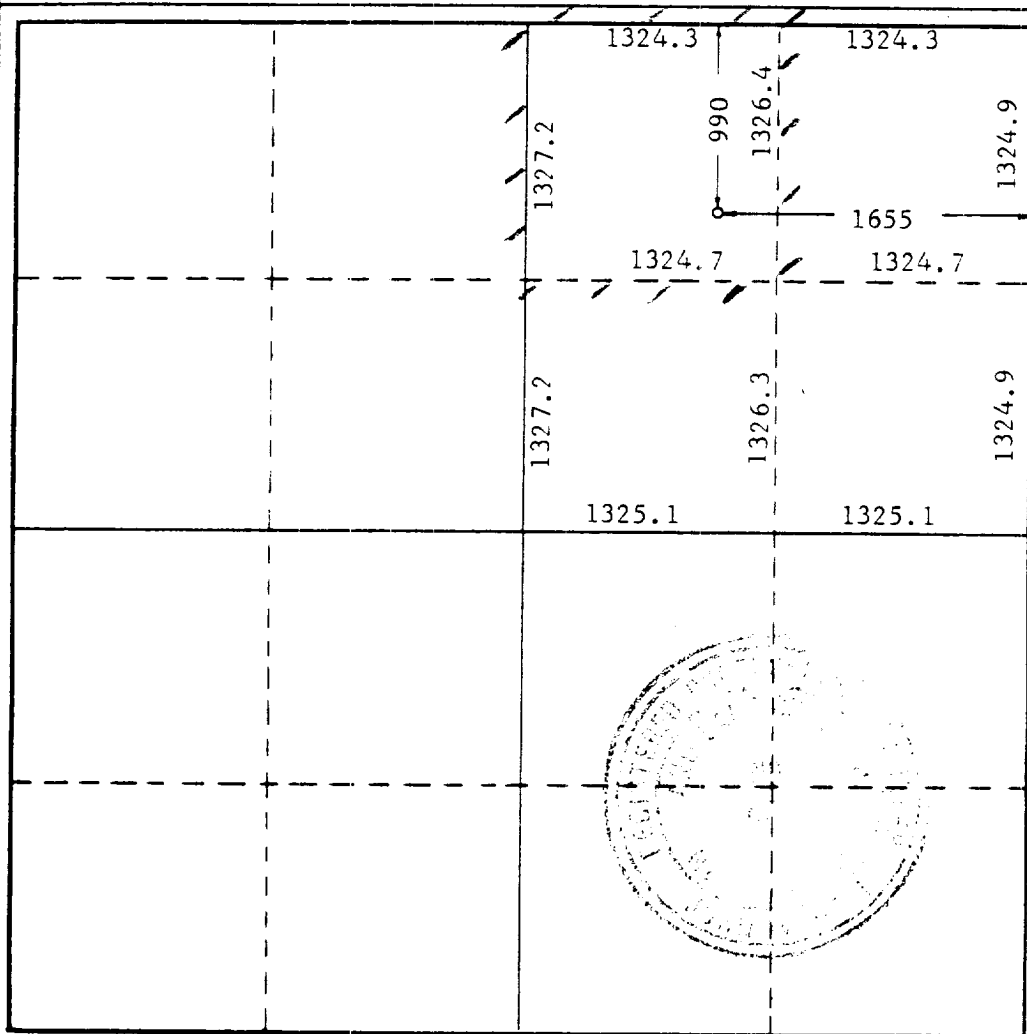
|   |  |                                |                                   |                                       |                      |
|---|--|--------------------------------|-----------------------------------|---------------------------------------|----------------------|
| Operator<br><b>ARCO OIL &amp; GAS COMPANY</b>   |  |                                | Lease<br><b>ATLANTIC STATE 30</b> |                                       | Well No.<br><b>1</b> |
| Unit Letter<br><b>B</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><div style="display: flex; justify-content: space-between;"> <span>990 feet from the NORTH line and</span> <span>1655 feet from the EAST line</span> </div> |  |                                |                                   |                                       |                      |
| Ground Level Elev.<br><b>3878.6</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*

Name

**Ken W. Gosnell**

Position

**Engr. Tech.**

Company

**ARCO Oil & Gas Company**

Date

**10-27-87**

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

**OCTOBER 23 & 24, 1987**

Registered Professional Engineer and/or Land Surveyor

*Ronald J. Eidson*

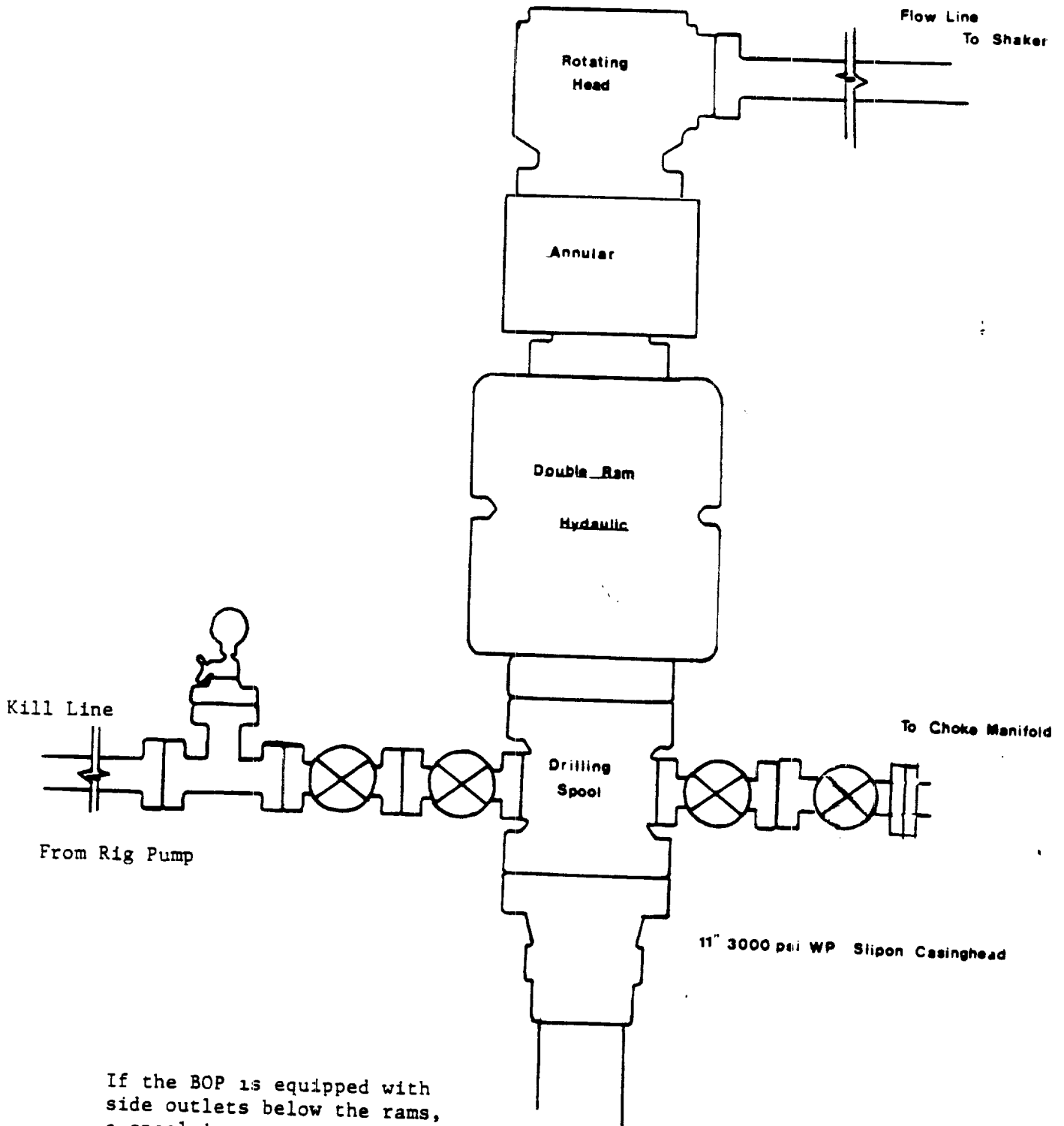
Certificate No. **JOHN W. WEST,**

**676**

**RONALD J. EIDSON,**

**3239**

ARCO Oil & Gas  
3000 psi WP BOP Stack  
SR<sub>g</sub> AG

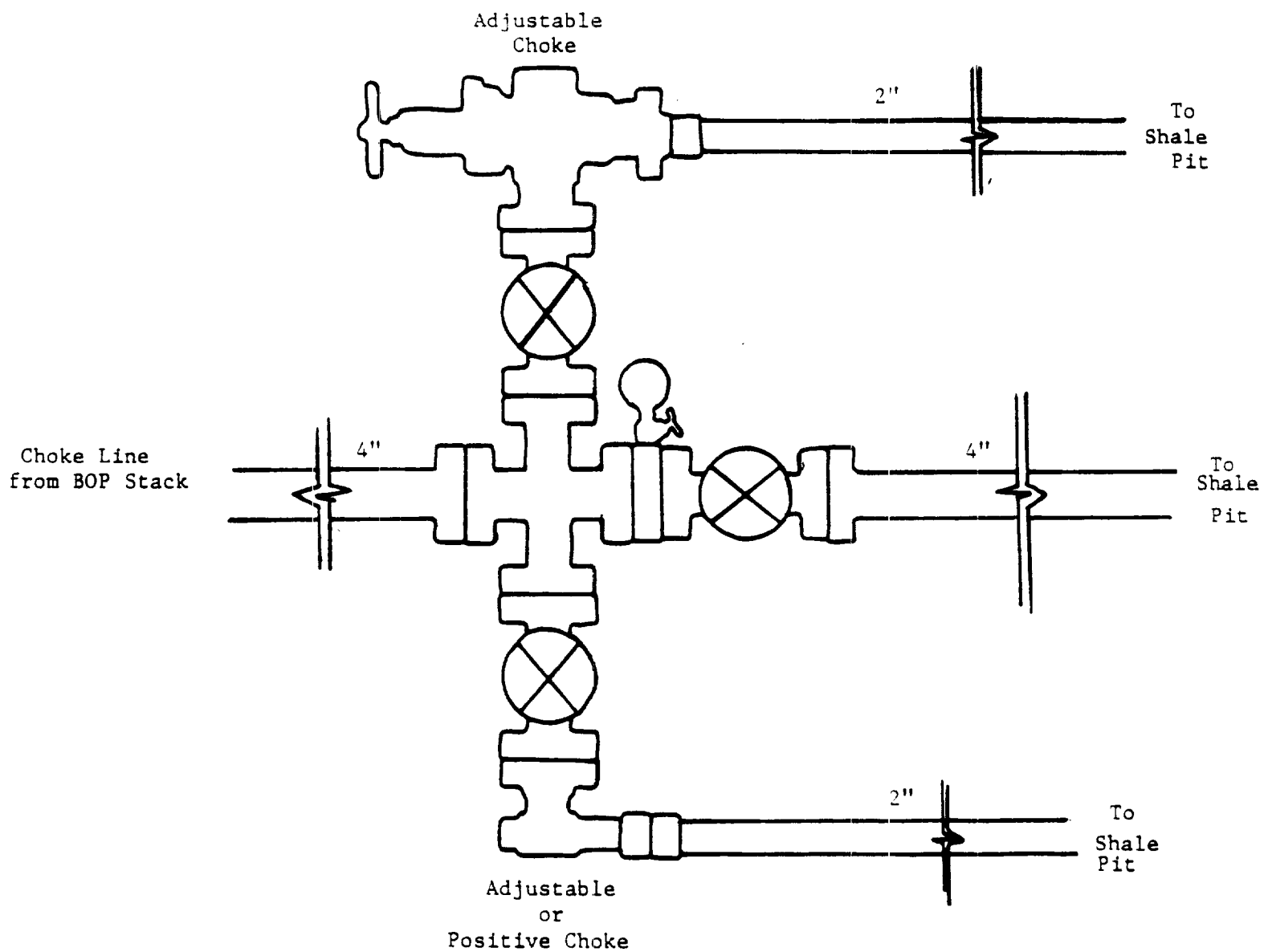


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OCT 28 1981

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ARCO Oil & Gas  
3000psi WP Choke Manifold



# Drilling Prognosis

Well name Atlantic State "30" #1 Date October 6, 1987

Authorization numbers

District or province

Central District - North Area - South Double "A" Field

Location

990' FNL and 1655' FEL Section 30-T17S-R36E Lea County, New Mexico

Objectives

Bone Spring Dolomites below  $\pm 8700'$

Total vertical depth

9500'

Total measured depth

9500'

Elevation

Record "GL" and "RKB" elevation on 1st Daily Drilling Report.

Estimated formation tops

|                    |       |                    |       |                    |       |
|--------------------|-------|--------------------|-------|--------------------|-------|
| Top of Evaporites  | 1880' | San Andres         | 4900' | Lower Abo Detrital | 9117' |
| Base of Evaporites | 3016' | Glorieta           | 6640' | Proposed TD        | 9500' |
| Yates              | 3195' | Tubb               | 7700' |                    |       |
| Queen              | 4122' | Upper Abo Detrital | 8790' |                    |       |

## Well design

Conductor

As required - Pre-set by drilling contractor.

Surface casing

13-3/8", 54.5#, K-55, STC casing set in a 17-1/2" hole at  $\pm 400'$ .  
Cemented to surface with 425 sxs of Class "C" cement with 2%  $\text{CaCl}_2$  (Volume calculated based on 100% excess).

Protective casings and liners

8-5/8", 24#, K-55, STC intermediate casing set in an 11" hole at  $\pm 3600'$ .  
Cemented to surface with 850 sxs "Lite" cement followed by 200 sxs Class "C" cement w/2%  $\text{CaCl}_2$ . (Volumes based on 100% excess).

Production casing

5-1/2", 15.5#, K-55, LTC casing from 0-8700' and 5-1/2", 17#, K-55, LTC casing from 8700' to TD in a 7-7/8" hole. Cemented with 550 sxs "Lite" cement followed by 300 sxs Class "H" cement w/FLA. (Volumes based on 30% excess, proposed TOC @3500').

Production liner

Casinghead

13-3/8" weld on x 13-5/8", 2000 psi WP casinghead  
13-5/8", 2000 psi WP x 11", 3000 psi WP casingspool  
11", 3000 psi WP x 7-1/16", 5000 psi WP tubinghead

Mud program

400'-3600' Fresh water spud mud MW:8.5-9.0 ppg, Funnel viscosity: 30-40 secs  
3600'-8200' Fresh water converted to saturated brine water at top of salt ( $\pm 1600'$ )  
8200'-TD Fresh water  
Cut brine polymer system; MW:8.8-9.0 ppg, funnel viscosity:30-35 secs, FL:10-15cc  
CI-  $> 33,000$  ppm

Logging program

### Open Hole

DLL/MSFL/GR/Caliper 400'-TD  
LDT/CNL/GR/Caliper 400'-TD  
BHCS/GR/Caliper 400'-TD  
Spectral GR 400'-TD

### Cased Hole

CBL/VDL/CCL/GR PBTD-TOC

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Coring program

One 60' core cut in the Lower Abo Detrital formation is anticipated.

Drill stem tests

One open-hole drill stem test expected to be run as warranted by shows and drilling breaks.

Samples

10' samples from  $\pm$  3600' - TD

Fluid samples

Send samples of all recovered formation fluids to laboratory for chemical analysis.

Mud logging

2-man mud logging unit from 3600'-TD

Evaluation

Based on the results of DST and the evaluation of open hole logs, expect 5-1/2" production casing to be set and cemented at TD. One zone within the Bone Spring is anticipated to be perforated, tested, and stimulated (3000 gal acid breakdown followed by  $\pm$ 15,000 gal. acid frac) utilizing 2-7/8", 6.5#, J-55, EUE-8rd tubing.

Completion

Based on the results of production testing, one zone will be completed as a flowing/pumping oil well with 2-7/8" tubing and completion assembly as per the production department's recommendation.

100-55-10000  
100-55-10000  
100-55-10000

Rec'd 1-25-88

**ET**