

## DRILLING PROGRAM

Attached to Form 3160-3  
Parker & Parsley Development L.P.  
Southern California Federal Unit No. 9  
1980' FSL & 660' FWL  
NW/SW, Sec. 29, T19S, R32E  
Lea County, New Mexico

1. Geologic Name of Surface Formation:

Quaternary Alluvium & Bolson deposits (dune sand; sandy, silty clay)

2. Estimated Tops of Important Geologic Markers:

Anhydrite	850'
Salt	975'
Base of Salt	2475'
Yates	2625'
Delaware Sands	4425'
Bone Springs Lime	7125'

3. Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Surface Water Sands	above 250'	fresh water
Yates	2625'	oil
Delaware	4425' to 7100'	oil

No other formations are expected to give up oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing at 850'± and circulating cement to the surface. Potash will be protected by setting 8-5/8" casing at 4000'± and circulating cement back to the surface with the use of a stage tool at 2600'±. In the event 5-1/2" production casing is set, sufficient cement volume will be pumped to attempt to fill the entire annular area from TD to 200' above the base of the 8-5/8" casing.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>OD csg</u>	<u>Weight, Grade, Jt., Cond. Type</u>
17-1/2"	0 - 850'	13-3/8"	54.5#, J-55, ST&C, New
11 "	0 - 2600'	8-5/8"	24#, J-55, ST&C, New
11 "	2600 - 4000'	8-5/8"	32#, J-55, ST&C, New
7-7/8"	0 - 7200'	5-1/2"	15.5#, K-55, LT&C, New

Cementing Program:

13-3/8" Surface Casing

475 sx 35/65 Poz "C", 6% gel., 5% salt, 1/4#/sx cellophane flakes; followed by 200 sx "C", 2% CaCl, 1/4#/sx cellophane flakes.

8-5/8" Intermediate:  
(Stage Tool @ 2600')

1st stage: 275 sx 35/65 Poz "C", 6% gel., 5% salt, 5#/sx gilsonite, 1/4#/sx cellophane; followed by 150 sx "C", 1% CaCl, 5#/sx gilsonite, 1/4#/sx cellophane flakes.

2nd stage: 610 sx 35/65 Poz "C", 6% gel., 5% salt, 5#/sx gilsonite, 1/4#/sx cellophane flakes; followed by 125 sx "C", 2% CaCl, 1/4#/sx cellophane flakes.

5-1/2" Production Casing:

690 sx 50/50 Poz "C", 2% gel., 5% salt, 0.5% FL-25 (Fluid Loss). This is designed to bring TOC to 3800'±.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 PSI WP) preventer and a bag-type (Hydril) preventer (3000 PSI WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. Both BOP's will be installed on the 13-3/8" surface casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 PSI before drilling out of surface casing. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 PSI and the bag-type (Hydril) preventer will be tested to 70% of rated working pressure (2100 PSI).

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily time sheets.

A 2" kill line and a 3" choke line will be installed on the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include the choke lines and choke manifold (3000 PSI W.P.), kelly cock and floor safety valve (inside BOP).

6. Types and Characteristics of the Proposed Mud System:

This well will be drilled to TD with a combination of fresh water, brine and fresh water polymer systems. The applicable depths and properties of systems are planned as follows:

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<u>DEPTH</u>	<u>TYPE</u>	<u>WEIGHT (ppg)</u>	<u>VISCOSITY (Sec)</u>	<u>WATER LOSS (cc)</u>
0 - 850'	Fresh Water-Gel	8.7 - 9.0	33 - 35	N.C.
850 - 4000'	Brine Water	10.0 - 10.2	29 - 30	N.C.
4000 - 6000'	Fresh Water	8.4	28	N.C.
6000 - TD	Fresh Water, Gel, Polymer	8.5 - 8.7	33 - 35	10 or less

Loss of circulation may occur in the Capitan Reef at about 2800'. If loss can not be corrected reasonably, it may be necessary to dry-drill from the loss depth to 4000'±. Sufficient mud mixing materials to maintain the mud properties and to meet reasonable lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. Auxiliary Well Control and Monitoring Equipment:

- A. A lower kelly cock will be in continuous service while drilling.
- B. A fully opened, fully servicable drillpipe stabbing valve (inside BOP) with proper drillpipe connections will be on the rig floor at all times.
- C. No H<sub>2</sub>S gas or abnormal pressures are known to exist, in this heavily developed area, down to the proposed TD. Therefore, no pit-volume totalizing system will be employed. The drilling fluid system will be visually monitored at all times.

8. Logging, Testing and Coring Program:

- A. A two man mud logging unit will be in service from 4000' to TD.
- B. No drill stem tests are planned for this well.
- C. Open hole electric logs at TD are planned to be as follows:  
 Dual Induction Lateralog w/SP, GR and Caliper from TD to base of 8-5/8" casing at 4000'±. Compensated Neutron w/Z-Density & GR & Caliper from TD to 4000'; Gamma-Ray to surface; MRI from TD to 4400' on selected intervals.
- D. No conventional cores are planned. Rotary sidewall cores are planned for intervals in the Delaware Sands selected from open hole logs.
- E. Additional evaluation may be required by the company geologist based on drilling shows and log evaluation.

9. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is expected to be 135°F and the estimated maximum bottom hole pressure (BHP) is 2800 PSI. No H<sub>2</sub>S or other hazardous gases or fluid have been encountered, reported or are known to exist to this depth in this area. Some wells in this area have

encountered severe to total loss of circulation in the Capitan Reef at about 2800'. If this occurs at this location, several attempts will be made to regain circulation, but if it appears necessary, the well will be dry-drilled to the intermediate casing depth of 4000'±.

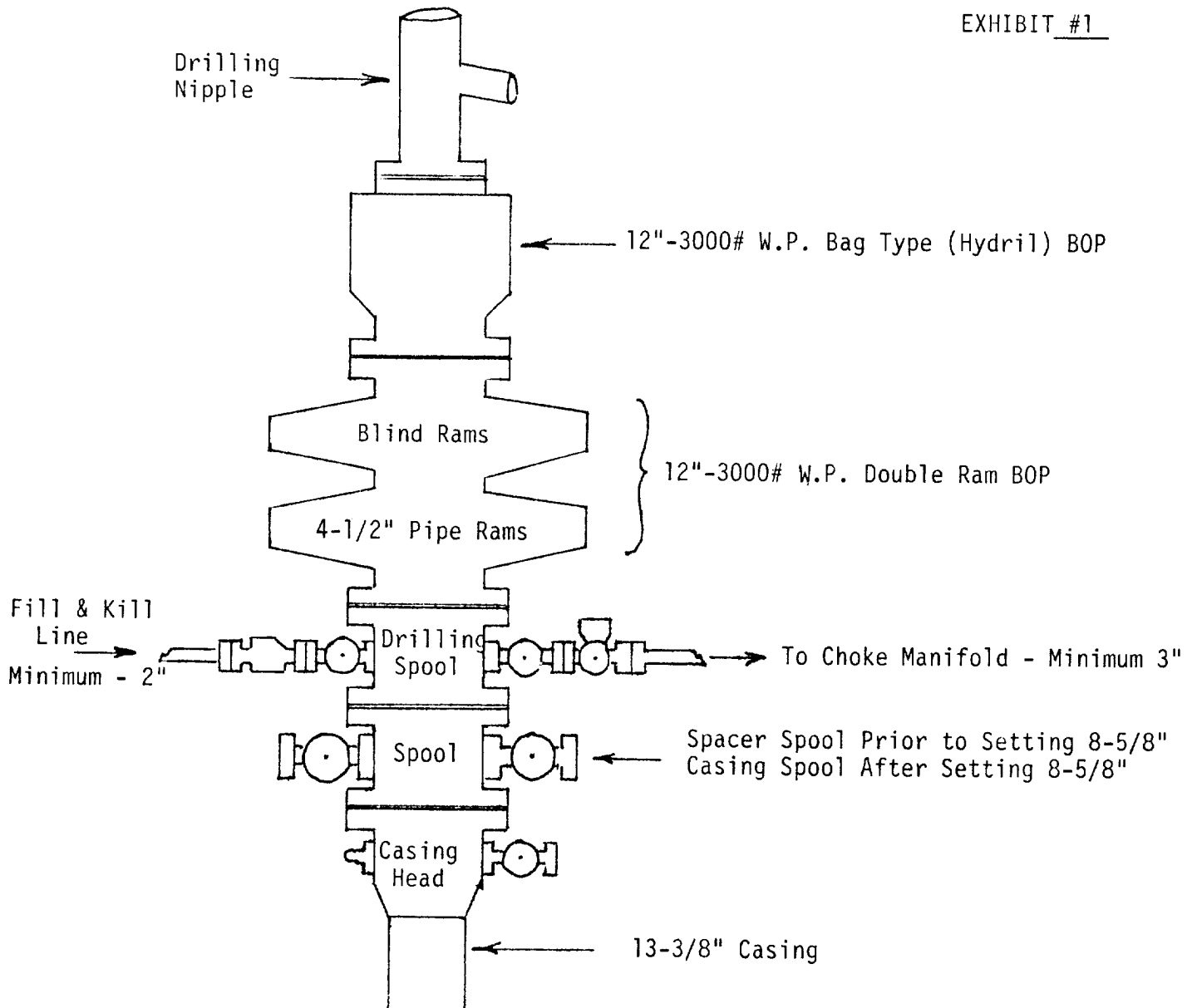
10. Anticipated Starting Date and Duration of Operations:

Location construction work will not begin until approval has been received from the BLM. The anticipated spud date will be about thirty (30) days after receipt of the BLM approval. Once commenced, the drilling operations should be completed in approximately twenty (20) days. If the well is productive, an additional thirty (30) days will be required for completion and testing before a decision is made on installation of permanent production facilities.

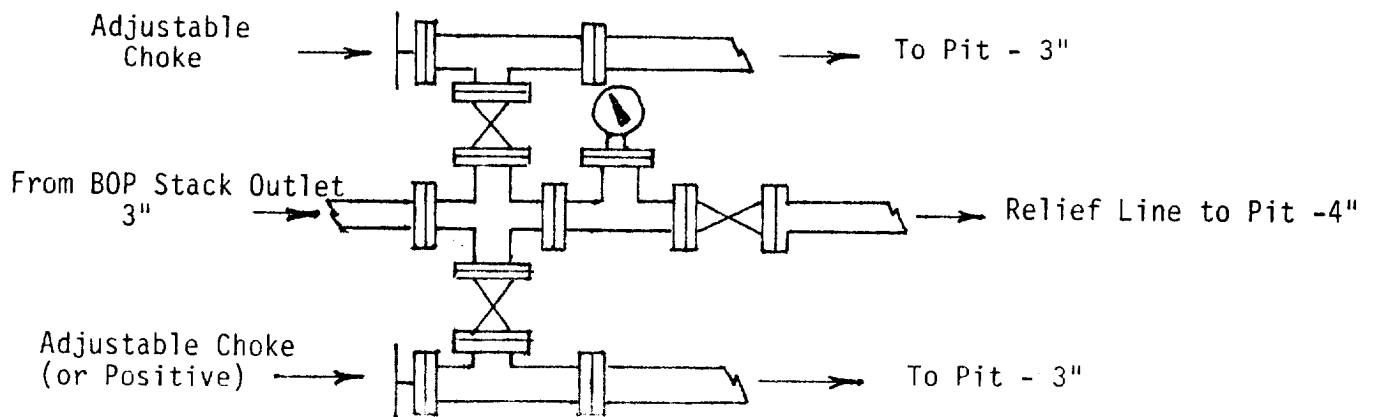
BOPE SCHEMATIC  
(3000 PSI W P)

Southern California Federal Unit #9  
Lea County, New Mexico

EXHIBIT #1



CHOKE MANIFOLD SCHEMATIC  
(3000 PSI W P)



ATTACHMENT TO EXHIBIT #1  
Notes Regarding the Blowout Preventers  
Southern California Federal Unit #9  
Lea County, New Mexico

1. The drilling nipple is to be constructed so that it can be removed without the use of a cutting torch and will have a minimum ID equal to the BOP bore.
2. Blowout preventer and all related equipment and fittings must be in good working condition and be 3000 PSI W. P. minimum.
3. All fittings and valves on the kill line, choke line and choke manifold are to be flanged.
4. All choke and kill lines are to be securely anchored, with special attention to the ends of all choke lines.
5. The blowout preventer control is to be located as close to the driller's position as feasible.
6. The blowout preventer closing equipment is to include a minimum of a 40 gallon accumulator with two independent sources of pump power on each closing unit installation. All closing equipment must meet API specifications for this equipment.
7. Hand wheels are to be properly installed and operable.
8. Lower kelly cock is to be on the kelly with operating wrench readily available.
9. A safety valve, in full open position, must be readily available on the rig floor at all times with the proper drillpipe threads. This valve is to be full bore and 3000# W. P. minimum.