

ATTACHMENT TO FORM 9-331C

1. The geological name of the surface formation is Tertiary Sand Dunes.

2. Estimated tops of geologic markers:

Base of salt	3010'	
Yates	3110'	
Capitain Reef	3610'	
Delaware Sand	4910'	oil
Bone Springs	7560'	oil
Wolfcamp	10,899'	gas
Strawn	11,582'	
Atoka	11,972'	gas
Morrow	12,560'	gas

3. Casing Design:

<u>Hole Size Casing</u>	<u>Weight</u>	<u>Grade</u>	<u>Setting Depth</u>	
16"	65#	H-40	1150-500'	new
10 3/4"	45.5#	K-55	3400'	new
7"	29#	N-80	12,300'	new
5"	18#	S-95	13,500'	new

4. The 5000 psi BOP stack will be tested to its working pressure prior to drilling below 10,000'. This equipment will be operated daily and kept in working order. Surface casing string will have 24 hours WOC. Casing tests will be made both before and after drilling the plug and below the casing seat with water and pressure testing to 600 psi for thirty minutes. If more than 100 psi loss should occur, corrective measures will be undertaken. The salt string will have 24 hours WOC before drilling the plug and initiating testing. This string will be tested in the same manner except the pressure will be 1000 psi. The intermediate string set at 12,300' shall be handled in the same manner as the salt string except the pressure will be 1500 psi.

5. Proposed Mud Program:

<u>Depth</u>	<u>Mud Wt.</u>	<u>Mud Program Viscosity</u>	<u>Water Loss</u>	<u>Type Mud</u>
0-500'	8.5-9.0	36-40	NC	Gel-Fresh Wtr.
500-3400'	9.8-10.2	28-30	NC	(1) Brine water
3400-10,600'	8.8-9.2	28-30	NC	(2) Cut brine
10,600-12,300'	10.0-12.8 (2)	34-40	15-20	Brine-raise vis w/Drispac & Del-Vis-B Start adding KCl 3-5% by 13,000' starch if needed.
12,300-13,500'	10.0-12.8	34-40	3 or less by 13,400'	Same-Maintain 3-5% KCl w/ WL of less then 3 while drilling Morrow zone.

(1) Use Viscour gel and paper to sweep hole.

(2) Increase wt w/Barite to control Strawn & Atoka.