

AVALON "32F" FEDERAL #2
DRILLING PLAN
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4. Casing Program

<u>Hole Size</u>	<u>Interval</u>	<u>Casing OD</u>	<u>Weight, ppf</u>	<u>Grade</u>	<u>Type</u>
17 1/2"	0-450'	13 3/8"	48#	H-40	ST&C
12 1/4"	0-1700'	8 5/8"	32#	J-55	LT&C
7 7/8"	0-11000'±	5 1/2"	15.5# / 17#	J-55 / L-80	LT&C

Cementing Program

13 3/8" Surface Casing:	Cement to surface -- with 173 sx Pozmix (35% Poz, 65% Class C) with 6% Bentonite with 2% CaCl ₂ , 1/4 lb/sx Cello Flakes + 250 sx Class C with 2% CaCl ₂ , 1/4 lb/sx Cello Flakes.
8 5/8" Intermediate Casing:	Cement to surface – with 200 sx Class H w/10% A-10B, 1% CaCl ₂ , 10#/sx gilsonite, 1/4 lb/sx Cello Flakes + 302 sx Pozmix (35% Poz, 65% Class C) with 6% Bentonite, 5% NaCl ₂ , 5#/sx gilsonite, 1/4 lb/sx Cello Flakes + 250 sx Class C with 2% CaCl ₂ , 1/4 lb/sx Cello Flakes
5 1/2" Production Casing:	Cement to 6500' – with 1014 sx Pozmix (15% Poz, 61% Class C, 11% CSE) with 0.6% FL-25, 0.6% FL-52, 0.3% CD-32, 2 lb/sx EC-1, 5 lb/sx Gilsonite, 1/4 lbs/sx Cello Flakes + 100 sx Class H with 3% KCl ₂ , 1% FL-25, 0.15% R-3

The cement volumes for the 5 1/2" casing will be revised pending the caliper measurement from the open hole logs.

5. Minimum Specifications for Pressure Control

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a (3M system) 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 8 5/8" surface casing and utilized continuously until total depth is reached. As per BLM Drilling Operations Order #2, prior to drilling out the 8 5/8" casing shoe, the BOP's and Hydril will be function tested.