

manifold with a pressure rating equivalent to the BOP stack

B. Testing Procedures:

1. All casing below the surface string will be tested to .22 psig/ft or to 1500 psig, whichever is greater, but not to exceed 70% of the internal yield strength of the casing.
2. All ram type preventers will be tested to the rated working pressure of the stack or to 70% of the minimum internal yield of the casing, whichever is less.
3. Tests will be performed at the time of installation, and prior to drilling out of the casing shoe, and at least every 30 days.
4. The intermediate casing string will be tested prior to drillout by drilling cement to within 15-20 ft of the shoe, raising the drillstring off bottom, closing the pipe rams, and raising the casing pressure to the desired pressure.
5. The production string will be tested prior to drillout or perforating by pressuring to the desired pressure.

D. Slight over pressuring in the Wolfcamp, Strawn, and Atoka formations may be encountered. Drilling fluid levels will be visually monitored while circulating the reserve pit. A flow rate monitor will be installed in the mud flow line and fluid level indicators will be installed on the steel circulating tanks.

4. Proposed Casing and Cementing Programs

A. All casing below the conductor will be either new and manufactured to API specifications or used and reconditioned to Grade "A" specifications. Minimum casing string specification are shown below.

String	Size	Wt/ft	Grade	Thread Type	Setting Depth	Condition
1.	20"	52.73	Sch 10	NA	40' to 80'	Used, Grd. A
2.	13 3/8"	48#	H40	8 rnd. ST & C	500'	New or Grd. A used
3.	9 5/8"	40#	N80	8 rnd. LT & C	surface to 5,000'	New or Grd. A used
4.	9 5/8"	43.5#	N80	8 rnd. LT & C	5000' to 5400'	New or Grd. A used
5.	4 1/2"	11.6#	S95	8 rnd. LT & C	surface to 1,270'	New or Grd. A used
			N80	8 rnd. LT & C	1,270' to 9,950'	New or Grd. A used
			S95	8 rnd. LT & C	9,950' to 11,950'	New or Grd. A used

B. Cementing

1. The hole for the conductor casing will be cut with a rat hole digger and sufficient hole will be cut to drill into consolidated sediments. Since the casing comes in 40 ft lengths, either 40ft or 80 ft of hole will be drilled. After drilling is completed casing will be set on bottom and cemented to the surface with ready-mix cement.
2. The 13 3/8" surface casing will be set at approximately 500 ft in 17 1/2" hole using a guide shoe, insert float, and at least 3 centralizers. It will be cemented to the surface with 100% excess slurry consisting of a lead slurry of 230 sacks