

1. BUP's to be fluid operated. BUP's and all fittings must be in good condition and rated at 3000 psi w.p. minimum.
2. Equipment through which bit must pass shall be at least as large as casing size being drilled through.
3. Upper kelly cock is required and shall be 3000 psi w.p. minimum. Lower kelly cock is (required)(not required).
4. Hydril or comparable safety valve shall be available on rig floor with connection or subs to fit any tool joint in the string. Valve to be full bore 5000 psi w.p. minimum.
5. Hydril or equivalent drill pipe back pressure valve is (required)(not required).
6. All equipment upstream of chokes, including kill line equipment shall be flanged or clamped and of a test pressure no less than that of the blowout preventer. All valves upstream of choke shall be (3") (4") gate valves Cameron type "F" or equivalent. All equipment downstream of chokes may be flanged or screw end gate or plug. Line from spool to manifold cross to be a minimum of 3", straight and short as possible with minimum bends. Other lines may be 2", 3" or 4". Choke manifold, beyond second valve from cross, must be positioned outside of substructure. Manifold, header and all lines must be adequately supported and properly anchored. Two inch (2") lines and valves are permitted on the kill line. All valves designated for H<sub>2</sub>S service are (required) (not required).
7. Blowout preventer closing unit equipment to include accumulator capable of closing, opening and closing the bag and pipe rams with a minimum remaining pressure of 1200 psi. After closure, the remaining fluid volume will be at least 50 percent of original volume. Two independent sources of pump power are required on each closing unit installation and shall meet all IADC specifications. Operating time for closing unit shall not be greater than one minute with charging pump shut down. Time test must be witnessed by Amoco representative while nipping up and test results reported on IADC report. Failure to meet these conditions will necessitate corrective action by contractor and retesting all at contractor's expense.
8. The accumulator must be located at least 50 feet from the well. Blowout preventer controls must be properly labeled and located as close to drillers position as feasible. Floor control valves are (required)(not required).
9. Fluid lines from accumulator to BUP's and all remote control fluid lines shall be steel, and rated at or above maximum accumulator pressure. Lines shall be routed in bundles and adequately protected from damage.
10. Use rams in following positions:
 

	<u>Drilling</u>	<u>Running Casing</u>
Upper ram	Grill pipe	Casing
Lower Ram	Blind	Blind
11. Extensions and hand wheels to be installed and braced at all times.

