







The blowout preventer assembly shall consist of one blind ram preventer and one pipe ram preventer, both hydraulically operated; a Shaffer Tool Works stripper; valves ; chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of cirll pipe. Casing and tubing rams to fit the preventers are to be evailable as needed. The ram preventers may be two singles or a double type. structure height shall be sufficient to install a rotating blowout preventer. If correct in size, the itenged outlets of the ram proventer may be used for connecting to the 4-inch I.D. checke flow line and kill line. The sub-

Minimum operating equipment for the preventers shall be as follows: (1) Pump (s), driven by a continuous source of power, capable of closing all the pressure-operated devices simultaneously within \_\_\_\_\_seconds. The pump (s) is to be connected to a closed type hydraulic operating system. (2) When requested, accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive a fluid charge from the above (2) When requested, accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive a fluid charge from the above lent, is to be available to operate the above pump (s); or there shall be an additional pump (s) operated by separate power and equal in performance capabilities. operated devices simultaneously within pump (s). With the charging pump (s) shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressureremaining accumulator fluid volume at least \_\_\_\_\_ percent of the original. (3) When requested, an additional source of power, remote and equivaseconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the

open and closed positions. A pressure reducer and regulator must be provided if a Hydril preventer is used. Gulf Legion No. equivalent or better, is to be used as the fluid to operate the hydraulic equipment. The closing manifold sholl have a separate control for each pressure-operated device. Controls are to be lobeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided if a Hydril preventer is used. Gulf Legion No. 38 hydraulic oil, an

All valves are to be selected for operation in the presence of ail, gos, and drilling fluids. The choke flow line valve connected to the drilling choke lines shall be constructed as straight as possible and without sharp bends. Easy endsafe access is to be maintained to the choke manifold. The choke monifold, choke flow line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line and the edge of the derrick substructure. All other valves are to be equipped with handles. speel and all rom type preventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond

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