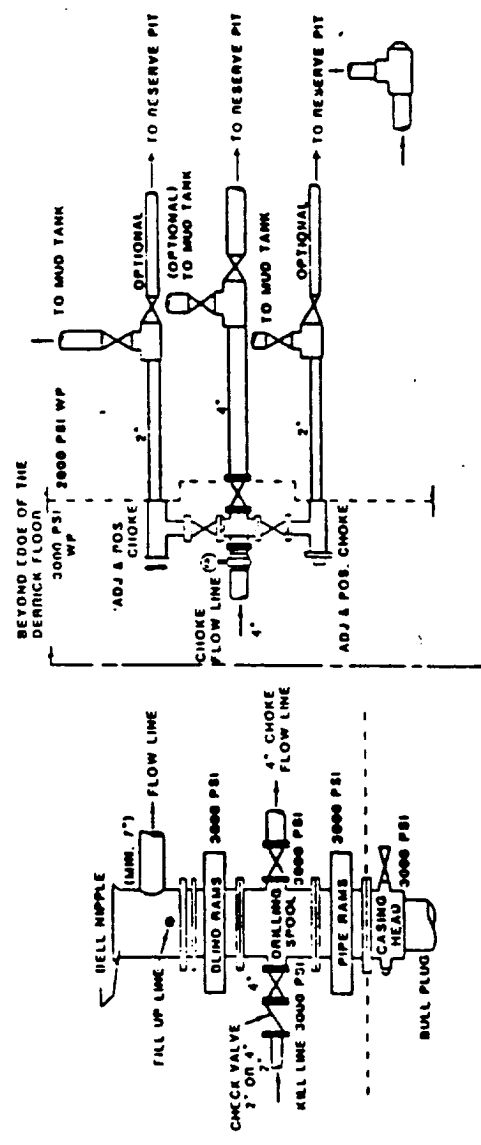


Project

Installed on
#8059 and
ad to drill
nom 450'
to 4500'

HOUSTON REGION DRAWING NO. 2 3000 # WORKING PRESSURE

ADDITIONS-REVISIONS-CHANGES SPECIFY
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The blowout preventer assembly shall consist of one blind ram preventer and one pipe ram preventer, both hydraulically operated, valve chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. The ram preventer may be two singles or a double type. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch choke flow lines and kill line. The substructure height shall be sufficient to install a rotating blowout preventer.

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 at not less than 750 PSI and connected so as to receive a fluid charge from the above pump(s). With the charging pump(s) shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within seconds after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at percent of the original. (3) When requested, an additional source of power, remote and equivalent, 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.

The closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided if an Annular preventer is used. Hydraulic oil will be used to operate hydraulic equipment.

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