Revised April, . 1971 Fill Line Connection -Emergency Kill L'ne Check Valve Floor Manifold onnect To 2" Kill Line Check Valve Hydril"GK" Drilling Casing Rams Spool Roms Ó Head As an Alternate: The Kill B. Relief Connections From The Casing Spool May Be Connected To The Flanged Outlets Of The Bottom Ram Preventer. 10 Choke Manifold Hydraulically Operated Valve Flow Line Flow Line Choke 4.10 2 <sup>9</sup>/<sub>16</sub> " See Choke Manifold Detail Below 2"Chokes To Reserve : Pit & Choke Boxes Beyond Edge of Derrick Floor Minimum Bore — 4" I D. Choke CHOKE MANIFOLD DETAIL To Casing Spool -Hydraulically Operated Valve When Specified Reserve Pit Straight Line From Spool To Reserve Pit \*Pressure Operated Choke When Requested or Specified To Mud Pit & ADDITIONS – DELETIONS – SPECIFY CHANGES

DRAWING NO. 3

## 3000 PSI WORKING PRESSURE BLOWOUT PREVENTER HOOK-UP

The blowout preventer assembly shall consist of one blind ram preventer and one pipe ram preventer, both hydroulically operated, a Hydril "GK" preventer; valves; chokes and connections as illustrated. If a topered 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. If correct in size, the flanged outlets of the ram preventer may ficient to install a rotating blowout preventer. be used for connecting to the 4-inch 1.D. choke flow the and kill The, except when air or gas drilling. The substructure height shall be suf-

ous source of power, capable of fluid charging the total accumulator volume from the nitroyen precharge pressure to its rated pressure within Minimum operating equipment for the preventers and hydraulically operated valves shall be as follows: (1) Multiple pumps, driven by a continu-

accumulators must be sufficient to close all the pressure-operated devices simultaneously within seconds; after closure, the remaining accumulator Fluid volume at least percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities. a pracharge of nitragen of not less than 730 PSI and connected so as to receive the aforementioned fluid charge. With the charging pumps shut down, the pressurized fluid volume stored in the minutes. Also, the pumps are to be connected to the hydraulic operating system which is to be a closed system. (2) Accumulators with seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with

The closing manifold and remote clasing 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 for operating the Hydril preventers. When requested, a second pressure reducer shall be available to limit operating fluid pressures to ram preventers. Gulf Legion No.38 hydraulic oil, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

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 valves 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 derrick substructure. All other valves are to be equipped with handles. 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

\* To include derrick floor mounted controls