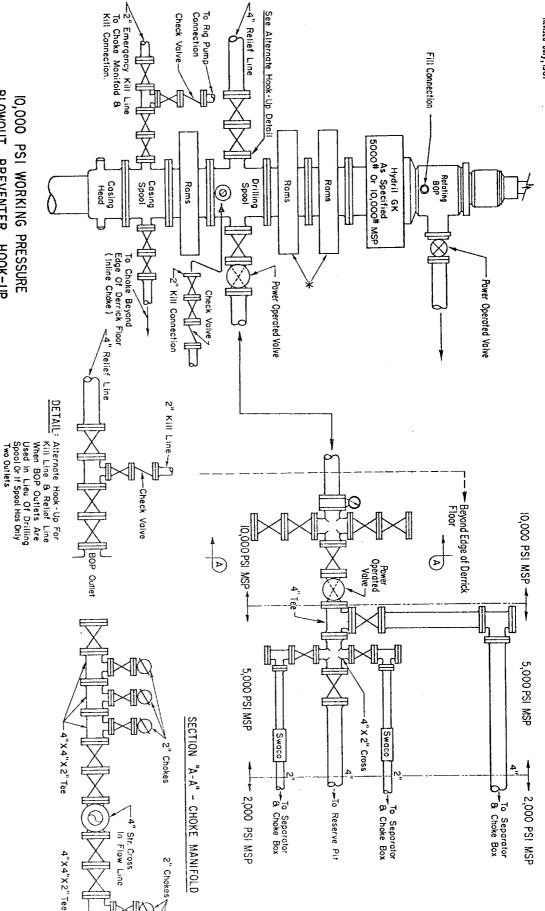
Revised July, 1967 DRAWING NO. 4-a



NOTES

BLOWOUT PREVENTER HOOK-UP

Use Only Open Face Flange Connections

Case Of Use Of Tapered Drill Pipe String An Extra Ram Preventer To Be Added in

Two Singles Or Double BOP Acceptable

al Valve. 4" Relief Line By Use Of Tee And Addition Kill Connection To Be Connected To The In Lieu Of The Drilling Spool. It So, The The 4" Outlets Of The BOP May Be Used

> Minimum assembly will consist of three hydraulically operated ram type preventers, a Hydril GK, a rotating blowout preventer, valves, chokes and connections as illustrated. The working pressure of the Hydril GK will be designated by Gulf at either 5,000 MSP or 10,000 MSP. The two upper ram preventers may be double or singles, open-faced flanged. In lieu of the drilling spool, the flanged outlets of the middle ram preventer, provided they are the correct size, may be used for connecting the two 4-1/16" ID flow lines. If a tapered drill string is used, extra ram preventers will be required.

Minimum operating equipment for the preventers will be: (1) Air or power operated pumps, and (2) accumulator(s) with means of obtaining a fluid charge. A closed system is required. In addition to the above, separate pressure as storage shall be provided. The closing manifold will have a separate four-way valve for each pressure operated device, and a regulator for the Hydril will be provided.* Sufficient fluid capacity in the accumulator(s) shall be available to close all the pressure operated devices at the same time plus 25 percent reserve. Gulf Legion No. 38 hydraulic oil or an equivalent or better shall be used as the operating fluid. Seamless steel piping shall be used to connect from the closing unit to the preventers. Piping is to be tested to maximum rated fluid pump pressure.

provided in and around choke line manifold. All valves throughout the assembly shall be selected for operation on both gas and fluids. The ram type preventers and hydraulically The choke manif operated valves will be provided with stem extensions, universal e preventers to the pits. Easy and safe access will be maintained to choke manifold at all times. If deemed necessary by Culf, walkways and stairways will be d and flow lines shall be supported by metal stands or reinforced concrete. The choke lines shall be anchored. No sharp bends or curves will be permitted in the oints, if needed, and operating wheels which are to extend beyond edge of derrick substructure.

Each four-way valve will be labeled so as to designate which pressure operated device it controls