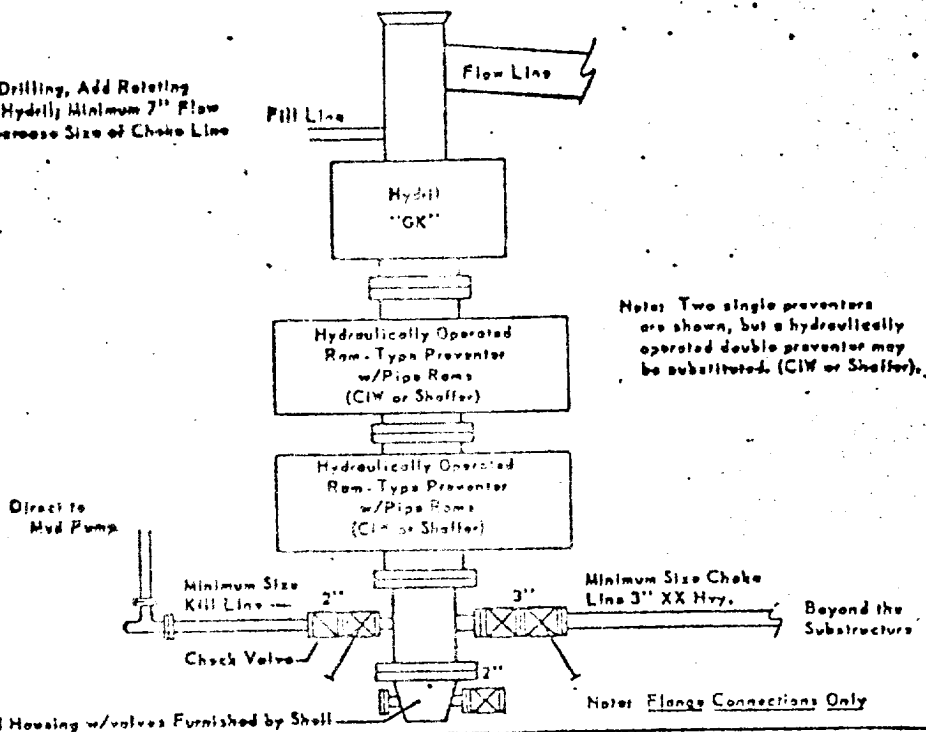


MINIMUM BLOWOUT PREVENTER EQUIPMENT FOR HAZARDOUS INTERMEDIATE PRESSURE SERVICE

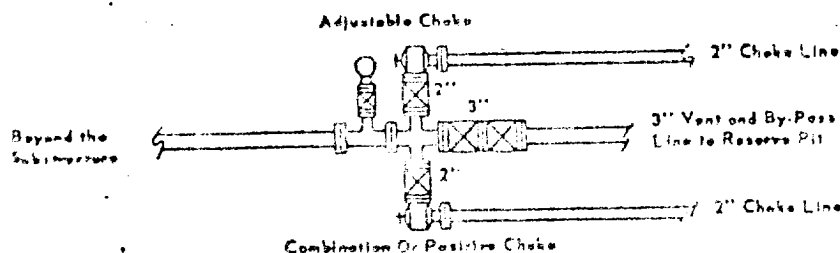
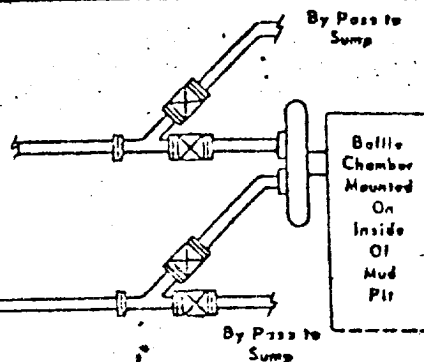
Class II (3000 psi WP - Series 900)

Note: For Air Drilling, Add Rotating Head above Hydril Minimum 7" Flow Line, and Increase Size of Choke Line to 4".



Note: Two single preventers are shown, but a hydraulically operated double preventer may be substituted. (CIW or Shafter).

Casing Head Housing w/valves Furnished by Shell



MINIMUM REQUIREMENTS

1. All BOP's, valves, fittings and lines shall have 3000 psi WP (Series 900) ratings.
2. All equipment from the top preventer to the outermost valve or choke shall be pressure tested to 3000 psi.
3. All valves employed must be gate type suitable for high pressure mud service.
4. Outside valves on spool that are 4" or larger shall be hydraulically operated.
5. The Cameron steel ring and a rubber "O" ring shall be required on all BOP Flange connections.
6. Replacement parts for chokes shall be available at rig.
7. All lines shall be securely anchored.
8. Casing wear ring shall be required when the BOP is larger than the nominal casing size.
9. An 80 gallon hydraulic accumulator with an operating pressure of 1500 psi shall be required.
10. Two control points (a master control manifold and a remote control manifold including Hydril regulator valves) shall be properly equipped and connected to BOP's with steel lines.
11. Inside BOP and Kelly cock shall be provided.
12. BOP's shall have extensions for locking rams.
13. Outside valve on choke line and inside valve on kill line shall have extensions for operating valves.
14. Valve on casing head housing shall be used only in an emergency.
15. Choke and vent line shall be streamlined with no abrupt turns or bends.

RECEIVED

DEC 30 1961

U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO