

weight in and out of hole; pit volume and pump strokes. These should be recorded.

3. Motorman:

Upon hearing the warning blows, go to the valve immediately ahead of the choke manifold and when driller closes the B.O.P.'s, close this valve. Shut off all unnecessary engines and lights and check for fires. Report to the driller and act as a message carrier.

4. Two Roughnecks:

Upon hearing warning blows, report to the driller immediately. One man should contact the tool-pusher or company operator, then report to driller. As soon as driller closes B.O.P.'s, go below and jam locking devices. Report back to driller for further instructions.

D. Pit drills should be held weekly by crew members while tripping pipe. Procedure outline in case of a threatened blow-out.

1. Driller:

Sound warning whistle and tighten with tongs the inside B.O.P.'s that have been put into string by roughnecks. Release the valve plunger and go back in hole with pipe as far as possible. Do not let well gain over 40 bbls. before installing "Below kelly valve" and picking up kelly. Then proceed as in above operations. Note: As back pressure valve has been installed to drill string, drill pipe shut-in pressure is measured by engaging pump only enough to move mud.

2. Derrickmen:

Upon hearing warning whistle, come down from derrick immediately if pipe is not to be run back into hole. Line mud pump on hole and proceed as in above operations.

3. Motorman:

Proceed as in above operations.

4. Two Roughnecks:

Place inside B.O.P.'s into drill string and make up tight with tongs. As conditions exist, help run pipe in hole or pick up kelly and proceed as in above operation for drilling.

E. If the well is shut in with the hydril, regulate the hydril closing pressure to the minimum required to keep the hydril from leaking and run water, mud or oil on pipe above the hydril rubber to prevent tearing. Cut off any drill pipe protector rubbers on joints worked or stripped through the hydril.