

## Procedures for Drilling the Abnormally Pressured Section

### A. NORMAL DRILLING

- (1) During normal drilling, record the normal circulating standpipe pressure and the normal pump speed at least once each tour on the daily drilling report.
- (2) Also, record the pump speed and standpipe pressure at some reduced pump speed, say 1/2 or 3/4 of the normal pump speed.
- (3) Record the latest normal and reduced circulating rates and accompanying standpipe pressures on the morning drilling report.
- (4) Carefully watch the circulating pressure and pit level. A decline in circulating pressure may be an indication that the annulus is being unloaded. A rise in pit level is a definite indication that gas or other foreign fluid has entered the hole unless additions to the mud are being made at the surface. If the pit level rises while drilling and the rise cannot be attributed to trip gas or additions to the mud system, use the normal kill procedure outlined in Section F, Mud Gains While Drilling.

### B. GAS CUT RETURNS WHILE DRILLING

Gas cutting does not significantly reduce the hydrostatic pressure at depth. Drilling should be continued even though returns become gas cut. Observe the drilling precautions of Normal Drilling, Section A, Part 4.

### C. TRIP GAS

- (1) When reaching bottom after a trip and trip gas is expected or suspected: Establish the normal circulating rate. Hold this rate constant as long as possible or until gas is purged.
- (2) Before mud gains occur, close the rotating head outlet and divert the returns through an open choke or annulus back pressure control valve.
- (3) Choke the returns only as required to maintain normal circulating standpipe pressure at normal circulating rate. If necessary to reduce the circulating rate, use the reduced rate determined in Section A-2 and apply choke pressure to hold the corresponding normal standpipe pressure.
- (4) Continue to circulate with constant pump rate and pump pressure until the gas is purged from the hole.
- (5) Allow the pit level to increase.
- (6) If the annulus pressure gets too high for the rotating head, close the Hydril or pipe rams and continue to circulate with the controlled standpipe pressure.
- (7) Continue drilling unless annulus pressures become excessive for the rotating head.

### D. TRIPS

A trip can be made even though mud returns are gas cut if:

- (a) the pit level is normal.
- (b) mud returns cease when the pump is stopped.