

sinker bar can be run on temperature tool in order to get tool to bottom of well.

01-22-91 Finished running temperature survey as specified by the NMOCD. Could not run cement bond log because of outside diameter of the bond log tool. Logged well with temperature log from total depth back to the surface. Found bottom of the drill pipe at 2224' RKB and found bottom of the cement at 2010' RKB. Found top of cement at the surface verifying that well had been effectively cemented in the 9-5/8" csg X 4-1/2" DP annulus in accordance with NMOCD requirements. Ran GRN correlation log from TD to surface. Prior to shutting well in to run temperature log, well was flowing water through drill pipe at the rate of 8.5 BPM (12,240 BWPd) with a flowing surface pressure of 85 psig.

Rigged up Halliburton to finish cementing well so as to bring well under control in accordance with procedures defined by NMOCD. Prior to pumping into well, recorded a shut-in wellhead pressure of 1000 psi which corresponds to a blowout pressure gradient of 0.966 psi/ft $[(2240' \times .52 \text{ psi/ft}) + 1000 \text{ psi/ft}] / 2240' = 0.966 \text{ psi/ft}$. A pressure gradient of 0.966 psi/ft closely corresponds to the water injection gradients in Texaco's Rhodes "B" Federal, Rhodes "A" Federal and Rhodes Yates Unit waterflood projects situated more than two miles south of the Bates No. 2 blowout well. A blowout gradient of 0.966 psi/ft is in excess of the anticipated fracture gradient for the area and far in excess of the hydrostatic gradient for the area.

Started the squeeze cement procedure as defined by the NMOCD. Initially started pumping thixotropic cement into well. Pumped a total of 1500 sx of thixotropic cement down drill pipe followed by 250 sx of a 50-50 blend of API Class-H cement and calseal. After ceasing to pump, pressure held at 1250 psi indicating a good squeeze had been accomplished and that the well was finally under control in accordance with NMOCD prescribed procedures. After waiting on cement for six hours, removed BOP and backed off top joint of drill pipe. BOP's were sent to shop for repairs. Released rig at 5:00 AM 1-22-91.

RECEIVED

JUN 21 1991

OSU
NOBBS OF PL.