(09-30-94 Thru 11-04-94) Continued

additional 35 bbls. gelled fluid and broke circ. TOH w/118 jts. 2-3/8" tubing and 6 3-1/2" drill collars. TIH w/4-1/2" 0D underreamer, 6 3-1/2" drill collars and 119 jts. 2-3/8" tubing. Reamer at 3,897'. P.U. power swivel and installed stripper head. Broke circ. Underreamed OH to 6-1/4" from 3,897' to 3,926'. Circ. hole clean. Lost 70 bbls. while drilling. L.D. swivel and pulled reamer inside casing. TIH w/2-3/8" tubing and p.u. power swivel. Pumped 35 bbls. fresh water to load break circ. Underreamed OH to 6-1/4" from 3,926' to 3,970'. Circ. hole clean. L.D. swivel and removed stripper head. 10H w/121 jts. 2-3/8" tubing, 1.d. 6 3-1/2" drill collars, and 4-1/2" OD underreamer. TIH w/4-3/4", 2 3-1/2" drill collars and 125 jts. of 2-3/8" tubing. Tagged TD at 3,970'. No fill. TOH w/10 jts. 2-3/8" tubing. Bit at 3,673'. TIH w/10 jts. 2-3/8" tubing. Tagged at 3,970". No fill. TOH w/125 jts. 2-3/8" tubing, L.D. 2 3-1/2" drill collars and 4-3/4" bit. Changed BOP rams from 2-3/8" to 4". Bull Rogers casing crew moved in and rigged up. TIH w/4" 11.60# cement float shoe, 1 jt. 4" 11.60# FJ K-55 casing, 4" 11.60# cement float collar, and p.u. 89 jts. 4" 11.60# FJ K-55 RFC casing. Tagged TD at 3,970' and p.u. 1' off bottom. Float shoe from 3,967' to 3,969' and float collar from 3,921' to 3,922.42'. Halliburton moved in and rigged up. Pumped 46 bbl. fresh water pad, 500 gals. superflush, 10 bbl. fresh water spacer, 100 sacks Halliburton light cement and tailed in w/100 sacks Premium Plus cement w/0.5% CRF-3 mixed. Dropped plug and washed up. displaced 4" 11.60 # FJ K-55 casing w/45 bbls. fresh water and bumped plug at 2,000# pp. Note: broke circulation (partial) at start of tail in cement w/1,200# pp. Cement cid not come to surface. Released pressure and checked float collar. Collar holding. Removed BOP and unflanged 11" 3M x 7-1/16" 3M National DP-70 tbg. head. Landed 4" 11.60# FJ casing in slips and cut off casing. Installed seals and 11" 3M  $\times$  7-1/16" 3M National DP-70 tubing head. Pressure tested seal and flanges. Held. Installed 6" 900 BOP and changed rams from 4" to 2-3/8". Closed blinds. Closed in. Waiting on cement. Checked pressure on 10-3/4" surface and 7-5/8" intermediate casing strings. Both strings dead. Bled 158 psi off 5-1/2" casing. All gas. Pressure tested 4" FJ casing to 600 psi and charted 30 min. casing test. Casing held and passed integrity test. Schlumberger moved in and rigged up. Schlumberger was unable to get logging tools and truck to work. Rigged down and moved out. Waiting on second logging truck. Schlumberger again moved in and rigged up. Ran CBL w/GR and collars from surface to 3,904'. Found TOC at 924'. Logs showed good cement from 940' to 3,904'. Rigged down and moved out. Schlumberger moved in and rigged up. Got on depth by logs and shot 22 circ. holes at 900'. Rigged down and moved out. TIH w/4" AD-1 packer and 5 jts. 2-3/8" tubing. packer stopped at 161'. TOH w/tubing and packer. TIH w/4" baker loc-set packer and 19 jts. 2-3/8" tubing. Note: again packer tried to stop at 161'. Set packer at 598'. Pressure tested packer and casing to 600 psi. Held. Established injection rate of 1.5 BPM at 500 psi w/circ. out 5-1/2" 17# casing. Halliburton moved in and rigged up. Est. inj. rate of 1 BPM at 700 psi w/circ. out 5-1/2" 17# casing. Circ. 100 sacks Class "C" through perfs. at 900' to surface. Circ. 60 sacks to pit, 35.5 sacks in 5-1/2" x 4" 11.60# FJ annulus, and 4.5 sacks in 4.0" 11.60# FJ casing. Closed 5-1/2" casing valve and

(09-30-94 Thru 11-04-94) Continued

pressured to 600 psi. Total displacement 4.75 bbls. Calc. TOC at 840'. Waiting on cement. TOH w/19 jts. 2-3/8" tubing and 4" Baker loc-set packer. Note: 5-1/2" casing valve filled w/cement. TIH w/3-1/4" bit, p.u. 6 2-3/8" drill collars, and 20 jts. 2-3/8" tubing. Tagged cement at 789'. P.U. power swivel and installed stripper head. Drilled cement from 789' to 897' and soft cement stringers to 906'. L.D. swivel and TIH w/2 jts. 2-3/8" tubing. Bit at 973'. Pressure tested 4" casing to 540 psi. Casing lost 120 psi in 20 mins. Retested 3 times w/same results. Removed stripper head. TOH w/25 jts. 2-3/8" tubing, 6 2-3/8" drill collars and 3-1/4" bit. TIH w/4" Baker loc-set packer and 29 jts. 2-3/8" tubing. Set packer at 915'. Pressure test down tubing to 980 psi. Casing held. TOH w/1 jt. 2-3/8" tubing and set packer at 884'. Tested casing to 900 psi. Casing held. Tested down tubing to 960 psi. Lost 85 psi in 20 mins. Had same results on retest. TOH w/28 jts. 2-3/8" tubing and packer. TIH w/29 jts. 2-3/8" tubing open-ended at 913'. Move in and rigged up Halliburton. Broke circ. & spotted 25 sacks Micro-Matrix cement plug at 913'. TOH w/18 jts. 2-7/8" tubing and reversed out at 346'. TOH w/remaining 11 jts. 2-7/8" tubing and SN. Closed rams on BOP and squeezed 2.6 sacks into leak in 4 attempts. Max. press.-1,500 psi. CI press.-1,500 psi. Calc. top of cement at 500'. Waiting on cement. TIH w/3-1/4" bit, 6 2-3/8" drill collars, and 13 jts. 2-3/8" tubing. Tagged cement at 594'. P.U. power swivel and installed stripper head. Drilled cement from 594' to 908'. Fell out of cement. Drilled soft cement stringers to 915' and ran bit to 975'. Circ. clean. L.D. swivel and pressure test cement squeeze to 560 psi. Charted 15 min. test. Held solid. TIH w/94 jts. 2-3/8" tubing. Tagged at 3,918'. Picked up power swivel. Drilled plug and float collar at 3,920'-3,922' and cement from 3,922'-3,950'. Circ. 4.0" FJ casing clean. L.D. swivel. Pressure tested casing to 540 psi and charted 30 min. test. TOH w/10 jts. 2-3/8" tubing. Bit at 3,639'. TOH w/110 jts. 2-3/8" tubing, 1.d. 6 2-3/8" drill collars and 3-1/4" bit. Schlumberger moved in and rigged up. Made 4 runs w/2-1/8" Energiet Perf. Gun and perforated 4" FJ casing at 3,804'-3,818', 3,824'-3,846', 3,850'-3,870', and 3,874'-3,896' w/2 SPF for a total of 131 holes. Schlumberger rigged down and moved out. TIH w/FTI's Sonic Hammer and 118 jts. 2-3/8" tubing. Acidizing tool at 3,705 tubing. Acidizing tool at 3,830'. Installed stripper head. NOWSCO moved in and rigged up acidizing equipment. Pressure tested lines to 4,200 psi. Washed perfs. w/49 bbls. fresh water at 3.0 BPM-1,770 psi tubing w/full circ. Acidized 4.0" FJ csg. perfs. f/3,804'-3,896' w/5,000 gals. 15% NEFE DI HCL acid and 3% DP-277 MX chemical mixed in 2 stages: Stage 1: 3,841'-3,896'. OFFICE Acidized w/3,360 gals. 15% acid. Avg. inj. rate 2.5 BPM, 1,600 psi tubing, 890 psi casing. ISIP-380 psi, 1 min. SIP-60 psi, 3 mins. SIP vacuum. Stage 2: 3,804'-3,837'. Acidized w/1,640 gals. 25% acid. Avg. inj. rate 3.3 BPM, 1,800 psi tubing, 600 psi casing. ISIP-300 psi, 1 min.-50 psi, 3 mins. sip-vacuum. TOH w/122 jts. 2-3/8" tubing and acidizing tool. TIH w/4 jts. 2-3/8" tubing, 4" loc-set packer, SN and 120 jts. 2-3/8" tubing. Tubing OE at 3,891'. Packer set at 3,765'. Rigged up swab. Made 5 swab runs for a total of 16 oil and 73 water with a strong show of gas. Starting fluid level at 1,000'. Final fluid level at 2,100'. Tubing pressure-