CASE HISTORY

Drilling and Completions

Casing Annulus Packer

CEMENTING

Casing Annulus Packer and Stage Tool

Location: Kuwait

CHALLENGE: Well construction in Kuwait requires full cementing of surface, intermediate and production casing to the surface across corrosive water zone at 2 - 3,000 ft.

SOLUTION: Run the Casing Annulus Packer (CAP) with the stage tool above, positioned for the second stage. Perform the first stage cementing displacement. Bump the plug and increase pressure to inflate the CAP. Increase pressure to open the hydraulic stage tool. Circulate and condition the annulus and perform cementing operations above the CAP. Drill out the stage tool, float and shoe and continue drilling operations.

RESULTS AND BENEFIT: Approximately 30 wells per year, including both 9-5/8 in. and 13-3/8 in. systems, are run in the Kuwait field development projects.