CASE HISTORY

Drilling Operations: Secondary Cementing

Two-Stage Cementing of Intermediate Casing
Port Collar, LONGCAP, and Combo Tool
Location: New Mexico

CHALLENGE: An operator’s drilling program in New Mexico included wells with challenging cement operations. The weak, naturally fractured, and karsted formation surrounding the middle section of the intermediate casing could not support a primary cement job to surface regardless of the amount of excess cement pumped. The operator required a two-stage cement job to get the cement to surface.

SOLUTION: Using caliper log results, TAM’s Port Collar (PC) and Casing Annulus Packer (CAP) were spaced out in competent formation 50 ft. above the problem zone. The first stage cement was displaced to the CAP setting depth. The CAP was inflated with internal pressure to act as a base of cement for the second stage. The PC was opened with TAM’s Combo Tool (CT) and a secondary cement job was pumped through the PC ports. Cement returns could not be achieved at surface. The second stage cement was pumped out of the well and the CT was used to close the PC to maintain casing integrity while waiting for another load of cement to be delivered and mixed on location. The PC was then re-opened and a second stage cement job including a much larger cement volume was pumped through the PC and up to the surface. After the successful cement job, the PC was permanently closed.

RESULTS AND BENEFIT: Cement was pumped to surface and cement integrity was confirmed. The ability to open and close the PC more than once allowed the second attempt at the second stage to be successful. This saved the operator the costly perf and squeeze operations of using a standard DV Tool.