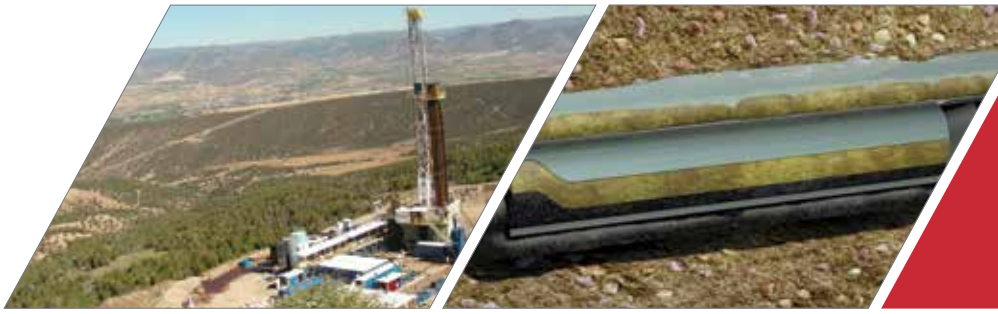
WILD WELL CONTROL



ControlSEAL Resin Sealant

Section Mill Plug and Squeeze

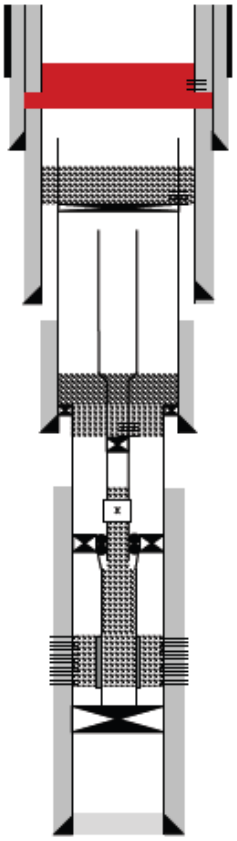
Background

During P&A operations of an offshore well, an operator had made repeated attempts to seal the 10¾ x 16-in. casing annulus; however, the use of conventional cement was not possible due to the inability to establish injection. After multiple attempts, the operator selected to remediate using ControlSEAL™ resin sealant due to its solids-free formulation that allows deep penetration into the microannulus and microfractures.

ControlSEAL Resin Sealant Job

A 5-ft window was milled below the existing perforations through the 10 ¾-in. and out to the 16-in. casing to expose the microannuli and fractures in the cement column. Then, a cast-iron bridge plug was placed 2 ft below the milled window and 5 bbl of 9 ppg unweighted ControlSEAL resin sealant was pumped into place using drillpipe at a rate of 1 bpm. Once the ControlSEAL was placed, the drillpipe was pulled up 4 joints, circulated clean, and pulled out of hole. At that time, 1,000 psi squeeze pressure was applied and monitored for leakoff. After 6 hours, the well was shut in and the ControlSEAL resin sealant was allowed to cure for 42 hours. After a total of 48 hours, the ControlSEAL resin sealant had hardened and effectively sealed the microannuli and microfractures, allowing the operator to continue with P&A operations. No bubbling was observed in the annulus and a positive pressure test was achieved, indicating a successful job.

WELL INFORMATION
Intermediate Casing Size #1: 16 in., 84 lb, K-55
Intermediate Casing Size #2: 10¾ in., 40.5 lb, K-55
Drill Pipe: 3½ in., 13.3 lb
Bridge Plug: 649 ft MD
Section Mill: 647–642 ft MD
Injection Perfs (10 ft): 640–630 ft MD
Max Deviation: 28.23°@ 7,164 ft MD
Well Fluid: 8.6 ppg Seawater
BHT: 70°F



Simplified Schematic Showing a ControlSEAL plug and squeeze