

## 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 10 $\frac{3}{4}$  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.

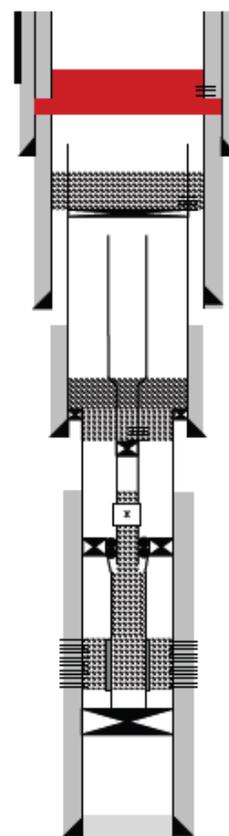
#### ControlSEAL Resin Sealant Job

A 5-ft window was milled below the existing perforations through the 10 $\frac{3}{4}$ -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

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| Intermediate Casing Size #1: 16 in., 84 lb, K-55                 |
| Intermediate Casing Size #2: 10 $\frac{3}{4}$ in., 40.5 lb, K-55 |
| Drill Pipe: 3 $\frac{1}{2}$ 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*