



## ControlSEAL Resin Sealant

### Plug and Squeeze Through Perforations

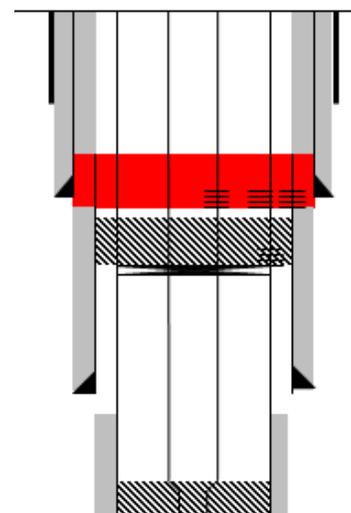
#### Background

During P&A operations of an offshore well, an operator had made repeated attempts to squeeze the 13<sup>3</sup>/<sub>8</sub> x 20-in. casing annulus with cement; however, the cement plug and squeeze operations were not successful at sealing off pressure buildup. The well configuration was challenging due to multiple strings being perforated to reach the 13<sup>3</sup>/<sub>8</sub> x 20-in. casing annulus, which was cemented to surface. The operator selected to squeeze the annulus using ControlSEAL™ resin sealant due to its solids-free formulation that allows deep penetration into the microannulus as well as its ability to create impermeable plugs within casing.

#### ControlSEAL Resin Sealant Job

Perforations were first shot through the tubing, 9<sup>5</sup>/<sub>8</sub>-in. casing, and 13<sup>3</sup>/<sub>8</sub>-in. casing, allowing access to the 13<sup>3</sup>/<sub>8</sub> X 20-in. annulus. Circulation was then established in each annulus. Then, 8 bbl of ControlSEAL resin sealant was systematically pumped

by opening and closing the respective backside of the annulus in which ControlSEAL was being placed. Ultimately, 6 bbl were placed in the 9<sup>5</sup>/<sub>8</sub> x 13<sup>3</sup>/<sub>8</sub>-in. annulus, 1<sup>3</sup>/<sub>4</sub> bbl were placed in the 3<sup>1</sup>/<sub>2</sub> x 9<sup>5</sup>/<sub>8</sub>-in. annulus, and 1/4 bbl of ControlSEAL was left in the tubing. At that time, 1,000 psi squeeze pressure was applied and monitored for leakoff. After 4 hours, the well was shut in and the ControlSEAL resin sealant was allowed to cure for 44 hours. After a total of 48 hours, the ControlSEAL resin sealant had hardened and effectively sealed the 13<sup>3</sup>/<sub>8</sub> x 20-in. annulus, 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

Casing: 20 in., 94 lb, K-55
Casing: 13 <sup>3</sup> / <sub>8</sub> in., 68 lb, N-80
Casing: 9 <sup>5</sup> / <sub>8</sub> in., 53.5 lb, P-110
Tubing Size: 3 <sup>1</sup> / <sub>2</sub> in. OD, 10.2
Top of Cement Plug: 1,850 ft. MD
Perforations: 1,845 ft MD
Max Deviation: 43" @ 13,644 ft MD
Well Fluid: 8.6 ppg Seawater
BHT: 100°F