M&D INDUSTRIES OF LOUISIANA

Failed Packer / Dual String Completion
Unique Solution for sealing a failed packer with Ultra Set®(RESIN)

Key successes achieved during this project:

- Design a plug with maximum compressive strength and shear bond values that is immiscible in water and will fall ~11,500' down a dual string completion and re-form on top of the failed packer creating an effective seal alleviating annular gas pressure/flow.
- Saving time and money by performing rig less well intervention with minimal surface equipment while continuing to produce the well.

FOR MORE INFORMATION:
(888) 862-7177

The Challenge

Energy XXI / M21K, LLC Main Pass 107 Well D-2

The #D-2 well was worked over in March of 2010 and put on production with a 9 $^{5}/_{8}$" casing and two 2 $^{7}/_{8}$" tubing strings. The failed dual string packer was located 11,578'. Through thorough diagnostics it was proven that the packer was leaking and the 9 $^{5}/_{8}$" x (2) 2$^{7}/_{8}$" annulus would build to a maximum 1,463 psi and flow hydrocarbons. After 14 days of diagnostics and recovering hydrocarbons the annular space was believed to finally have a column of filtered seawater + corrosion inhibitor + oxygen scavenger filled to the casing valve.

The Solution

Due to the wellbore geometry and pressures it was decided to test and utilize Ultra Set® which is a unique a right angle setting resin system.

Job Factors

- 250°F Static Bottom Hole Temperature
- 9$^{5}/_{8}$" casing x (2) 2$^{7}/_{8}$" tubing – Dual String Completion
- Minimal surface equipment with small footprint
- Pre tested Ultra Set® (Fluid Design, Metal Coupon, Fall Rate & Fluid Times)

Results

It was decided to run 3.0 bbl treatment of Ultra Set® weighted to 15.0 $^{lb}/_{gal}$. The treatment was injected down the 9$^{5}/_{8}$" casing x (2) 2$^{7}/_{8}$" tubing annulus's. After 3 bbl's of Ultra Set® was allowed to fall through the casing annulus (11,500') and allowed to coalesce on top of the failed packer, pressure was applied to the casing valve. The pressure was maintained for 5 days as weather delayed the crews from getting back to location.

Well Post Treatment results indicated: Casing annulus passed a positive and negative pressure test for 24 hours.