Abstract Form

Name: Craig Zimmerman

Company: Bluewater Thermal Solutions

Email Address: czimmerman@bluewaterthermal.com

Presentation Title: Case study comparing wall loss measurements due to sucker rod wear, erosion and corrosion on boronized versus untreated OCTG production tubing in a rod pumped oil well.

Brief Abstract:

In this case study, an oil well was operated until failure with 20 joints of new boronized tubing installed just above the pump with new untreated L80 tubing installed above the boronized tubing. A 24-arm caliper measuring tool on a wireline was used to measure wall loss from the bottom of the tubing string to the surface. The twenty boronized joints at the bottom of the well were measured to only have 18% average wall loss. The next twenty untreated L80 tubes directly above the boronized tubing were measured to have 40% average wall loss including one tube that had failed due to a rod on tubing hole in tubing failure. This comparison demonstrates that the boronized tubing had less than half of the wall loss compared to untreated tubing operating next to it in the same well. In addition to this case study, over 3 years of data collected by a major operator demonstrates that the wall loss measured on borided tubing installed just above the pumps is less than half the wall loss on conventional L80 tubing operating just above the borided tubing in the same string. Boronized tubing can be used to extend the operating run time of oil wells by preventing hole in tubing failures wherever it is placed.