



# Weatherford®

## REAL RESULTS

### Effective Inhibition Program Provides Significant Increase in COROD® Continuous Rod Run Life in Highly Corrosive, Slant Application

#### Objectives

- Increase the run life of the well in a slant application. The slant well exhibited high levels of corrosion that negatively impacted run times. High concentrations of hydrogen sulfide (H<sub>2</sub>S) and carbon dioxide (CO<sub>2</sub>) and a 99% water cut contributed to multiple failures, prompting the client to pull the rod string after a 90-day run life.
- Increase the run life of a progressing cavity pump (PCP) application situated in a highly corrosive environment.

#### Results

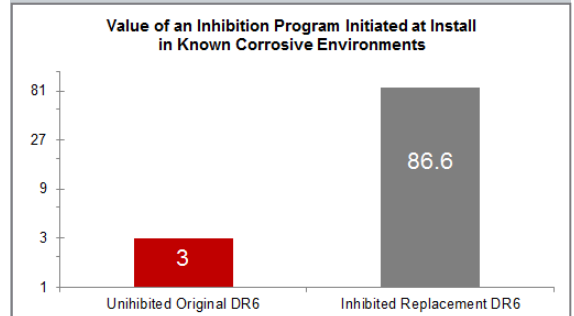
- Weatherford's team of application specialists installed a COROD D-grade carbon steel (DR) continuous rod string into the 30°-plus slant well to reduce the contact loading that causes severe tubing wear. D-grade carbon steel (DR) continuous rod was selected for the torque required for this medium-load PCP application.
- To provide adequate protection from corrosion, the client worked alongside Weatherford's team of corrosion specialists to implement an inhibition program that delivered 35 liters of inhibitor downhole per week.

#### Value to Client

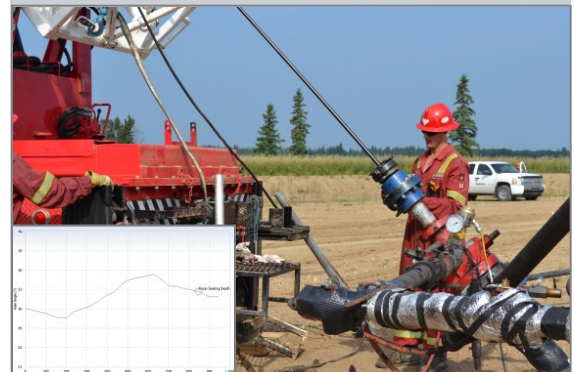
- By combining the correct COROD continuous-rod metallurgy with an effective inhibition program, Weatherford increased the run time of the well, substantially reducing production losses and avoiding costly well interventions.
- COROD continuous rod's uniform body design enabled a dispersion of contact loads within the slant-well application, significantly reducing tubing and rod wear and extending the lifespan of the rod assembly.
- Controlling the corrosion process with an effective chemical inhibition program lengthened the overall run life of COROD continuous rod from 3 months to more than 7 years. To date, the well is still operating.



Sample of continuous rod that failed from corrosion fatigue after 3 months.



The graph above illustrates the added value of combining the proper COROD continuous rod metallurgy with an effective inhibition program.



The graph above illustrates the added value of combining the proper COROD continuous-rod metallurgy with an effective inhibition program.

#### Location

Alberta, Canada

#### Well Type

Onshore, slant well

#### Deviation

Slant pad-drilled well

#### Products/Services

COROD continuous rod

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