



Weatherford®

REAL RESULTS

eCTD™ Motor and MillSmart™ Technology Go the Distance, Save Operator Valuable Rig Time

Objectives

- Mill out scale debris from approximately 9,514 to 10,387 ft (2,900 to 3,166 m) through a 2 7/8-in. completion in a well with high levels of hydrogen sulfide (H₂S). Wireline operations had confirmed that scale was not the only obstruction in the tubing. Further milling was required to ream out Shamrock connection seals from a restrictive 2.195-in. ID to the specified tubing drift ID of 2.347 in., allowing full bore access throughout the completion string. In addition, to achieve returns in this drilling environment (H₂S and low reservoir pressure) an underbalanced approach was needed.

Results

- ClearCut™ series thru-tubing mills, specially designed for use with Weatherford's line of high-performance drilling motors, were used to deliver optimal penetration rates and longevity.
- Milling was successfully completed in 51 hr of uninterrupted drilling time, without complications, using a ClearCut thru-tubing mill and an eCTD positive displacement motor, powered by 75% nitrogen-assisted fluid. Use of high-alloy INCONEL® bottomhole assembly components prevented damage to, and failure of, the motor and accessories in the H₂S environment.

Value to Client

- The ability to leave the completion in place, work through tubing, and maintain motor performance and longevity minimized the effects of the operation on the producing reservoir and reduced overall costs.

ClearCut thru-tubing mills, with MillSmart technology, are specially designed for use with Weatherford's line of high-performance drilling motors to deliver optimal penetration rates and longevity. The eCTD motor was selected for this operation because it features a stator of uniform thickness to provide more consistent performance in harsh operating conditions.

Location

Red Deer, Alberta, Canada

Well Type

Gas producer

Tubing Size

2-7/8 in.

Depth

10,387 ft (3,166 m)

H₂S

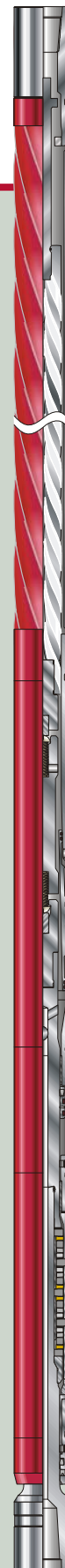
16.0%

Bottomhole Temperature

230°F (110°C)

Products/Services

- Thru-tubing services
- eCTD positive displacement motor
- ClearCut thru-tubing mills



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Weatherford International Ltd.
515 Post Oak Blvd., Suite 600
Houston, Texas 77027 USA
Tel: 713-693-4000
www.weatherford.com

Weatherford
Josh Thompson
Canada Thru-Tubing Product Line Manager
1-403-341-4431

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