



# Weatherford®

## REAL RESULTS

### Mechanical Straddle Packer Assembly Isolates Multiple Zones, Facilitates Selective Treatment, Improves Injectivity

#### Objectives

- Selectively stimulate various zones by isolating and treating each zone with the treatment fluid. The multiple zones with widely variable permeability made stimulating the well via bullheading from surface an ineffective option, because the injection water or treating acid was being absorbed only in the most permeable zone.
- Eliminate the hazard of exposing tubing to corrosive acid. Wax sticking to the tubing wall causes acid to be spent, due to the acid dissolving the wax, again making bullheading ineffective.

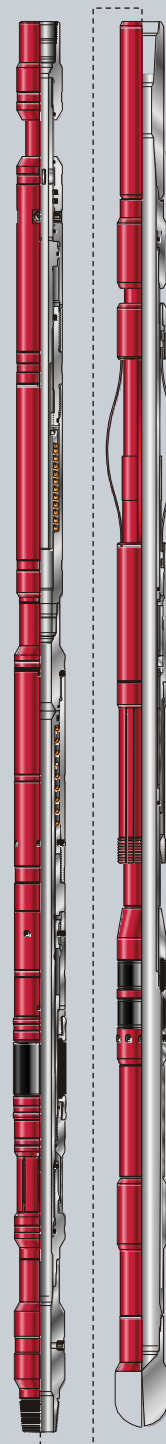
#### Results

- Weatherford deployed the mechanical straddle tool on coiled tubing and the assembly was set multiple times in the wellbore.
- Selective treatment of individual zones using the thru-tubing mechanical system achieved vertical fluid conformance in all the injectors.
- A series of chemicals was used to target different damage-causing situations, such as deposition and scaling issues.
- Injectivity and vertical conformance was improved from 5,000 bwpd (794 m<sup>3</sup>/day) to 25,000 bwpd (3,974 m<sup>3</sup>/day).

#### Value to Client

- Using Weatherford's mechanical straddle tool system enabled the operator to improve injectivity, critical for the enhanced oil recovery pilot and conformance for taking this pilot well forward to a polymer-flooding stage.
- The lessons learned from this stimulation technique would prove to be critical when expanded to the entire FM1 sand, where improvement in vertical conformance would result in significantly higher recovery.

Weatherford's mechanical straddle tool is a mechanical, tension-set system that can be used for a variety of monobore selective treatment applications. The system consists of a set-down unloader, a Jet Pack® packer, and the coiled tubing packer.



**Location**  
Rajasthan, India

**Formation**  
Sandstone

**Well Type**  
Onshore, water injection

**Hole Size**  
3.958 in.

**Depth**  
4,080 ft (1,200 m)

**Coiled Tubing**  
1.75 in.

**Production Tubing**  
4 1/2-in., L-80

**Products/Services**  
Thru-tubing  
mechanical straddle tool

Weatherford  
Anas Qutob  
Region Applications Engineer  
anas.qutob@me.weatherford.com

Weatherford  
Jivesh Khemchandani  
Thru-Tubing Engineer  
jivesh.khemchandani@me.weatherford.com

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