

# Reclaim™ Thru-Tubing P&A Solution Sets Cement Plugs Across Dual-Casing Annulus, Main Bore Using Coiled Tubing, Eliminates Section Milling Operations

## Objectives

- Isolate the 5 1/2-in. main bore and both the 7-5/8 and 10-3/4 in. casing annulus with cement using coiled tubing.
- Perform a rig-free abandonment operation in the following sequence:
  - Perforate, wash, and cement 277 ft (84.4 m) at a measured depth (MD) of 1,080 ft (329 m)
  - Drill out cement to 1,060 ft (323 m) MD
  - Perforate, wash, and cement dual casing at 1,080 ft (329 m) MD
  - Perforate and cement from 70 ft (21.3 m) to the surface

## Our Approach

- The operator engaged Weatherford to determine a solution to plug and abandon a well originally drilled as an oil producer in February 2010. The well had been designated for abandonment and the operator required a cost-effective plan.
- After a thorough study, Weatherford recommended the Reclaim thru-tubing plug and abandonment (P&A) solution to perforate, wash, and seal off the main bore, the 5 1/2- x 7 5/8-in. annulus, and the 7 5/8- x 10 3/4-in. annulus using coiled tubing in three stages.
- Single casing perforation charges selected by Weatherford were deployed in one run. These charges only perforated the 5 1/2-in. casing and did no damage to the 7 5/8-in. casing.
- The cementing acid wash tool (AWT) was deployed on coiled tubing and a washing cycle was performed moving the AWT in a downward direction and washing the perforations and flushing the back side of the 5 1/2- x 7 5/8-in. casing. Several passes were performed across the perforated interval. The interval was cemented dynamically in a pump-pull motion from the bottom to the top of the perforations.
- The cement slurry was pumped into the annulus and back into the main bore above the cementing tool. As the tool was pulled out of the hole at a controlled rate through the slurry, the vacuum effect created by the cups and through the path of the bypass of the tool deposited the cement above the cups and below the bottomhole assembly (BHA), leaving both the annulus and main bore cemented in one pass.
- For the second part of the operation—plug and abandon the 7 5/8- x 10 3/4-in. annulus—the cement was drilled out with coiled tubing and a downhole motor. The action created an access to the interval to re-perforate the 7 3/4-in. casing through the 5 1/2-in. casing using the dual casing perforating charges.



The Reclaim thru-tubing P&A solution is a revolutionary system that enables fast and reliable plug and abandonment operations without the need for high-horsepower rigs or complex completion-retrievals.

### LOCATION

United States

### WELL TYPE

Oil producer

### FORMATION

Cased-hole environment

### HOLE SIZE

Vertical

### CASING SIZE AND TYPE

5-1/2 in., 53.5 ppf L80  
7-5/8 in., 29.7 ppf P-110  
10-3/4 in., 45.5 PPF J-55

### MEASURED DEPTH

1,060 ft (323 m)

### PRODUCTS/SERVICES

- Reclaim thru-tubing P&A solution
- Bull nose sub
- Motor head assembly
- LBS diverter sub 5,000 psi
- LBS diverter sub 3,200 psi
- Stabilizer subs
- Acid wash tool
- 3 1/8-in. TCP guns 12 spf PAC standard charges
- Firing head
- 3 1/8-in. TCP guns 6 spf PAC-C charges



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## Our Approach

- After a re-wash cycle, the cement was placed, filling the 5 1/2- x 7 5/8-in. annulus, the 7 5/8- x 10 3/4-in. annulus, and the main bore with cement, thus placing a vertical and lateral cement seal.
- Finally, Weatherford experts also selected the dual casing perforating charges to perforate 20 ft (6 m) at 70 ft (21 m) MD, and the cement slurry was placed from 70 ft (21 m) to the surface vertically and laterally filling the 7 3/4-in. casing annulus, 10 3/4-in. casing annulus, and the main bore with cement.

## Value to Customer

- The entire operation was completed in only three days, abandoning the well and isolating the wellbore from potable water sources.
- By using coiled tubing to abandon the well, the Reclaim solution eliminated a potential costly and high-risk section milling operation while maintaining the overall drilling operation.



By setting cross-annular plugs from the tubing, the Reclaim solution substantially reduces the time and costs associated with pulling and properly disposing of contaminated tubing. This rigless, thru-tubing process saves valuable time and costs without sacrificing barrier performance—ensuring long-term environmental protection.

