

CASE STUDY: 2-7/8" AMP Mills Obstruction and Plugs in Minutes to Bring Oil Well Onto Production - MEXICO

| case study no. 0023



Overview

Location: Mexico

Well/Run Type: Milling / Oil & Gas cleanout run

Run Length: Cleanout to 1890 meters (~6200 ft)

Products / Services: InFocus 2.875" AMP - All Metal Power section

Objectives

The objective was to open three perforated intervals to production following hydraulic fracturing operations. The previously perforated zones were isolated by composite plugs below a dense layer of spent proppant. Operator needed to displace the proppant and mill out the plugs to open the well.

Results

Operator decided upon a milling BHA run on 2-in. coiled tubing (CT). Service company recommended the InFocus AMP: All Metal Power section for its elevated weight on bit ratings to carry high loads for milling and well-cleaning operations.

At the wellsite, the team planned to mill the composite plugs and displace any proppant that had been left in the wellbore as a result of previous frac jobs.

While running in the hole, the CT operator detected an obstruction above the first plug, and pulled up the CT up to establish circulation at 3 barrels per minute. The CT cleaned out proppant to the top of the first plug, then started milling. By applying a 6,000-pound weight on bit, the first plug was milled. After milling through the first plug, the CT milling assembly moved deeper and milled out the second plug.

Benefits

Based on previous experience within the same field, CT milling times were significantly reduced. Typically it takes 60 minutes to mill a plug; however the InFocus AMP milled the first plug in 20 minutes, and took only 16 minutes to mill the second plug.

The InFocus AMP supplied the torque required for clearing the obstruction and milling plugs to open the hole for production operations.

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OPERATIONAL NOTES

Well Type

Onshore Oil Producer

BHA

- 2-in. Coiled tubing and milling BHA
- 2 7/8-in. External dimple connector
- 2 7/8-in. Motorhead assembly
- 2 7/8-in. Downhole filter
- 2 7/8-in. Thru-tubing motor w/AMP: All Metal Power section technology
- 3 3/8-in. Venturi basket
- 3 3/4-in. Concave blade mill

Casing Size & Type

- 7-in., 20 lb/ft H-40
- 4 1/2-in., 11.6 lb/ft N-80

Total Depth

~6,200 ft (1890 m) MD

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