

Wireline and Coiled Tubing Services Deliver Cement Bond Evaluation across a long horizontal interval, reduce rig-time costs by 30%

Objectives

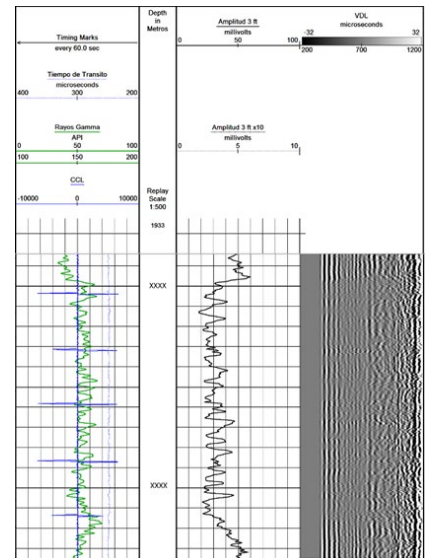
- Acquire logging data need to assess casing cement bond quality before launching hydraulic fracturing operations.
- Riglessly run logging tools to total depth (TD) in a horizontal well with a tortuous trajectory.

Our Approach

- The operator of an unconventional well called on Weatherford to obtain cased-hole logs to assess cement integrity before undertaking hydraulic fracturing operations.
- After learning that the drilling rig had already moved offsite and that logging would be impacted by small-diameter casing in a high-angle wellbore, Weatherford logging experts teamed with their pressure pumping colleagues to develop a logging plan for operator approval.
- Weatherford deployed a team to the wellsite with a suite of logging tools, coiled-tubing (CT) unit, and crane. The crane suspended the CT gooseneck over the wellhead, and Compact logging tools were made up to the CT.
- The CT unit carefully controlled the descent of the logging toolstring through the horizontal interval to reach total depth (TD).
- The logging engineer ran the slim-hole 2 1/4-in. Compact logging tools in memory mode and activated them upon reaching TD. The logging tools did not rely on conventional wireline power, but instead ran on batteries. The Compact gamma ray, variable density, and compensated sonic logging data was recorded as the 2-in. CT was pulled to surface.
- The logging crews retrieved the logging tools at surface and downloaded the data for operator review.

Value to Customer

- The Weatherford team capitalized on CT conveyance to acquire logging data within a long, tortuous horizontal wellbore. The logging data enabled the operator to assess and confirm cement-bond quality throughout the well. With confidence in the cement bond, the operator was able to proceed directly with hydraulic fracturing operations.
- Flawless execution by this team enabled the customer to avoid incurring additional costs to save 30% in rig time.



Weatherford logging and coiled tubing crews acquired gamma ray, variable density, and compensated sonic logs to validate the quality of the cement bond.

LOCATION

Tamaulipas, Mexico

WELL TYPE

Onshore, horizontal, exploratory

FORMATION

Upper Jurassic Pimienta mudstone

HOLE SIZE AND ANGLE

6-1/8 in., 90.6°

CASING SIZE AND TYPE

4 1/2-in., 15.9-lb/ft P-110

CASING INSIDE DIAMETER

3.71-in.

TEMPERATURE

244°F (118°C)

DEPTH

13,195 ft (4,022 m)

PRODUCTS/SERVICES

- Wireline logging services
 - Compact™ memory logging tools
- Coiled-tubing services
 - Downhole conveyance

