

Argentina

Successful zonal isolation in complex formations

Tuned® Defense™ E cement spacer combined with IsoBond™ cement system provides excellent CBL results

CHALLENGE

- Prevent and cure seepage losses during cement operation
- Achieve proper zonal isolation

SOLUTION

- IsoBond™ cement system with short transition time
- Tuned® Defense™ E cement spacer for loss control
- Optimized slurry design for complex formations

RESULT

- Achieved good cement bond log results
- Enabled continued drilling into production section
- Prevented fluid losses during cementing
- Improved zonal isolation and long-term integrity

Overview

The Vaca Muerta basin in Argentina ranks among the world's largest unconventional reservoirs. To unlock the full potential of unconventional oil resources, hydraulic fracturing through cemented casing strings must achieve proper zonal isolation. This ensures effective stimulation and long-term well integrity.

Challenge

An operator drilled in a new area of the basin and faced low fracture gradients and significant losses. Cement bond log (CBL) results in the 7 5/8-in. intermediate section of the first three wells were unsatisfactory. The operator required a reliable top of cement (TOC) to isolate the Quintuco formation and confirm integrity at the shoe before advancing to the production section. Although formation integrity tests (FIT) returned positive, poor cement bonding at the shoe raised concerns about long-term isolation and fluid migration

Solution

Halliburton recommended the IsoBond™ cement system, a tailored slurry that offers excellent fluid-loss control and a short transition time. IsoBond cement system builds rapid gel strength and reduces permeability, which helps improve anchoring and prevents debonding that could allow fluid or gas migration.

To further improve placement, Halliburton pumped Tuned® Defense™ E cement spacer ahead of the IsoBond system. This spacer displaces mud efficiently and helps control losses in permeable and fractured zones, especially in environmentally sensitive areas. It also helps reduce the need for remedial cementing and protects production zones.

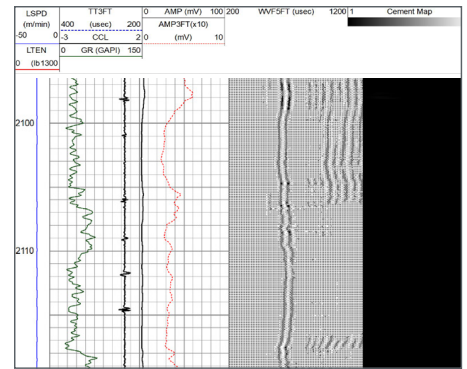


CASE STUDY

Result

This operation was the first application of Tuned Defense E cement spacer in Argentina. The team pumped 60 bbl of 10.5-lbm/gal spacer ahead of a 12.5-lbm/gal lead slurry and a 15.6-lbm/gal tail slurry at 4 bbl/min. This approach optimized annular velocity without exceeding the fracture gradient. No losses occurred during the operation.

The operator achieved excellent CBL results and confirmed cement integrity at the shoe. This success allowed continued drilling into the production section and improved long-term zonal isolation.



Excellent CBL result with readings of <10 mV across the shoe and proved bonding by a successful formation integrity test (FIT).

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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