

Engineered Spacer Helps Sonatrach Achieve Cement Bond Goal

CemPRIME Scrub spacer with chemical wash removes mud from washouts, Algeria

For a cementing operation in an exploration well with severe washouts, CemPRIME Scrub* engineered scrubbing spacer with chemical wash and good cementing practices helped Sonatrach achieve excellent bond logs with top of cement as designed.

Sonatrach's goal

Achieve complete zonal isolation—verified with bond logs—and no sustained casing pressure (SCP) for the 8-in hole section of a high-temperature exploration well.

Why it was challenging

Drilling with water-based mud (WBM) left severe washouts up to 15 in, which reduced mud removal efficiency. In addition, centralization was limited, and the exploratory nature of the project meant the frac gradient was unknown, leading to uncertainty about pumping rates. A prior well cemented conventionally under similar conditions in the same reservoir had a poor bond log.

What Schlumberger recommended

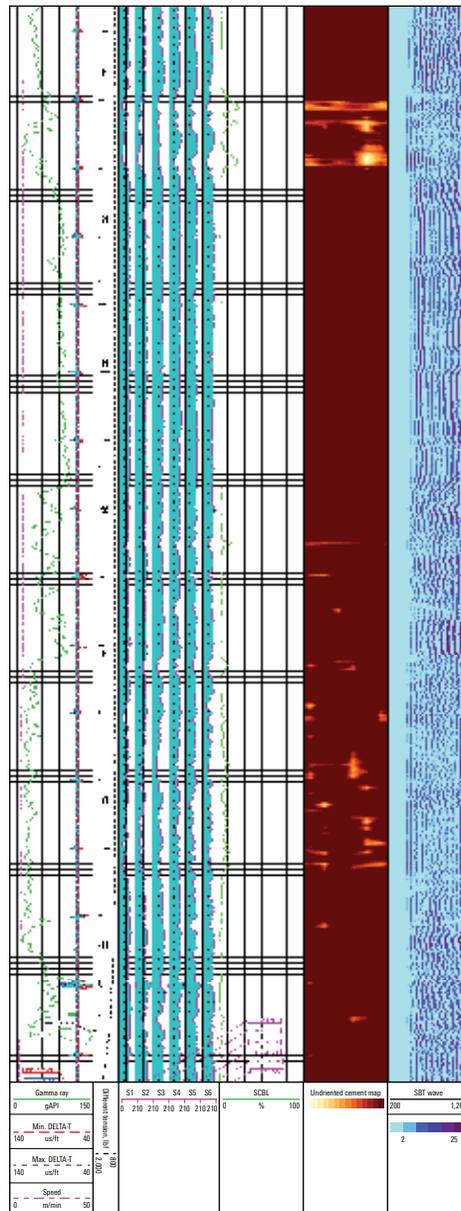
The proposal included CemPRIME Scrub engineered scrubbing spacer enhanced with surfactants and mutual solvents to help thin and remove mud in the washouts; a formation integrity test (FIT) to assess safe cement placement rate; pumping at a high displacement rate (1,400 L/min as determined from the FIT); minimal mud yield point of 14 lbf/100 ft².

What happened

The spacer train and cement were pumped as designed. Top of cement reached the planned depth with a successful 3,000-psi pressure test and excellent cement bond across the section.

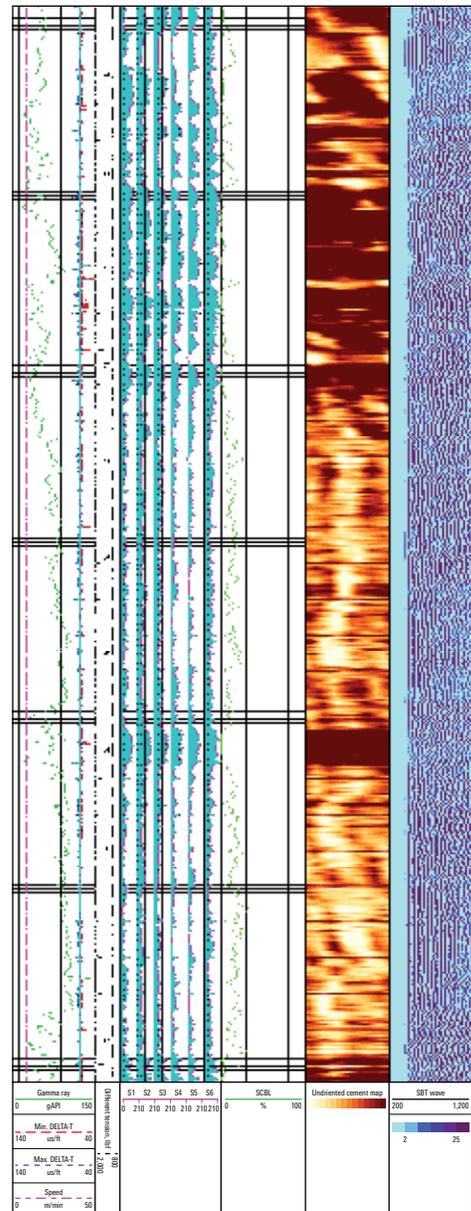
Well treated with CemPRIME Scrub spacer

7-in casing job with very severe washouts across the reservoir section



Well treated with conventional spacer

4½-in liner in the same reservoir with less washout severity



Cementing after an engineered CemPRIME Scrub spacer resulted in an excellent bond log (left) despite washouts and other complications. Using a conventional spacer in a previous well—with less washout severity—in the same formation resulted in a poor bond log (right).

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