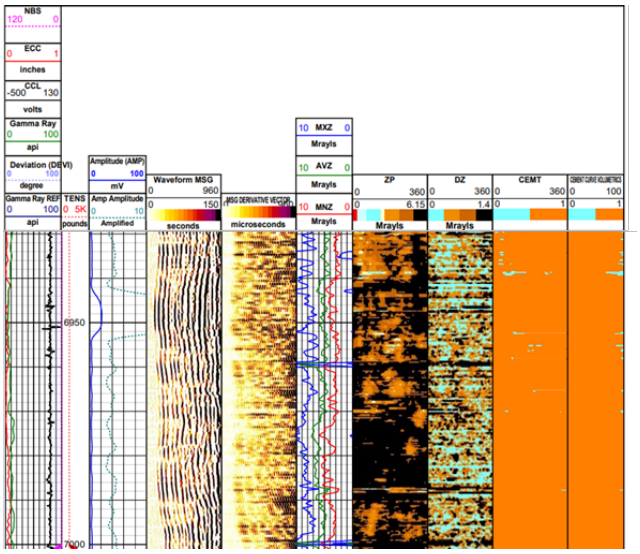
WCGB-300 Latex Powder Enhances Gas Migration Control, Ensures Good Cement Bonding in Debut Deployment, Enhances Long-Term Well Stability



The cement evaluation of the 7-in. liner (CAST-CBL-GR-CCL).

Objectives

- Enhance gas migration control to prevent gas channeling and ensure well integrity.
- Improve cement bonding for better zonal isolation and long-term well stability.
- Implement latex powder technology for the first time, offering safer handling and more efficient fluid mixing compared to traditional liquid latex.

Our Approach

- The Weatherford team conducted a thorough evaluation of well conditions, gas migration risks, and cementing challenges including a review of the historical cementing performance. The experts identified the need for improved gas control and bonding.
- The team chose the WCGB-300 latex powder technology for the first time to enhance gas migration control and cement bonding. The engineers selected a powder-based latex over liquid latex for safer handling and faster mixing, improving operational efficiency. They designed an optimized cement slurry formulation, ensuring compatibility with downhole conditions.
- The Weatherford engineering team conducted comprehensive lab testing to validate the performance of the latex powder under well conditions, including a cement hydration analysis (CHA) test, to evaluate slurry performance and stability. To optimize fluid properties for improved placement and bonding, the team adjusted the yield point (YP) to 18-20.

LOCATION
Qatar

WELL TYPE
Oil producer

FIELD AND FORMATION
Dukhan, Arab-D

HOLE SIZE AND ANGLE
8-1/2 in., 90°

CASING
9-5/8 in., 47 lb./ft K-55 BTC

LINER
7 in., 26 lb/ft L-80

TEMPERATURE
197°F (91°C)

PRESSURE
2,831 psi (19.5 MPa)

MEASURED DEPTH
8,652 ft (2,637 m)

PRODUCTS/SERVICES
- Cementing services
- Pressure pumping services
- WCGB-300 latex powder

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Our Approach (Continued)

- Field personnel successfully mixed and pumped the latex-enhanced cement slurry, ensuring efficient placement and uniform coverage. They monitored the job in real time to verify slurry stability, density, and displacement efficiency.
- The operator achieved enhanced gas migration control, preventing gas channeling and ensuring well integrity. The project ensured good cement bonding, improving zonal isolation and long-term well stability.

Value to Customer

- The job successfully demonstrated the operational benefits of the WCGB-300 latex powder, marking a first-time use with proven performance in handling, mixing, and cement placement.
- Effective gas migration control was achieved, preventing gas channeling and ensuring zonal isolation and long-term well integrity.
- Cement bond quality was enhanced, strengthening the sheath and minimizing the risk of annular gas migration or future integrity failures.
- The use of the WCGB-300 powder improved safety by eliminating hazardous handling risks, spills, and chemical exposure associated with liquid latex.
- Environmental impact was reduced by avoiding the storage, disposal, and transport challenges linked to liquid additives.
- Operational efficiency was improved through faster slurry preparation and reduced mixing times, enabling better job scheduling and reduced nonproductive time (NPT).
- Cost savings were realized in both equipment requirements and overall job execution, resulting in a more economical cementing operation.
- The project concluded with a smooth and successful well completion, reinforcing the viability of powdered latex for future operations.

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