

LOCATION: KENYA

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SealBond LT Spacer System Helps Isolate Heavy-Fluid-Loss Zone



An operator working in Kenya was preparing to cement the 7-in. casing section of a new well. While running the casing however, the operator began to experience severe lost circulation issues, and had to reestablish circulation after each casing joint was run in-hole. This indicated to the operator that the fracture gradient (FG) was lower than previously thought—which was verified through subsequent analysis—and it became clear that the planned cement program would exceed the FG, leading to lost circulation and failed zonal isolation. With only two days until cementing was scheduled to begin, the operator asked Baker Hughes, a GE company (BHGE) for a re-designed cement program that would achieve the necessary zonal isolation and prevent losses.

After working with the operator's team to re-design the cement slurries—using CemFACTS™ and WellTemp™ software to

analyze the new data—BHGE recommended the SealBond™ LT cement spacer system with the SealBond Plus additive in a ratio of 10 pounds per barrel. The system forms a permeable seal over the formation, mitigating lost circulation issues during cementing and reducing cement loss and formation damage. It helps reduce filtrate invasion, prevent cement fallback, and increase equivalent circulating density (ECD) at casing depth in wells where the fracture gradient limits the design of the cement density. Additionally, the Fiber™ lost circulation material would be pumped at 1 pound per barrel with the cement slurry to mitigate losses during the cementing operation.

Because the fracture gradient was low and the zone to be cemented was 7,224 ft (2202 m) long, this newly proposed design needed to be pumped through a stage tool. Discussions with the tool provider were

Results

- Cemented zones of interest with zero NPT and no losses
- Attained desired TOC and required zonal isolation
- Achieved isolation results consistent with simulations

Challenges

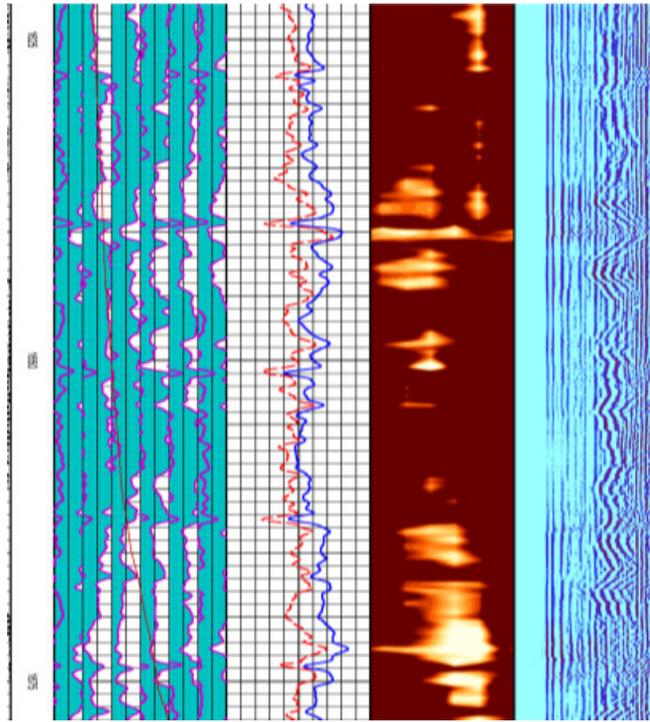
- Prepare an extended openhole section for cementing
- Prevent losses in low-fracture-gradient zones

BHGE solution

- SealBond LT spacer system
- SealBond Plus spacer system

undertaken to confirm the inside diameter of the stage collar ports (approximately 28 mm) and share tool-specific guidelines. This resulted in a tailored slurry design with a lost circulation material (LCM) loading suitable to be pumped through the known tool restrictions.

After the cement was pumped, and despite the reduced slurry weight, post-job logging showed good cement bond and successful zonal isolation, with top of cement (TOC) being achieved as planned. The cementing was finished with no non-productive time (NPT), and the segmented bond log (SBL) showed adequate cement bonding across all zones of interest.



Post-job SBT logs showed the BHGE cementing solution delivered complete radial cement coverage, no connected channels, and a full cement sheath along the wellbore at the critical stage collar depth.

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