

Lithology	Naturally fractured limestone
Depleted zone depth, m [ft]	1,400 [4,600]
Initial mud weight, g/cm³ [lbm/galUS]	1.08 [9.0]
Loss-control mud weight, g/cm³ [lbm/galUS]	1.03 [8.6]
Sidetrack kickoff point, m [ft]	1,050 [3,400]

Background

An operator was preparing to abandon a depleted zone and then sidetrack the well at a shallower depth to access additional reserves. Immediately after the depleted zone's packer was milled, the well incurred circulation losses of 3.2–4.8 m³/h [20–30 bbl/h] across the perforations. The mud was loaded with sawdust and rice husk, reducing density to maintain the fluid level in the well for cementing.

Technologies

- LiteCRETE* lightweight cement slurry
- CemNET* advanced loss-control fiber technology

*Mark of Schlumberger

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Cement Plug with CemNET Technology Enables Sidetrack After Lost Circulation Event, Pakistan

Low-density LiteCRETE slurry isolates depleted zone for abandonment



To deliver lightweight cement with high compressive strength and avoid losses, Schlumberger designed and delivered a 2.4-m³ [15-bbl] cement plug comprising LiteCRETE slurry at 1.44 g/cm³ [12 lbm/galUS] and CemNET technology at 4.3 kg/m³ [1.5 lbm/bbl]. No losses were seen after the plug hit the perforations, and the well had full returns during reverse circulation. After setting, the plug was tagged with 5-t weight on bit and the well pressure tested to 6.9 MPa [1,000 psi].