

Fiber Technologies Control Fluid Losses While Cementing Riserless Tophole in Deepwater Malaysia

Losseal pills and fiber-laden cement help operator reduce lost circulation and successfully cement unconsolidated zones

CHALLENGE

Control lost circulation while drilling and cementing through unconsolidated, faulted zones in a deepwater well.

SOLUTION

Integrate Losseal* composite mat pills, CemNET* fiber technology, and DeepCRETE* deepwater cementing system to reduce the volume of lost mud and slurry.

RESULTS

Controlled fluid losses, achieved top of cement (TOC), provided structural casing support, and avoided remedial cementing operations.



Unconventional lost circulation solution needed for deepwater well

While drilling a well in an unconsolidated, faulted formation, an international oil and gas company encountered severe lost circulation. In the tophole riserless section, drilling fluid was leaking through the unconsolidated and faulted zones. After switching the fluid from seawater to heavier mud, no returns were observed at sea bed.

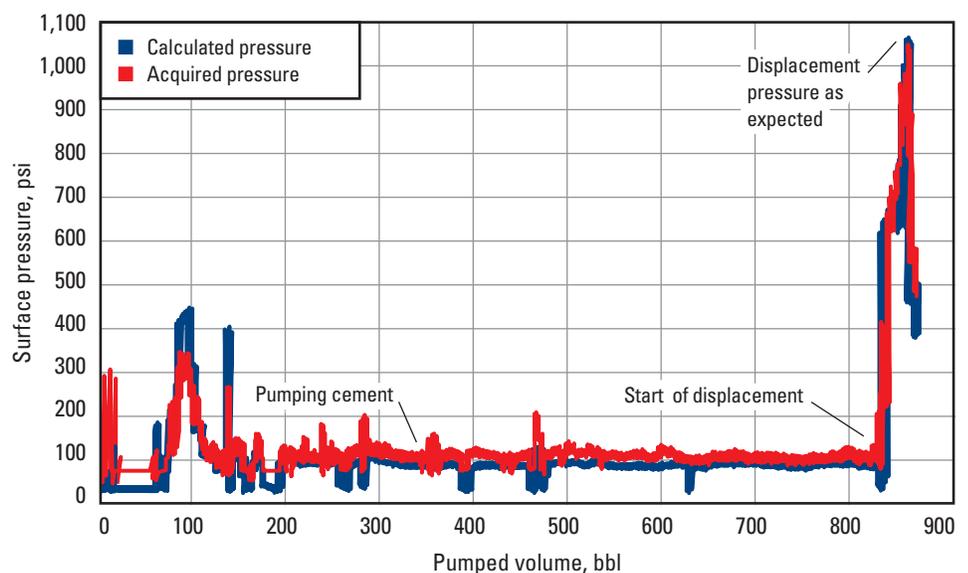
The loss of fluid to the formation presented cementing challenges, as any fluid heavier than seawater could cause circulation losses and compromise the structure to secure the blowout preventer (BOP) stack. Proper cementing was critical to ensuring the casing and formation would support the weight of the wellhead, BOP, and riser. It would also allow the operator to drill subsequent hole sections when needed.

Fiber technologies stopped lost circulation in unconsolidated formation

After conventional methods of establishing full circulation were ineffective, Schlumberger proposed Losseal composite mat pills, an innovative blend of fibers and sized solids, to plug thief zones. In addition to the Losseal pill, the operator and Schlumberger added CemNET fiber technology to DeepCRETE deepwater cement slurry to regain circulation.

TOC reached, time saved, and remedial cementing prevented

The job pressure profile showed that the final displacement pressure met expectations. Top of cement was very close to planned depth, despite the loss of circulation prior to cementing. Compared with similar wells that had failed due to lost circulation problems, the oil company reduced drilling time and avoided at least 2 days of remedial cementing operations.



Fluid returns to seabed and matching pressure profiles confirmed structural well integrity on the deepwater cementing project.