

Significant Reduction of Ultrafines in Synthetic-Based Mud Leads to Successful Mud Recovery

Offline mud treatment using RHE-USE centrifuge system overcomes contaminated mud challenge, saves more than USD 90,000 in dilution, Argentina

CHALLENGE

Significantly reduce or eliminate low-gravity solids (LGS) that could not be removed by traditional solids-control equipment.

SOLUTION

Performed offline treatment of the contaminated mud volume using the proprietary RHE-USE* two-stage centrifuge system.

RESULTS

Generated more than USD 90,000 in dilution savings by reducing LGS content from more than 10% to less than 3%.



Recovery of synthetic-based mud depends on removal of LGS

After drilling several horizontal wells in Argentina, Total wanted to use the recovered synthetic-based mud to drill the next well. However, the mud contained more than 10% LGS that could not be eliminated mechanically by traditional solids-control equipment due to the small size of the solids incorporated in the mud.

Unconventional wells in the region are designed with lateral sections of 6,562 ft [2,000 m] or more drilled with mud densities from 1.7 sg [14.2 lbm/galUS] to 2 sg [16.7 lbm/galUS]. In this configuration, the control of ECD and circulating pressures is a challenge and the increase of plastic behavior caused by the accumulation of ultrafine solids had resulted in significant dilution rates while drilling previous wells, causing elevated mud costs.

Offline treatment of LGS addresses mud cleanup

Schlumberger recommended using the new RHE-USE two-stage centrifuge system to clean the synthetic-based mud of the majority of the ultrafines and thus reduce dilution costs associated with LGS issues. The RHE-USE system enables the extraction of ultrafine solids from invert emulsion muds using a chemically enhanced centrifuge.

For operations in Argentina, the technology was set up as a trailer-mounted unit to deliver fast and flexible treatments, offline or directly on the active mud system according to customers' needs.

Total realized significant savings from offline treatment

The effective duration of the offline treatment was 70 h. The savings Total generated by the treatment were more than USD 90,000 in dilution.



The RHE-USE two-stage centrifuge system delivered fast and effective mud treatment in Argentina.

CASE STUDY: RHE-USE centrifuge system overcomes contaminated mud challenge, Argentina



Offline synthetic-based mud treatment significantly reduced ultrafines.



The offline mud treatment on several horizontal wells successfully cut LGS from >10% to <3%.

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