

Haynesville Operator Reduces Low-Gravity Solids by More Than 65%, Saving USD 120,000

RHE-USE two-stage centrifuge system ensures high drilling performance while saving 1,300 bbl of diesel

CHALLENGE

Reduce the volume of low-gravity solids in the oil-base drilling fluid without using wasteful, costly dilution methods.

SOLUTION

Use RHE-USE* two-stage centrifuge system to remove low-gravity solids during drilling.

RESULTS

- Treated and reused 3,200 bbl drilling fluid, reducing mud-related costs by USD 120,000.
- Maintained mud system low-gravity solids (LGS) at an average of 3.5%, down from more than 10%.
- Cut rate of diesel dilution by nearly 50%, saving 1,300 bbl of diesel.



Low-gravity solids caused drilling challenges

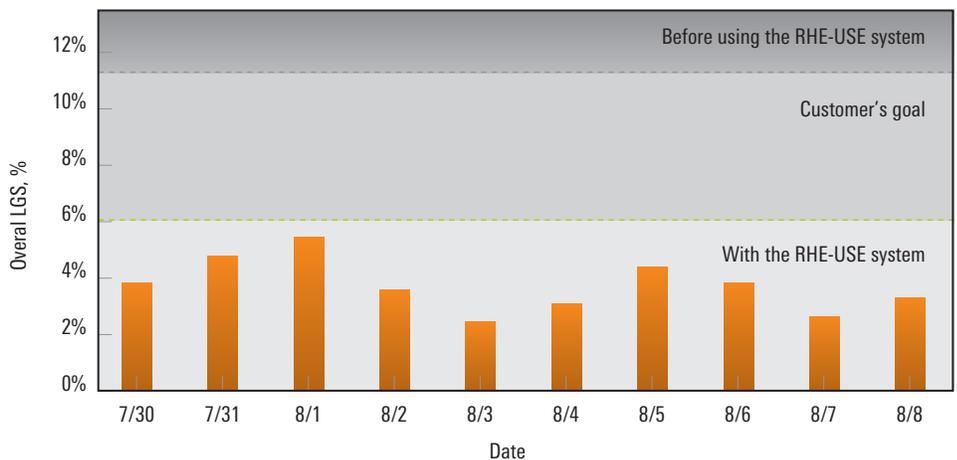
During a drilling campaign in the Haynesville shale, an operator used the same mud on multiple wells. Over time, low-gravity solids accumulated in the fluid, eventually exceeding 10% of the mud volume. Because LGS can lead to tool failure, extra trips, and lower rate of penetration, drilling fluid specialists diluted the fluid with diesel and chemical additives. While effective, this continuous-dilution strategy resulted in higher mud volume, HSE risk, and drilling costs.

RHE-USE system removed ultrafine solids

M-I SWACO recommended the RHE-USE two-stage centrifuge system as an economical, environmentally viable alternative to continuous dilution. Unlike conventional mechanical separation technologies, the RHE-USE system can extract ultrafine solids from oil-base drilling fluid. The RHE-USE system employs a mechanical and chemical process to remove solids as they enter the mud system, dramatically increasing plastic viscosity, drilling performance, and cleaning efficiency.

Operator saved 1,300 bbl of diesel, USD 120,000

This innovative fluid processing system helped the operator treat and reuse 3,200 bbl of drilling fluid. The RHE-USE system maintained an average of 3.5% LGS content throughout the drilling process—a reduction of more than 65% compared with previous LGS content. In addition, the RHE-USE system reduced the rate of diesel dilution by nearly 50%, saving 1,300 bbl of diesel valued at USD 120,000. By minimizing dilution, the operator also eliminated costs associated with transportation, storing, and reconditioning excess mud volume on location.



Overall LGS% remained stable with the RHE-USE system and exceeded the customer's goal because new solids were removed effectively as they came out of hole.