



## Drilling Fluids / Solids Control

# CLAY GRABBER® clay encapsulator injection at centrifuges reduces water demand, improves drilling performance and saves US\$35,000

Location: El Coca, Ecuador

### Operator's Challenge

The operator wanted to reduce water consumption and lower costs by decreasing the dilution rate required to run a water-based mud (WBM). An improved solids control strategy would help achieve these benefits and minimize the environmental impact of the operations.

### Halliburton's Solution

The Baroid team, using the available solids control equipment on the rig, implemented a "selective flocculation" process on two wells.

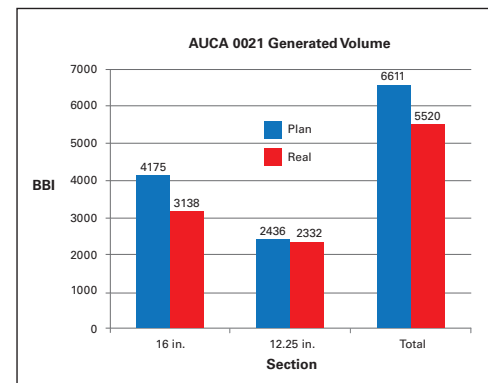
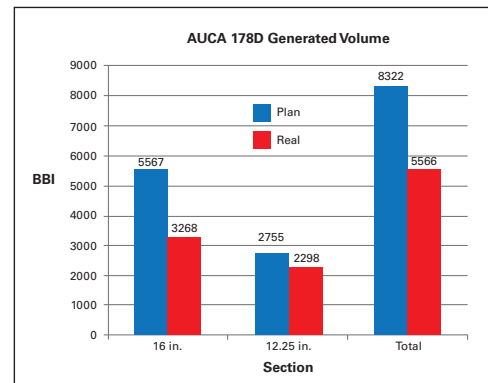
The team modified centrifuge operations by injecting the feed stream with the liquid CLAY GRABBER® shale stabilizer and clay encapsulator. Mixing this additive into the normal flow of mud helped boost the efficiency of the centrifuges to 90-100%. The low-gravity solids (LGS) were flocculated and encapsulated for easier removal, with no adverse effects on the mud properties.

The process produced an 8.5-ppg effluent with zero Methylene Blue Test (MBT) that retained acceptable rheological properties and the specified American Petroleum Institute (API) filtrate value.

The clean fluid was directly discharged to the active system, resulting in a significant reduction in the MBT value of the entire fluid system. The low LGS content helped improve the fluid's drilling performance and to reduce dilution demand.

### Economic Value Created

Over the course of the well, the dilution rate was decreased by 16% on average compared to the programmed value. The new low LGS and MBT content saved approximately \$35,000 in water consumption, logistics, and improved fluid performance. The process also helped deliver a better environmental footprint.



Planned vs. actual dilution volumes after CLAY GRABBER® encapsulation treatment

CHALLENGE	SOLUTION	RESULT
High solids content caused excessive dilution rates, costly water consumption, and impaired drilling fluid performance.	Liquid CLAY GRABBER® clay encapsulator was injected into the centrifuge feed streams to improve solids removal.	Centrifuge solids removal efficiency increased to 90–100% and the dilution volumes required fell by 16% on average, for a savings of US\$35,000.