

Alpha Shaker increases fluid handling capacity by 10 to 15% in the Haynesville Basin

Higher capacities and drier cuttings reduce cost and carbon footprint

Case study facts

Location: Haynesville, Texas

Customer: Independent drilling company

Results

- Alpha handled 10 to 15% more fluid capacity than the King Cobra Hybrid
- Drier cuttings
- 50% beach area
- Ran two shakers instead of the usual three



Background

As drilling operations continue to increase in speed and complexity, shakers must process more drilling fluids and drill cuttings faster, safer, and cost effectively. During batch drilling in the Haynesville Basin, an independent drilling company ran three Brandt™ King Cobra shakers—two 2.5 hp and one Hybrid 3.5 hp—in the water-based section. Before the curve and lateral section of the well, the new Alpha™ Shaker replaced one of the 2.5-hp shakers. Though three shakers were available, all the flow went to the Alpha and King Cobra Hybrid shakers in the oil-based section.

Solution

Alpha is a high-capacity, single-deck shaker that does not sacrifice drier cuttings for higher fluid handling capacities. During the field test, the Alpha Shaker operated with a 2.5-hp motor and API 170 Premium X-tended Life (PXL) screens installed at a -1° basket angle, while the King Cobra Hybrid ran with a 3.5-hp motor and API 170 PXL screens installed at a 0° basket angle.

Results

Alpha consistently handled 10 to 15% more capacity than the King Cobra Hybrid and could have taken on more fluids. At a maximum flow rate of 350 gal/min and rate of penetration (ROP) of 80 ft/hr, the Alpha processed 100% of the drilling fluids. Meanwhile, the King Cobra Hybrid lost fluid.

The Alpha Shaker could have handled more capacity because even at the -1° deck angle, fluids covered about 50% of the screening—beach—area. Typically, fluids cover 75% of the screening area, such as on the King Cobra Hybrid. Even with finer screens, the Alpha Shaker maintained a 50 to 75% beach area.

By consistently producing drier cuttings, the Alpha enabled the independent drilling company to retain more drilling fluids. This improved drilling performance and reduced dilution costs and waste haul-off. The less waste generated at the wellsite lowers the drilling operation's carbon footprint and cost.