

VENOM™ Series Screens Come Out on Top in Head-to-head Comparison

Challenges

- High-temperature, fast drilling rate environment
- Unacceptable rate of competitor screen failures
- Limited on-board consumable storage capacity
- Excessive screen replacement costs

Well Information

- Location: Offshore, West India
- Operator: Major operator
- Rig Type: Jack-Up
- Well Type: Development
- Drilling Fluid Type/Density: Synthetic-based mud (SBM) / 11.7 lb/gal (1.4 sg)
- Bottomhole Temperature (BHT): 150°F (66°C)
- Rate of Penetration (ROP): 79 ft/hr (24 m/hr)

Solution & Results

- Identify alternative OEM screens with higher durability and separation efficiency.
- Assess performance of VENOM series screens in high-temperature, fast drilling 12 ¼-in. intermediate hole.
- VENOM screen exhibited nearly six times longer operational life.
- Enhanced screening capacity allowed for faster drilling with high mud weights.



Reusable VENOM screen (left) and discarded non-OEM competitor screen showing visible damage after the head-to-head field comparison.

The solids control package on the jack-up rig used in a challenging development drilling program off the west coast of India comprised LCM-3D cascade shakers fitted with a competitor's non-OEM composite screens. In earlier wells, the moderately high bottomhole temperature coupled with fast drilling rates resulted in an unacceptable rate of screen failures and separation inefficiency, increasing costs and further straining an already tight on-board storage capacity. Consequently, the operator required an alternative OEM screen that would last longer while delivering higher solids separation efficiency than the existing screens.

The operator arranged two comparative field trials of the existing non-OEM composite screen and the uniquely engineered WSS FluidControl VENOM screens, which employ a heat-resistant metal-backed frame design, novel mesh combinations and engineered to fit all COBRA™ and LCM series shakers. For the head-to-head comparison, both API 140 screen sizes were fitted on matching LCM-3D cascade shakers with identical G-Force and deck conditions. The aim of the comparison was to directly evaluate and document the respective performance, durability, solid separation percentages, as well as the different mud weights of the effluent and discharges.

From installation through operation, the VENOM screens proved far superior and more cost effective. Not only were the VENOM screens easier to install, but since they require no crown deck rubber, the costs and storage requirements of shaker spares were reduced considerably. Under identical drilling conditions, the VENOM screens lasted approximately six times longer than the competitive composite screen, thanks in no small part to the metal-framed backing that withstands higher downhole temperatures.

The VENOM screens delivered a comparatively higher cut point, enhanced conductance and screening capacity. Unlike the competitor screen, the VENOM series screen remained intact, preventing the bypass of solids to downstream equipment.

The longer operational hours, fewer consumables required, and the associated increase in total footage drilled combined to reduce the operator's costs appreciably. In addition, an WSS FluidControl representative was on location to train rig personnel on the proper installation and maintenance procedure to ensure continual high performance.

To learn more about how the improved efficiencies of our VENOM shaker screens can reduce your costs, contact your nearest WSS FluidControl representative.

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