Triple VSM 300™ Shaker Package Proves Ideal Solution for Fast-paced Oman Drilling Program

Challenges

- Low-rig structure, requiring redesigned shaker distribution system
- Multi-well drilling
- Rigs designed for fast drilling, rapid moves
- Solids control required to handle high ROP, maintain fluid parameters
- Avoid any bottle necks in drilling operation

Well Information

- Location: Onshore Oman
- Operator: Major operator
- Project: Multi-well drilling program
- FluidControl equipment: Triple VSM 300 shaker
- Installation: Permanently fixed

Solution & Results

- Redesigned BRANDT™ Triple VSM 300 shaker integrated distribution system to meet flow line angle restrictions.
- Vastly enhanced solids control package managed high ROP and delivered cleaner mud, requiring less dilution.
- Screens replaced quickly to meet ever changing drilling conditions.
- Reduced drilling limitations posed by previous installations.
- Ensured solids control was not a bottle neck to faster drilling.
- Improved safety on low profile mud tanks by providing an extremely low weir height allowing transport without removing the shakers.

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The rigs employed in a high profile drilling program in the desert of south-central Oman are designed to drill quickly and move rapidly between locations. Wells in the field are drilled in four to six days on average and the competitor solids control systems used earlier were simply unable to keep pace, resulting in bottle necks in the drilling operation. The operator requested FluidControl provide a solids control solution that would not only be capable of delivering high-capacity separation and adapt to ever-changing drilling conditions, but also mobilize quickly and often. What's more, as the rigs are drilling continuously with scheduled maintenance planned well in advance, it was critical the shakers operate within that schedule to avoid any slowdown in drilling operations.

The FluidControl solution was to redesign the distribution system of its high-capacity, BRANDT Triple VSM 300 shaker package to accommodate the low structure of the rigs. Since the rig design posed an issue with flow line angles, the system had to be re-engineered to avoid U-tubing with the bell nipple height and facilitate flow- line jetting to prevent solids from settling. This requirement added even more flow to the already high GPM the shaker would be required to process. To make sure it all worked as planned, a dedicated project engineer was designated to oversee the installation and the first two weeks of operation.

The modified Triple VSM 300 proved to be the optimal solids control package and effectively kept pace with the high-rate drilling program. It successfully handled the high ROP and kept the drilling fluid well within its programmed parameters. What's more, unlike the previous solids control package, the proprietary pneumoseal clamping system enabled screens to be changed in a matter of minutes, even during connections, to effectively address the continuously changing drilling conditions. The operator was even able to use two finer API screen sizes, further helping to produce cleaner mud, less dilution and reduced risks of downhole problems.

In addition, the unique solids control package adeptly dealt with the many sweeps required to properly clean the hole while drilling the difficult tar-laden formations. The shakers used previously had required up to a 20% drop in the circulating rate, which generated noticeable wellbore pressure fluctuations and cuttings settlement. None of these issues were observed with the Triple VSM 300 shaker package.

The redesigned distribution system (photo on left) showing the lack of angle on the structure of the rig and the booster jets inserted into the flow line to prevent solids from settling. The Triple VSM 300 shaker package on the rig (photo on right).

To learn more about how our BRANDT Triple VSM 300 shaker on a single skid can help you achieve similar results in multi-well drilling programs, contact your nearest FluidControl representative.