



## Norwegian Pavilion

# CHANGING THE SOLIDS CONTROL LANDSCAPE IN THE MIDDLE EAST

By: Cubility AS – Middle East

**Whatever the industry, there comes a time when a new market space and technology comes together to meet a specific challenge. One area in the oil and gas sector where a certain technology is beginning to fulfill this role is in solids control, the management of drilling fluids, and the handling of waste generated.**

Norwegian-based company Cubility will be at ADIPEC this year, showcasing its MudCube solution, a technology offering that is changing the Middle East solids control landscape - improving solids separation, enhancing the quality of drilling muds to deliver superior drilling, and reducing waste costs.

The effectiveness of drilling fluids and their integrity is highly dependent on the solids control solutions that surround them and their ability to separate the mud from rock particles. If there are too many solids in the mud, rates of penetration are reduced and other drilling dysfunctions are experienced, such as excessive torque and drag, downhole tool erosion, and lost circulation.

Despite these significant stakes and potential downsides, solids control technology innovations have barely changed over the past few decades. Traditional shale shakers, using high-energy vibrations and excessive G-forces to filter out solids for discharge or treatment, have historically performed the maintaining of drilling fluids and the separation of rock particles.

Shale shakers however, are limited by a lack of separating efficiency, high fluid adherence and surface mud loss, excess drilling waste generation and serious HSE issues for operators. This leads to an increase in the solids content in the drilling fluid, a decline in drilling fluid efficiency, and a negative impact on penetration rates and equivalent circulating density (ECD).

In addition, there are high capital and operating expenditures associated with traditional shale shakers, due to the need



for the multi-panel screens to be replaced on a regular basis.

The MudCube, however, replaces the traditional process of shaking fluid and solids, with drilling fluids vacuumed through a rotating filterbelt that uses high airflow to more effectively separate the cuttings from the fluid. The solids removal efficiency ensures that as much as 80 per cent more mud is recovered than competing technologies, generating significant mud and waste management cost savings.

The cleaned drilling fluids are then returned to the active mud system and the drilled solids, that are carried forward on the filterbelt, discharged either directly overboard (if offshore) or to a cuttings handling system.

The improved separation capabilities of the MudCube leads to higher quality drilling fluid, fewer chemicals required to maintain its properties, more drilling fluid recycled back to the mud tanks to be reused for drilling, and less waste.

There are also improved drilling efficiencies associated with optimal ECD. With some Middle East operators drilling wells in excess of 30,000 feet, ECD is critical for well control, improving drilling efficiency and optimising tripping rates.

Other benefits include leaner and more

cost-effective rig designs (both onshore and offshore) whereby typical 3-deck shale shakers (each weighing around three metric tonnes) can be replaced by lighter 1.5 tonne MudCubes. The superior filtration efficiency of the MudCube also eliminates the need for additional solids control and rig equipment, including the de-sander, de-silter, centrifuge, cuttings dryer and HVAC systems.

Furthermore, many Middle East integrated service providers, particularly in the land market, are participating in lump sum turnkey contracts where a fixed price is agreed for the execution of a project and a functioning asset is ultimately handed over to the client.

In such cases where minimising total cost of ownership is critical, the MudCube generates significant savings by reducing mud chemical and screen consumption, and minimising waste management costs.

The enclosed, high-airflow design of the MudCube provides Middle East operators and rig contractors with a modern, efficient primary solids control solution that reduces OPEX and environmental risk and enhances safety for users.

*Visit Cubility at the Innovation Norway stand to see a full-sized MudCube.*