



BaraSolve™ Services and BaraStream™ Solutions Save Rig Time and Cost

MEDITERRANEAN SEA, EGYPT

CHALLENGES

The customer contracted a drillship with a screw conveyor as the primary, and only, means of transporting cuttings from the shakers to a zero-discharge cuttings handling system:

- » Only able to fill two skips at once
- » No contingency in case of mechanical failure of the screw conveyor or the rig crane
- » Bad weather could leave operations vulnerable to crane and vessel availability
- » Port closures could interrupt the supply of cuttings skips to the rig

SOLUTIONS

Baroid proposed employing the BaraSolve™ Engineering Services team, along with installing two BaraStream™ SV400 units and four BaraStream HCB™ tanks.

RESULTS

- » Avoided 22 hours of NPT, equating to rig time savings of approximately USD 744,000
- » Mitigated wider risks associated with stopped circulation, stuck pipe, and time lost to trip out of hole

OVERVIEW

Halliburton was awarded key offshore and onshore waste management contracts for BP's drilling campaign in Egypt. For offshore, the customer contracted a drillship with a screw conveyor as the primary, and only, means of transporting cuttings from the shakers to a zero-discharge cuttings handling system.

Due to space limitations, the screw conveyor was only able to fill two skips at once, and there was no contingency in case of mechanical failure of the screw conveyor or the rig crane. The high risk of bad weather during the Mediterranean winter could also leave operations vulnerable to crane and vessel availability limitations, and also to port closures, which could interrupt the supply of cuttings skips to the rig. The customer looked to Baroid to provide a customized backup system to alleviate these events.

**Operator Saves
\$744,000
in rig time**

**avoiding twenty two
hours of direct NPT**

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BARASOLVE™ ENGINEERING SERVICES AND BARASTREAM™ TECHNOLOGY ENABLE SIGNIFICANT OPERATIONAL EFFICIENCIES AND COST SAVINGS

The Baroid team employed our BaraSolve™ Engineering Services group to survey the rig and design a suitable cuttings collection and handling system to minimize downtime and ensure environmental compliance. The solution chosen required the installation of two BaraStream™ SV400 units and four BaraStream Honey Comb Base (HCB™) tanks on the drillship as backup cuttings transport and storage solutions. A BaraStream SV400 unit was also successfully used as part of the cuttings handling system on the land rig. These were the first instances, in recent years, where BP has used the BaraStream portfolio of technologies from Baroid, rather than competitor systems.

A chute was installed so that the cuttings from the rig screw conveyor could either be routed directly into the cuttings skips, or into the two BaraStream SV400 units.

On one occasion, during drilling operations, the rig's screw conveyor suffered a mechanical failure that took six and a half hours to repair. Due to the unique ability of the BaraStream SV400 unit to be used as a vacuum as well as a blower, the cuttings were able to be vacuumed from the shaker ditch by the BaraStream SV400 unit and also pneumatically conveyed to the BaraStream HCB tanks. This ensured that circulating and drilling ahead could continue without interruption. Meanwhile, the rig crew was able to repair the rig screw conveyor safely with no rush or distraction.

On another occasion, bad weather shut down the rig crane for eight hours, which stopped skip movements. Cuttings were pneumatically conveyed to two of the BaraStream HCB tanks, with the equivalent of 10 skips being contained.

Bad weather also resulted in the port closing, leading to an interruption in the supply of cuttings skips. The BaraStream cuttings handling system was again employed to transport and hold cuttings for the seven and a half hours required to reach total depth (TD) of the interval.

On all occasions, the onboard Baroid team reviewed the pre-agreed Design of Service and Risk Assessment documents, which included these specific scenarios and contingencies.

ECONOMIC VALUE CREATED

The BaraSolve Engineering Services group’s design and implementation of this backup cuttings handling and collection system enabled the operator to avoid 22 hours of nonproductive time (NPT), equating to rig time savings of approximately USD 744,000. Furthermore, Halliburton mitigated the wider risks associated with stopped circulation, stuck pipe, and time lost to trip out of the hole.

The successful implementation of the BaraStream technologies has assured the customer that Baroid can deliver the necessary technology, and that it has a great resource in our BaraSolve Engineering Services team. Additionally, the industry-leading processes in our Halliburton Management System ensure that our employees are delivering products and services in accordance with the industry’s highest service quality standards.



Figure 1. Three BaraStream™ SV400 units are positioned under the rig conveyor.

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Figure 2. Four BaraStream™ HCB™ storage tanks are shown at right.

HAL-110082



Figure 3. The BaraSolve™ Engineering Services team has installed the first two BaraStream™ HCB™ tanks (at right).

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