

SCREEN PULSE Separator Saves USD 137,000 in Fluid Recovery and USD 47,000 in Waste Disposal Costs

Operator reduces synthetic mud on cuttings by 326,000 lbm over 20 days, Kenai Peninsula, Alaska

CHALLENGE

- Remove mud on cuttings to comply with Alaska’s stringent environmental regulations.
- Cut the cost of cuttings disposal and transportation.
- Reduce cost due to mud losses.

SOLUTION

- Use the SCREEN PULSE* fluid and cuttings separator to conserve mud from cuttings before disposal.

RESULTS

- Saved USD 137,200 in recovered fluid and USD 47,000 in cuttings disposal costs.
- Reduced mud on cuttings (MOC) by an average of 26%.
- Recovered 529 bbl [84.1 m³] of synthetic-based mud.



Reduce the amount of MOC before disposal

Among Alaska’s more stringent environmental regulations is a requirement to strip cuttings of free fluid prior to disposal. In addition to causing higher treatment, transportation, and disposal costs, leaving MOC adds cost for lost fluid. An operator planned to use a water-based gel mud to drill the surface sections and the VERSACLEAN* mineral oil-based drilling fluid system to drill the 12¼-in intermediate and 8½-in production sections of the well. For this reason, the operator wanted to lower MOC as much as possible to conserve fluid, while still using a cost-effective solution.

Install the SCREEN PULSE separator on four primary shakers

M-I SWACO, a Schlumberger company, recommended using the SCREEN PULSE separator to comply. The SCREEN PULSE separator uses pulses of compressed air to quickly generate a vacuum under the discharge end shaker screen, sucking excess fluid from the cuttings and returning it to the active system. The separator’s ability to return a high volume of fluid to the fluid system was the deciding factor, and the technology was installed on four primary shakers on an enclosed shaker floor.

To see exactly how effective the SCREEN PULSE separator was, the operator drilled while alternating the separator on and off at scheduled intervals. The SCREEN PULSE separator was run only on the synthetic-based mud sections. Data from the separator were analyzed to ensure that it performed up to the operator’s expectation.

Saved USD 137,200 in recovered fluid and USD 47,000 in disposal costs

The SCREEN PULSE separator enabled the operator to achieve its drilling objectives and cut costs by reducing synthetic-based mud loss and associated disposal costs for oil-wet cuttings.

During the 20 days that the SCREEN PULSE separator ran, the MOC was reduced by an average of 26%. The total volume of synthetic-based mud recovered was 529 bbl [84.1 m³], collected at an average of 26 bbl/d [4.1 m³/d]. Additionally, the operator reduced waste by 326,000 lbm [147,871 kg], saving an estimated total of USD 137,200 in recovered fluid and USD 47,000 in disposal costs.



Results of an EPA 9095B Paint Filter Liquids Test shows the effectiveness of the SCREEN PULSE separator. Cutting samples on the left were taken when the separator was off versus on the right when it was on.

SCREEN PULSE separator **off**

SCREEN PULSE separator **on**

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