

A Single BRANDT SABRE™ Shaker Easily Saves Operator Over \$190k Over 5 Well Program

Challenges

- Benchmark the new SABRE shaker in real-life drilling conditions against the high-performance KING COBRA™ Hybrid shaker c/w CGC.
- Confirm the improved screen life and screen performance of the SABRE shaker screens.
- Compare overall maintenance and operational use of the SABRE shaker compared to the KING COBRA Hybrid shaker.

Well Information

- Location: US Land
- Client: Major US Operator

Solution & Results

- The SABRE Shaker was easily installed utilizing a retrofit kit to the clients existing shaker skid and fluid flow distribution system.
- The SABRE shaker handled double the flow capacity of the KING COBRA shaker
- 63% less screens were used on the SABRE throughout the 5 well program compared to the KING COBRA shaker.
- The result of the side-by-side test was that the SABRE shaker easily reduced LGS and improved solids removal efficiency, this allowed the customer to lower overall dilution and haul off costs, based on all these factors the single SABRE shaker saved the client an estimated \$192k on the complete five well program.



This preliminary field trial was to confirm initial R&D results of the SABRE shaker system, and to get performance data in real drilling conditions. The rig that the test would be run currently had BRANDT KING COBRA Hybrid (KCH) shakers. We document all aspects of the SABRE shaker system, from install to operation. This began with the retrofit installation of a single SABRE shaker into an existing KING COBRA Hybrid skid.

The SABRE shaker can be installed into existing KING COBRA shaker skids, this provides the customer operator and contractor with the flexibility of implementing SABRE shakers into their operations with minimal downtime, minimal cost and allows for the use of the existing flow distribution system. In this case we were able to install the SABRE shaker into the existing skid of a KING COBRA in less than 8 hours. That time could be further reduced on subsequent shakers and this demonstrated that a complete retro-fit installation could be achieved in a 24hr period or rig move.

Where the SABRE excelled was in its overall performance, the SABRE generally handled 70-100 % of the total flow (± 600 GPM) throughout the five well program with API 200 screens fitted. On this

test, screens ranged from API 140 thru API 230 during the 8½" OBM sections, and the rate-of-penetration (ROP) averaged 60-110ft/hr.

The SABRE unit consistently discharged much dryer cuttings compared to the existing KCH shakers with retention of oil on cuttings (ROC) averaging 8.85% compared with 11.2%, while consistently maintaining LGS (low-gravity solids) levels below 11.8% with only 1 SABRE shaker. There was also no requirement to run any other solids control equipment including a centrifuge and no increase in additional dilution which is typically seen on these types of wells. The reduction in ROC means that the haul off and treatment costs were also reduced.

In addition to the improved shaker performance, the SABRE shaker yielded lower overall screen usage and cost compared to the KING COBRA Hybrid. For the majority of the 5-well trial, only two shakers were deployed – thereby reducing overall screen usage and improving overall operability as screen inspections/changes could be made easily since one shaker was generally offline. Throughout the 5 well program only 91 screens were used in total which consisted of 24 SABRE screens and 67 KCH screens. This was significantly less than seen on the 5 previous comparable wells with the same rig where a total of 250 screens were billed.

The client representatives involved in this field test from the company-man, mud engineers, toolpusher & rig crew all voiced their approval of the SABRE shaker system and its improved performance over the existing shaker system.

It's safe to assume that with a complete SABRE shaker system these savings and overall benefits would have been far greater.

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