

DURAFLO D500-C flat-panel replacement screens show superior life and performance efficiency vs. competitor’s OEM screens in South Texas

Well Information

Location Carthage, Texas, USA
 Well type Oil producer
 Depth 10,500 ft – 17,500 ft
 Hole size 6¾” Intermediate Section
 Fluid Type Oil Based Mud, 15.5 PPG
 Date May 8, 2012 - May 30, 2012

The Situation

In an effort to improve efficiency and decrease operating and maintenance costs, a drilling contractor in South Texas entrusted M-I SWACO to evaluate, record and compare the performance efficiency of a competitor’s corrugated-panel screen to patented DURAFLO D500-C[®] flat-panel replacement screens. The selected drilling platform was equipped with two Derrick-brand D503[®] rig-owned shale shakers. After visual inspection, M-I SWACO ran a comprehensive motion analysis test on both shakers to evaluate the G-force and motion type using VSAT computer analysis. VSAT analysis showed an in-depth view of shaker performance in regard to accepted standards of operation. Additionally, it allowed shaker specifications to be benchmarked and normalized for fair, unbiased screen comparison. VSAT analysis confirmed that both shakers were operating according to manufacturer’s specifications.



M-I SWACO DURAFLO D500-C flat-panel replacement screen



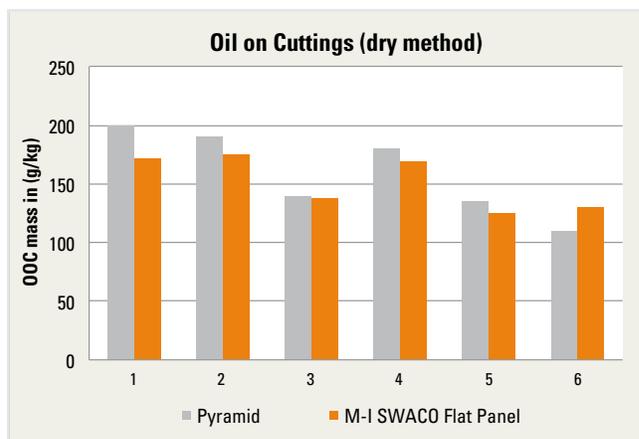
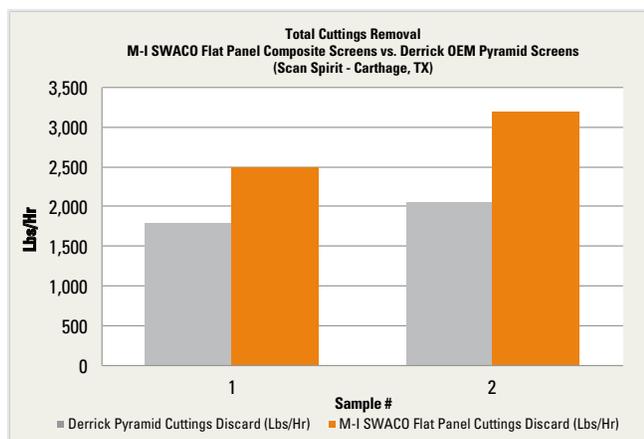
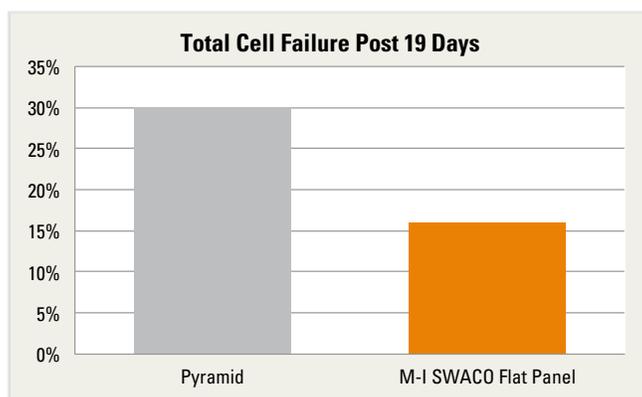
Competitor’s Corrugated-Panel OEM Screen

The Solution

The rig, located in South Texas was in production phase, utilizing a 15.5 OBM. Given the nature of the drilled formation, an API 140 version of patented DURAFLO D500-C replacement screens in XR¹ mesh was recommended. These screens were tested in a side-by-side comparison with the competitor’s corrugated-panel OEM screen, also bearing an API 140 designation. Testing proved the DURAFLO D500-C replacement screens were able to match the handling capacity of the competitor’s corrugated-panel screen, further highlighting the flat-panel design benefit. Even more, the flat-panel DURAFLO D500-C replacement screen decreased “dry beach” and “horseshoeing” phenomena which promote premature screen blinding.

The Results

The DURAFLO D500-C replacement screens proved more than capable of handling the 6¾" section with an average ROP of 44 ft/hr using a high density, 15.5 PPG OBM. While both sets of test screens remained on shakers for the duration of the well, it was observed that the M-I SWACO DURAFLO D500-C replacement screen's flat-panel showed greater resistance to screen mesh wear and gasket life vs. the OEM corrugated-panel design. In addition, the composite flat-panel showed superior screen life, having only 16% total cell failure due to normal mesh wear after 19 days of production vs. the competitor's 30% total cell failure due to gasket and mesh failure. The DURAFLO D500-C replacement screen showed a 47% increase in cuttings discard rate vs. the competitor's corrugated-panel design, while maintaining a ~9% lower cuttings dryness. The DURAFLO D500-C replacement screen not only matched capacity and discarded more cuttings but, maintained improved cuttings dryness, proving superior screening efficiency to yield substantial OBM drilling fluid savings.



Questions? We'll be glad to answer them.

If you'd like to know more about the DURAFLO D500-C replacement screen and how it's performing for our other customers, please call the M-I SWACO office nearest you.



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