

## Derrick® DX™-A140 (API 140) vs. M-I SWACO® XR™-230 (API 140)

- 50% increased fluid processing capacity
- 33% more low gravity solids discard

### Objective

To demonstrate the increase in fluid processing capacity that Derrick® Pyramid® screening technology provides to the M-I SWACO® MONGOOSE® PT™ shaker.

### Test Procedure

Using two M-I SWACO MONGOOSE PT shakers on a rig in Eastern Texas, U.S.A., one shaker (Shaker #1) was operated with four new XR™-230 (API 140) M-I SWACO DURAFLO™ composite screen panels, and the other shaker (Shaker #2) was operated with four new DX™-A140 (API 140) Derrick Pyramid screen panels. With the rig's permission, flow was distributed to each shaker independently, with both shaker baskets at the number 3 angle setting, and the following tests were conducted:

1. Shaker Capacity Test
2. Retort Analysis/Discard Rate Tests

### Shaker Capacity Tests

Using similar fluid end points, each shaker was distributed flow. Shaker #2 (Derrick Pyramid screens) processed 100% of the rig circulation rate (502.6 GPM). The flow was then distributed to Shaker #1 (M-I SWACO DURAFLO screens); Shaker #1 was only able to process 335.1 GPM of the rig circulation rate. By using Derrick Pyramid screens, Shaker #2 experienced a 50% increase in fluid handling capacity over Shaker #1 (DURAFLO screens).

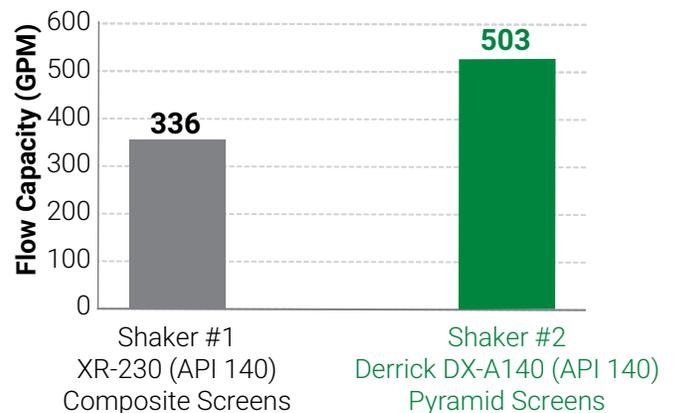
### Retort Analysis & Discard Rate Tests

To demonstrate the increased solids removal of Derrick Pyramid screens, timed tests were conducted to determine the amount of drilled cuttings each shaker discarded. The rig circulation rate was evenly distributed to Shaker #1 and Shaker #2 (251.3 GPM each). Timed samples were collected from the discard of each shaker and a retort analysis was used to determine the amount of low



Derrick DX-A140 (API 140)

### Maximum Capacity Analysis Results 100% Shaker Capacity



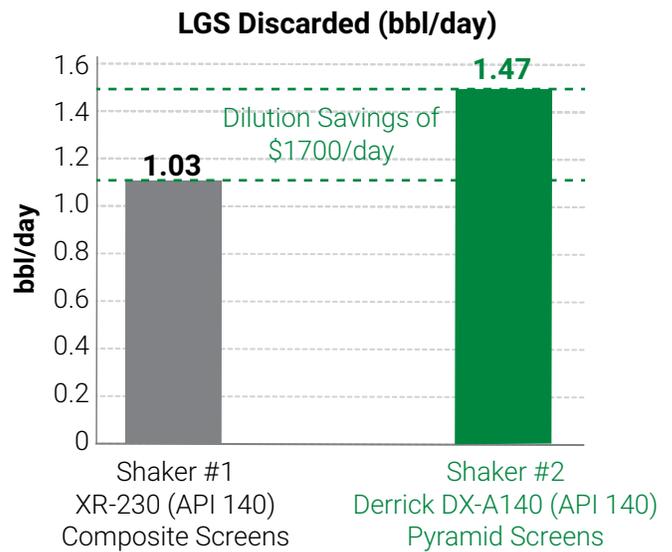
gravity solids (LGS) present in each sample. Results from the samples collected showed that Shaker #2 (Pyramid screens) discarded LGS at a rate of 1.47 bbl/day while Shaker #1 (DURAFLO screens) discarded LGS at a rate of 1.03 bbl/day. By using Derrick Pyramid screens, Shaker #2 experienced a 43% (by volume) increase in removal of LGS over Shaker #1 (DURAFLO screens).

## Dilution Cost Savings

Based on the LGS removal rates above, if both shakers were outfitted with Derrick Pyramid screens, the total dilution savings for the rig could potentially reach \$1700 per day, when calculated with the following generic baselines: average specific gravity of 2.3 for LGS and of 4.2 for high gravity solids in the retort analysis, a 5% retained LGS baseline for the drilling fluid, and a mud cost of \$100/bbl.

## Conclusion

Derrick Pyramid screens can provide numerous benefits to the customer. When tested beside M-I SWACO DURAFLO screens, Derrick Pyramid screens provided the customer an increase of 50% fluid handling capacity and an increase of 43% removal of LGS.



**For more information, please contact your local Derrick sales representative.**

15630 Export Plaza Drive • Houston, Texas 77032 U.S.A. • Toll Free: (866) DERRICK • Office: (281) 590-3003 • Fax: (281) 590-6187  
info@derrick.com • www.Derrick.com