

Derrick® Pyramid® Screen shows improved screen life compared to M-I SWACO* flat screens

- Derrick’s patented Pyramid® technology lowered screen cost by over 75%

Objective

Lower the overall screen cost for the Canadian Operator by utilizing Derrick® Pyramid screens while screening to the same API screen size. The field trial evaluation consisted of a side-by-side comparison over a 35-day interval. Screens were inspected daily for accuracy in data collection and confirmed with the customer.

Drilling Parameters

- Hole diameter: 8.75" (222 mm), Avg ROP: 3 m/hr
- Flow rate: 1 m³ per minute (264 GPM)
- OBM, 10 ppg (1.23 SG)

Test Parameters

- The rig’s two MONGOOSE® PT® shakers were inspected and found to be in good operating condition.
- Both shakers were equipped with API 140 screens, Shaker #1 with Derrick PMD® 46X23 and Shaker #2 with M-I SWACO® Duraflo® XR*.
- Equal flow distribution was verified by the customer to ensure a fair evaluation of the screens.
- As determined by the rig manager, screens were changed when they reached 3% failure (# failed screen cells/# total screen cells).



Results

Derrick Pyramid screens reduced overall screen cost by 75%.

Reduced screen cost

- o After 35 days and 2030 m drilled, the four original Derrick Pyramid screens had no holes. Twelve M-I SWACO Duraflo XR screens were consumed during the first 1290 m.
- o Derrick screen cost was \$0.98 CAD/meter/shaker. The M-I SWACO screen cost was over 4 times more at \$4.09 CAD/meter/shaker.

Increased solids control efficiency

- o After 1290 m, the operator decided to screen up Shaker #2 with Derrick PMD API 170 screens. The increase in capacity offered by the PMD screen allowed the rig to transfer 25% more flow to Shaker #2 with API 170. The finer screening aided in lowering the LGS% and the PMD A170 screens were operated the remaining 14 days (740 m) to TD without need for replacement.

	Duraflo XR-230	PMD 46x23 DX-A140	
API RP 13C Designation	API 140	API 140	
D100 Cut Point (microns)	110	104	
Non-blanked Open Area (ft²)	5.30	6.15	+16%
Conductance (Kd/mm)	0.99	1.19	+20%

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

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