

# BaraMesh® Shaker Screens Reduce Screen Usage Up to 66% on Three 18,000-ft Wells

PERMIAN BASIN, WEST TEXAS, USA

## CHALLENGES

Shaker screens were being changed out at the beginning of every interval on a deep well.

- » Potentially 36 screens used per well
- » High variability in screen wear and longevity

## SOLUTION

BaraMesh® API 170 shaker screens were mounted at spud, and the screen positions were optimized to extend life and ensure effective solids removal.

## RESULTS

The wells were drilled all the way to TD at 18,000 feet (5,486 meters) with only partial screen replacements needed deep into the final interval.

- » Screen consumption was reduced by 50–66 percent
- » All solids removal specifications were met or exceeded
- » Drilling contractor saved approximately USD 9,000 per well

## SHORT SHAKER SCREEN LIFE INCREASES COSTS ON DEEP WELLS

A rig in the Permian Basin was equipped with three NOV Brandt™ KING COBRA™ VENOM™ Shakers, each with four screens. The drilling contractor was responsible for providing shaker screens per the drilling contract, so the rig manager was interested in reducing the number of screen changes and related costs.

Changing the screens at the top of each new interval to be drilled was standard practice. This meant buying and mounting 12 new screens for each interval, for a total of up to 36 screens on these three-section wells.

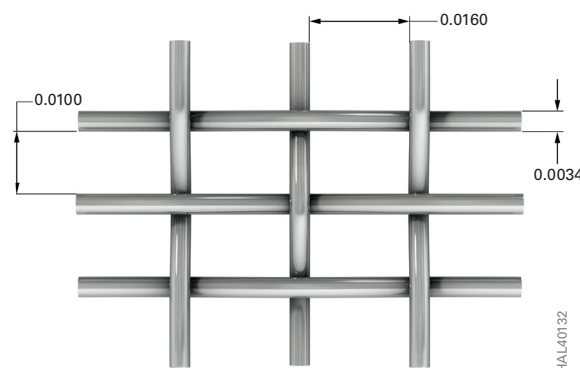
Few efforts were made to extend screen life through adjustments or repairs. At times, the screens were replaced, even though they were still in fair condition. At other times, damaged screens with gaping holes were left in place too long.

The goal was to run only one set of screens while drilling all three intervals, from surface to total depth (TD) at 18,000 feet (5,486 meters). Two issues had to be addressed: 1) improving screen management practices; and 2) installing quality screens with the optimal API mesh size.

## BARAMESH® API 170 SCREENS LAST FROM SURFACE INTO PRODUCTION INTERVAL

BaraMesh® API 170 screens were mounted on all three shakers (four screens per shaker, as noted above). BaraMesh screens have an engineered, rectangular mesh and a three-layer design. The approximately 1.6:1 wire aspect ratio maintains cut points and conductivity. The increased wire diameter helps provide up to 25 percent longer screen life than traditional original equipment manufacturer (OEM) options.

This set of screens performed well over a 24-day period of “pad” drilling, lasting through the surface section [0–800 feet (0–244 meters)], the closed-loop intermediate section [5,000–9,000 feet (1,524–2,743 meters)] of all three wells and a significant distance into the reservoir interval of the third well. At this point, seven of the 12 initial screens were replaced.



BaraMesh® screen with 1.6: aspect ratio and 0.0034-inch wire

BaraMesh® screens utilize a unique 1.6:1 wire aspect ratio to maintain cutpoints and conductivity, and to prevent screen blinding.

HAL40132

“Prior to using BaraMesh® shaker screens, we paid in excess of USD 11,000 for screens on ONE well. Using BaraMesh screens, the first three-well pad cost was USD 5,890 for the ENTIRE pad!”  
Rig Manager

Success factors included not “screening up” unless screens wore out or failed. “Screening down” and decreasing basket inclination was more efficient than screening up to API 200 mesh and increasing basket inclination to keep fluid from running off the end of the shakers. Less cuttings load was delivered to screens in the No. 1 position and subsequent durability was notable.

These adjustments paid off. As drilling continued, there was no need to “screen up” to API 200 mesh. Solids removal parameters consistently remained within programmed specifications.

### **THREE WELLS, THREE INTERVALS EACH – SCREEN USAGE DOWN BY 50–66 PERCENT**

The same screen strategies were used on all three wells drilled on the pad. Screen usage was decreased by 50–66 percent, saving ~approximately USD 9,000 per well for the drilling contractor.



#### **Key Point:**

Keeping the baskets closer to horizontal with the API 170 shaker screens aided conductance, moved the solids off the shaker quickly, and prevented screen damage – with no adverse effect on solids content.

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