

# An alternative to internal gravel packs

## Avoiding costly sand control failures and workovers with 3M™ Ceramic Sand Screens

### Customer challenge

Due to a poor cementing job, the customer needed to run contingency casing. However, the annulus was too small to allow gravel packing, so a premium metallic standalone sand screen was used instead. The metal screen failed after 2 months, causing sand production.

To prevent a second costly workover, the customer needed a robust sand control solution capable of withstanding the high erosion conditions.

### Additional challenges:

- ▶ Remote onshore well location
- ▶ No available particle size distribution (PSD) from the well

### Why use 3M™ Ceramic Sand Screens?

- ▶ Superior erosion resistance compared to metal sand screens
- ▶ Reduced capital expenditure (CAPEX)
- ▶ Helped reduce HS&E and operational risk while improving return on equity
- ▶ Simplified pre-planning
- ▶ Simplified logistics, especially for remote land rigs
- ▶ Easy deployment via conventional rig system

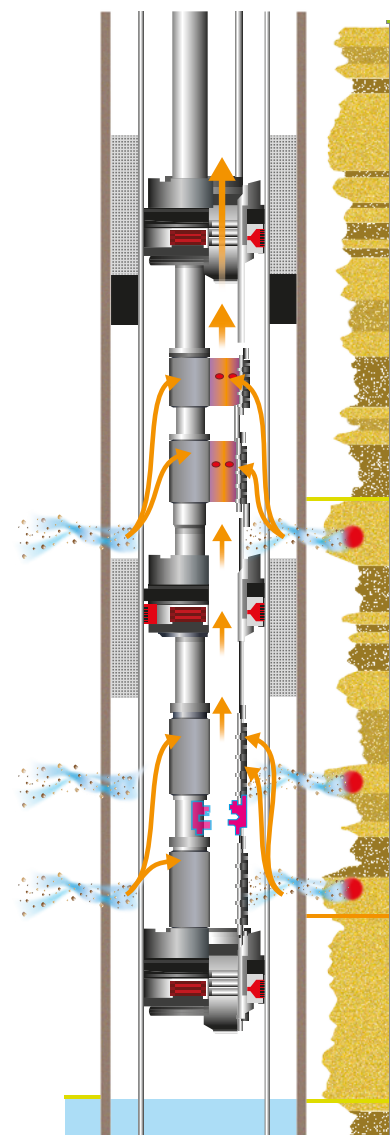
### Results

One well was equipped with two 3M ceramic sand screens and two sliding sleeve doors (SSD) protectors in 2012.

- ▶ Production rates: 7-8MMSCFD
- ▶ Deployment on pipe
- ▶ Screens straddled
- ▶ 2 slot openings for greater flexibility: 150 µm and 300 µm
- ▶ No sand production
- ▶ The well damage (skin) was calculated at 10.8, compared to higher skins of 20–40 in neighboring gravel packed wells with similar gas production
- ▶ 15 day payback period for 3M ceramic sand screens

### Customer key decision drivers

- ▶ Longevity of the screen thanks to properties of technical ceramics
- ▶ Simplified logistics and completions
- ▶ 3M sand screens offered an economical alternative to other options, including:
  - ▶ Pull and cut job to enable a gravel pack completion
  - ▶ Definitive shut-in of the well



## Technical references

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**SPE 146721:** An Innovative Milestone in Sand Control – Maersk Oil & Gas

**SPE 160327:** Ceramic Sand Screens for Sand Control in Unconsolidated Reservoirs (with Fines Content) – RAG

**SPE 166092-MS:** Ceramic Sand Screen: Ceramic Sand Screen - An Innovative Downhole Sand Control Solution for Old and Challenging Cased Holes – BG Group

**MOC-Egypt-April 2016:** Ceramic Sand Screen Systems - A Unique Downhole Solution for Sand Control

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**SPE-182278-MS:** Sand Control in Corrosive and Erosive Downhole Conditions at High Temperatures – 3M Technical Ceramics

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