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

SPE-176225-MS: Cased Hole Ceramic Screen Cutting Completion Cost for Marginal Reservoir: Application in Tunu Field

OTC-25106-MS: An Innovative Approach of Revival for Damaged Wells in High Erosive Environment Using Ceramic Sand Screens – BG Group

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

Sand Control with Ceramic Screens in Unconsolidated Reservoirs Demonstrated in the Mature Gaiselberg Oilfield. OIL GAS European Magazine, 2/2012, p. 74-78.

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

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