Preventing proppant flowback in high velocity environments
Well preservation using 3M™ Ceramic Sand Screens

Customer challenge
- There was a need to procure an easily deployable sand control solution to preserve the integrity and productivity of the well
- There was a need to limit the top surface investment
- The wells were stimulated without capability to cope with proppant flowback at the surface
- High-velocity environment (100 ft/s) with high risk of erosion

Why ceramic sand screens?
- CAPEX reduction: there is no need for a frac pack
- Increased well lifecycle longevity helps lower capital expenditures
- Increased production envelope enables higher production rates
- Suitable for oil or gas wells expecting high risk of erosion due to high production rates

Results
Two wells were equipped with a 3M™ Ceramic Sand Screen System.
- A wireline was deployed and hung from a packer then set across the upper perforation zone
- Production rates: Ca. 25 and 35MMSCFD
- The wells, equipped with ceramic sand screen system, have been on-line since the end of 2014
- Since the ceramic sand screens were installed, the wells have continued producing with no proppant flowback seen at the surface
- Future wells will be completed in the same way

Customer key decision drivers
When making a decision regarding 3M™ Ceramic Sand Screens, customers should consider the overall value rather than just the initial cost.

Decision matrix includes:
- Overall intervention cost
- Increased longevity potential
- Optimized production utilizing ceramic properties
- Simplified logistics and operation

Economic comparison with other options
- Stand-alone metallic screen
- Frac pack
- Top surface investment (desander)
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 Down-Hole 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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