3M Science. Applied to Life.™

Case Study

Improving gas production and well integrity in subsea applications

Intervention using 3M™ Ceramic Sand Screens

Customer challenge

- Site was a former oil well with an unexploited gas cap
- An intervention was needed to convert the well to natural gas production
- High velocities were expected in the gas cap perforations, which threatened the integrity of the well due to erosion
- Intervention was conducted using a light well intervention vessel (LWIV)

Why ceramic sand screens?

- Increased well lifecycle longevity helps lower capital expenditures
- Increased production envelope enables higher production rates
- Suitable for gas wells expecting high risk of erosion due to high production rates
- Simplicity of deployment, especially for subsea applications

Results

One well was equipped with a 3M™ Ceramic Sand Screen System in April 2016 and has been producing since August 2016.

- Production rates: 42MMSCFD
- Easy rig-less operation from LWIV with E-Packer
- 30ft screen was set directly across the new perforations
- Achieved above 40ft/s velocity in the perforations without sand production

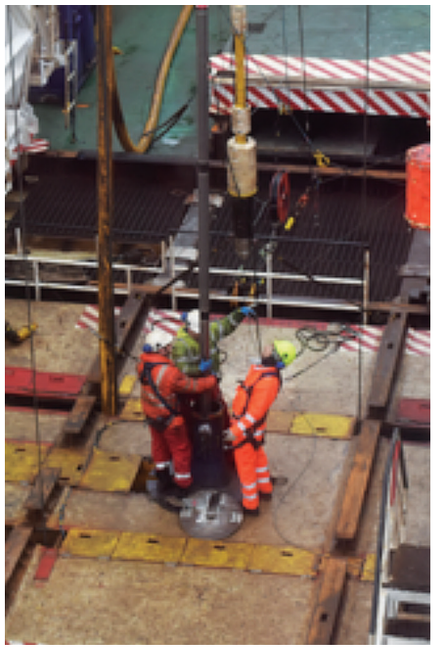
Customer key decision drivers

The decision matrix included:

- Robust sand control
- Reliability in erosive subsea environment
- Simplicity of intervention

Economic comparison with other options

- Metallic non-erosion resistant screens with possible flow rate restrictions to mitigate erosion were considered
- Sand management



Photos courtesy of Royal Dutch Shell and Helix ESG

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The management system has been certified according to DIN EN ISO 9001, DIN EN ISO 50001, DIN EN ISO 14001.