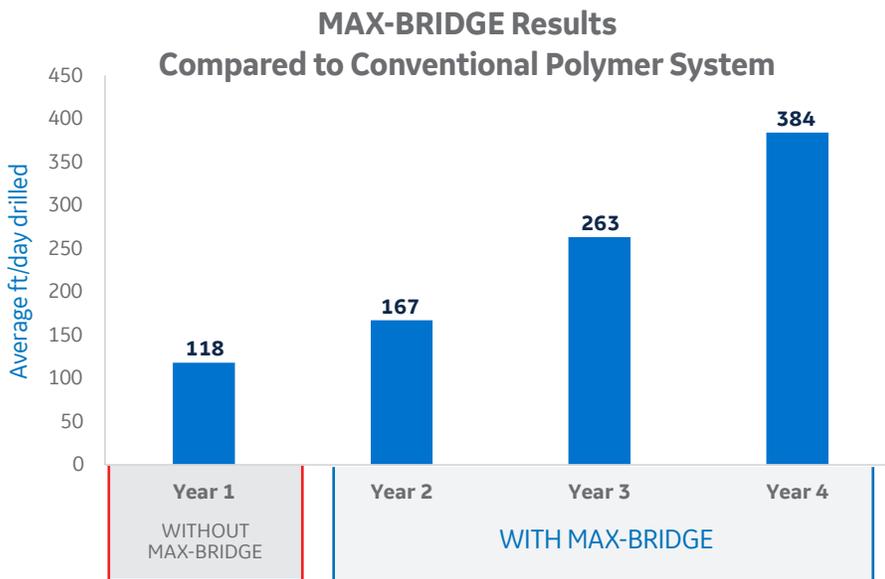


LOCATION: GULF OF SUEZ, EGYPT



# MAX-BRIDGE bridging solution increased ROP 320% and decreased mud losses 74%



As fields mature, permeable formations can become depleted, leading to differential sticking, wellbore instability, and whole mud losses. If one or more of these were to occur, it could significantly add to the cost of any drilling program in terms of contingency liners, fishing or sidetracking, nonproductive time (NPT), or even having to abandon the well.

In a highly-reactive shale environment in Abu Rudeis, an operator used a conventional polymer system in their first year of drilling

in attempt to address these issues. This resulted in low ROP and considerable fluid losses.

The operator contacted Baker Hughes, a GE company (BHGE), to provide fluid engineering support at the end of the first year of drilling. After a comprehensive analysis of the well, loss history, and potential trouble zones, BHGE recommended the **MAX-BRIDGE™ advanced bridging solution** to mitigate the challenges.

## Results

- Increased ROP
- Eliminated downhole losses
- Improved hole cleaning
- Enabled use of rotary steerable system due to improved wellbore stability
- Reduced overall drilling NPT and casing requirements

## Challenges

- Reduce losses in highly depleted shale formation
- Improve wellbore instability
- Provide an alternative to conventional polymer system

## BHGE solution

- MAX-BRIDGE advanced bridging solution
- BRIDGEWISE engineering software to formulate the best fluid components

The MAX-BRIDGE customized bridging package meets multiple challenges in wells where a fine line exists between wellbore stability, differential sticking, and mud losses.

The MAX-BRIDGE system comprises a patented deformable sealing polymer in conjunction with highly resilient graphite additives to reduce pore pressure transmission and seal and plug microfractures in shale and low-porosity sands.

By analyzing data in previous operations using the BHGE **BRIDGEWISE™ engineering software**, a custom-designed solution was developed and implemented in the second year of drilling and generated immediate results. By the third year of drilling, the operator had the confidence to make a major change in casing design due to the ability of MAX-BRIDGE to combine multiple pressure zones. By year four of drilling, the operator was able to upgrade drilling technologies to a rotary steerable, which drastically improved ROP due to the improved wellbore stability and reduced downhole losses provided by MAX-BRIDGE.



[bhge.com](http://bhge.com)

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