

# Kymera FSR directional hybrid drill bit drilled 6,400 feet in one run, saving 58 drilling hours

An operator in Eastern Romania was drilling in a formation predominantly composed of medium compacted claystone, sandstone intercalations, and poorly consolidated quartz sand.

The operator wanted to increase drilling performance and minimize the number of runs in a 12-3/4 in. section of its well while producing an excellent borehole.

Baker Hughes, a GE company (BHGE), proposed its latest hybrid bit technology to achieve the operator's goals and finish the section in one run. The **Kymera FSR™ directional hybrid drill bit** design provides better tool face control, improves efficiency, and improves borehole quality.

It consistently drills to total depth with fewer bits, less nonproductive time, and better overall drilling economics.

The Kymera FSR bit was equipped with three cones, three blades, and a 25-mm cutting structure with BHGE **StaySharp™ application-specific premium polished cutter technology**.

StaySharp cutters reduce drilling costs by dramatically improving rates of penetration (ROP), drilling efficiency, and overall performance.

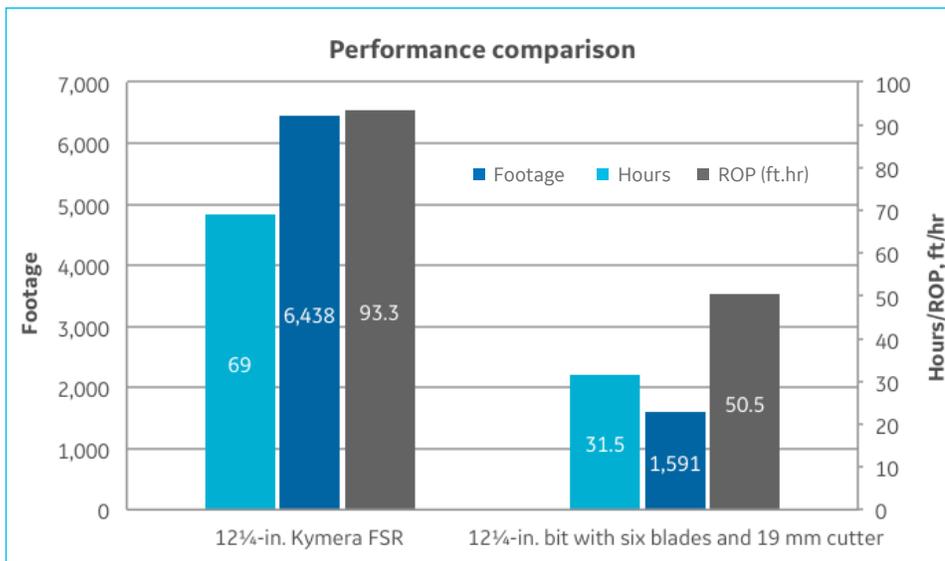
The Kymera FSR bit drilled more than 6,400 ft (1951 m) at 92.8 ft/hr (28.3 m/h) in the medium-soft part of the formation.

## Challenges

- Medium compacted claystone with sandstone intercalations and poorly consolidated quartz sand
- Minimize drilling time and produce excellent borehole quality

## Results

- Saved 58 drilling hours in one run
- Drilled four times further than a standard polycrystalline diamond compact (PDC) bit
- Drilled 84% faster than a standard PDC bit



This was an ROP increase of more than 80% when compared to the next run in the same formation. That run, which was done with a competitor's bit, had an average ROP of 50 ft/hr (15.3 m/h).

Low vibrations while drilling resulted in excellent borehole quality. After the run, there was no significant damage to the Kymera FSR bit cutting structure. With a dull grade of 1-2-CT-S-I-NO-DTF, the bit was in good condition for subsequent runs.

All of the operator's goals were met or exceeded. The use of the BHGE Kymera FSR bit saved the operator 58 drilling hours, decreasing the cost per foot to \$37 USD per foot for a total savings of \$240,000 USD.



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