FoamMAT Service Helps Operator Increase Production 440% in Depleted Russian Wells

Foam diversion service improves acidizing effectiveness, extends brownfield life

**CHALLENGE**
Improve productivity of a depleted brownfield development.

**SOLUTION**
Apply FoamMAT* foam diversion service to enhance effectiveness of acidizing stimulation treatments.

**RESULTS**
Increased production 440%—nearly double the production achieved with conventional matrix acidizing and acid fracturing techniques.

**Carbonate formations required acid stimulation to become viable**
The Volga-Ural region is one of Russia’s oldest and largest resources—with more than 60 billion barrels of proven conventional reserves. About 70% of all production in the region comes from carbonate formations, which commonly require matrix acidizing and acid fracturing stimulation. However, carbonate matrix stimulation in the region is challenging. Every day, an operator in the Volga-Ural region faced depleted reservoir pressure, difficult flowback, formation heterogeneity, and water cut up to 60%.

**Operator piloted FoamMAT service in seven depleted wells**
To overcome extremely depleted formation pressure and kickoff difficulties, the operator implemented a diverse portfolio of acidizing technologies. After the operator applied conventional viscous diverters and acid fracturing with little success, Schlumberger recommended FoamMAT foam diversion service for matrix treatments. FoamMAT service uses a stable, nondamaging diverting agent at 65% nitrogen foam quality downhole. After the treatment, the foam breaks down into liquid and nitrogen, which enhances flowback and kicks off the well to restore natural flow.

The operator decided to pilot the technology with bullheading placement in seven wells ranging from 13,780- to 14,108-ft [4,200- to 4,300-m] TVD.

**FoamMAT service helped increase well production by 440%**
The wells that used FoamMAT service experienced a 440% increase in production—nearly double the average production gained with conventional acidizing techniques. FoamMAT service also reduced acidizing treatment cost by decreasing the volume of liquid diverter needed. Due to the success of the pilot, the operator now uses FoamMAT service in half of its acidizing jobs.

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The number of foam jobs has increased dramatically after the pilot trial.

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Stimulation