

Case Study:

SwellRight Packers achieve full pressure seal in the Bakken

SwellRight Packers successfully isolate frac stages in open hole multi-zone completions.

Well Data

Location: Bakken, North America

Well Type: Oil Producers

Pressure Rating: 5000psi

Temperature: 121°C/250°F



Due to the combination of shale and dolomite in the Bakken and Three Forks formations, stage isolation is an essential requirement. This is further enhanced by the presence of vertical to sub-vertical natural fractures in the formation which require a sealing solution to isolate producing zones. Oil swellable packers were commonly used to provide the isolation required, however, this required oil based fluids to be circulated in the wellbore to activate the packer.

The Challenge

Due to fractures in the formation, it was essential to isolate multiple frac stages, to prevent crossflow between the zones. Oil swellable packers were commonly used, however this resulted in an additional cost of \$60,000 per well as well as increased HSE risk.

TAQA Solution

TAQA developed a unique water swellable compound specifically for Bakken conditions to ensure full stage isolation, replacing the requirement to displace oil to swell an oil swellable packer. The packer had to be able to match performance of the oil swell, as well as withstanding the required differential pressure of 5,000psi.

Project Results

The water swell packer successfully matched performance of previous oil swellable packers. It removed the requirement to circulate oil based fluids in the wellbore, saving time and money. The resultant compound has successfully isolated 10,000 frac stages in the Bakken formation to date.

