

AssurEOR STIM[®]

Rigless Nanopore Stimulation in Mature Bakken Wells

+2x
ROI

+70%
Uplift

1,700
Incremental Barrels

5-Day
Peak Response

BACKGROUND

The Objective

Deploy a rigless chemical stimulation treatment that enhances oil mobility, accelerates cleanup, and delivers sustained incremental oil.

Mature Bakken horizontals producing ~20 BOPD had limited options for economic uplift. Industry experience with gas-only huff-n-puff showed it provided pressure support but delivered little incremental oil while requiring specialized equipment.

Operators needed a chemical solution capable of mobilizing trapped hydrocarbons without refracs, large capital spend, or formation risk.

Treatment Approach

AssurEOR STIM[®] was selected for its ultra-small biosurfactant micelles and proven field performance in tight, mixed-wet rock.

TRIAL DETAILS

Treatment Loading	1–3% v/v biosurfactant-based treatment (~2,700 barrel fluid volume)
Overflush	300 bbl produced-water overflush
Injection Method	Annular injection
Injection Rate	13–15 bbl/min
Maximum Surface Pressure	<1,500 psi
Soak Time	<8 days
Operational Requirements	Minimal equipment changes, no redesign, no workflow disruption

See the
Results 

120-day Trial Results

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Cross-Program Reliability: Across an expanded 15-well program, 11 wells exceeded forecast, validating predictable behavior when placement is achieved.

THE RESULTS

What Drove the Performance

AssurEOR STIM[®] delivers reservoir-scale stimulation through nanopore-level mobility enhancement, driven by:

- Access to tight pore spaces where hydrocarbons remain immobile
- Reduced interfacial tension, enabling residual hydrocarbon mobilization
- Water-wetting, supporting efficient displacement of crude oil
- Mobilizing heavier oil fractions, indicating deeper reservoir contact

These mechanisms collectively enabled a true nanopore-level stimulation response that conventional chemistries cannot deliver.

Operator Impact

ECONOMIC VALUE

- High-impact uplift without refracs or capital intervention
- Faster payout with sustained production uplift
- Improved EUR through sustained production gains

OPERATIONAL ADVANTAGES

- Fully rigless delivery
- No workflow disruption
- Minimal downtime (soak <5 days)

RESERVOIR BENEFITS

- Enhanced hydrocarbon mobility
- Deeper reservoir contact
- Long-lived chemical activity

SUMMARY

AssurEOR STIM[®] delivered a step-change recovery response in mature Bakken wells—unlocking oil that remained trapped. This program demonstrates that nanopore-scale stimulation is a repeatable, economically attractive pathway for increasing recovery in unconventional reservoirs without mechanical risk or capital intensity.

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