

# Sundance Energy Saves USD 500,000 with 60% More Stages per Day in Simultaneous Fracturing Operations

StimCommander platform and virtual rig-up technology enable operations with one fleet fracturing two infill wells at the same time, Eagle Ford Shale

**Simultaneous fracturing operations, automation, and planning saved Sundance Energy 10 days and USD 500,000 on equipment rental, services, and consulting charges and increased proppant placed by 35% per day as compared with conventional zipper fracs.**

## The operator's goal

Improve surface efficiency and reduce cycle time and associated costs for multistage fracturing in four infill wells while optimizing stimulation designs to avoid depletion effects from existing parent wells.

## What Sundance tried first

When economics required budget tightening, Sundance asked Schlumberger to review and optimize the stimulation design using **Petrel**\* E&P software platform and **Kinetix**\* reservoir-centric stimulation-to-production software. After careful analysis of the pattern and extent of depletion caused by parent wells, Schlumberger optimized the stimulation treatment volume in some wells, which maintained production performance while improving well economics by reducing waste.

Still, Sundance believed further improvements in surface efficiency were possible and asked if Schlumberger could perform a dual fracturing operation on a four-well pad.

## What Schlumberger recommended

Domain experts worked closely with Sundance to design an operation in which two wells could be simultaneously stimulated by one frac fleet to improve surface efficiency and increase the fracture effectiveness between the wells. Overall pumping rates of 120 bbl/min would be split on surface to deliver 60 bbl/min in each well. To encourage fracture propagation at the reduced pump rate, the perforation design was revised.



*Virtual wellsite software enabled operations planning to ensure smooth, continuous delivery of proppant for the complex simultaneous fracturing operations.*

The **StimCommander**\* automated stimulation delivery platform was critical to maximize operational efficiency. **StimCommander Process Trailer**\* automated blender and hydration unit enabled different pump schedules for each well and continued pumping in one well even if the other screens out. **StimCommander Pumps**\* automated and intelligent rate and pressure control enables pumping on two independent wells with unique pump schedules.

To improve efficiency during rig-up, Schlumberger also deployed virtual wellsite technology that generates a to-scale representation of the wellsite with all the required equipment, enabling better planning for surface operations. Efficient reloading of the enormous proppant silos was crucial, so the layout was optimized to eliminate operational bottlenecks.

## What Sundance achieved

The four infill wells were stimulated in two simultaneous operations, improving stages per day by 60% and sand pumped per day by 35%. The overall improvement saved 10 days of operations and USD 500,000 in rental, service, and consultant costs as compared with regular zipper frac operations on a four-well pad—and delivered initial production 10 days earlier than usual. In addition, postjob analysis indicates the operations resulted in propagated fractures in about 90% of the perforations, ensuring effective drainage of available hydrocarbons.

**“Operational efficiency is important to keep costs down, but that’s not helpful if you have to trade off well performance. Our previous experience with Schlumberger gave us confidence that they could deliver both. In the end, the efficiency saved us money—and also delivered initial production 10 days ahead of schedule.”**

Chris Caplis, Completions Manager, Sundance Energy