Value of wellsite analytical expertise reflected in $2.5 million savings — Eagle Ford

Play-specific engineering know-how from STRATAGEN reduces screen outs, acid volume and gel loading.

Eagle Ford, South Texas

The challenge

The client was relatively new to the Eagle Ford and placed an emphasis on reducing both screen-out risks and stimulation fluid costs. To that end, the operator needed analytical data that would ensure its fracture stimulation jobs were being placed properly with an optimal and cost-effective treatment program.

The solution

The STRATAGEN® fracture supervision & advisory services on-site consultant performed step-down tests, employing data generated by the FRACPRO® fracture design and analysis software. STRATAGEN Eagle Ford-specific engineering experience and expertise in real-time data analysis were directed at ensuring optimal placement of the frac jobs at the lowest possible cost. Over one year, step down tests and analysis were performed on a cumulative 900 stages in 35 of the operator's wells. When compared to the total of 150 stages performed the previous year, the dramatic increase demonstrates the client's recognized value of on-site analysis. The fundamental objective of the step down tests was quantifying near-wellbore pressures to ensure proper placement, while providing real-time data to promote on-the-spot alterations. Among the observations and subsequent recommendations was eliminating one of the two acid spearheads the client routinely employed in its completions, at a rate of 1,500 gal/stage. The value of the step-down tests is clearly reflected in the capacity to observe near wellbore pressure changes in real-time to allow immediate treatment modifications that optimize efficiencies and reduce treatment costs.

Well Data

Location: Eagle Ford, South Texas

Operator: Independent operator

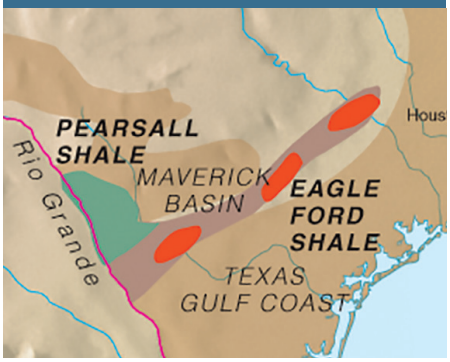
Well type: Oil

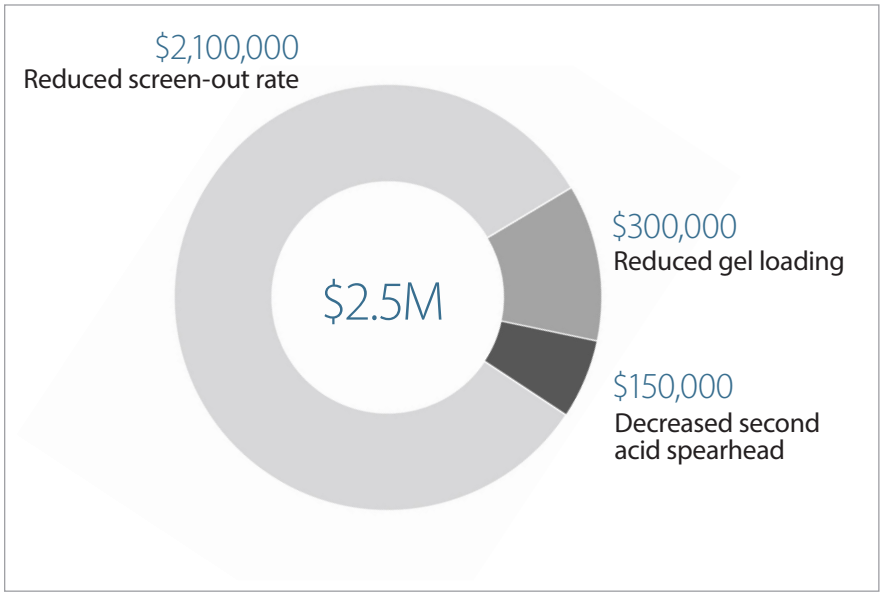
Number of wells/stages: 35 wells/ 900 stages pumped

Completion design: Plug & perf

Proppant: 30/50 CARBOECONOPROP low-density ceramic proppant

Diagnostics: FRACPRO fracture design & analysis software





On-site diagnostics help save the operator approximately $2.6 million during one year

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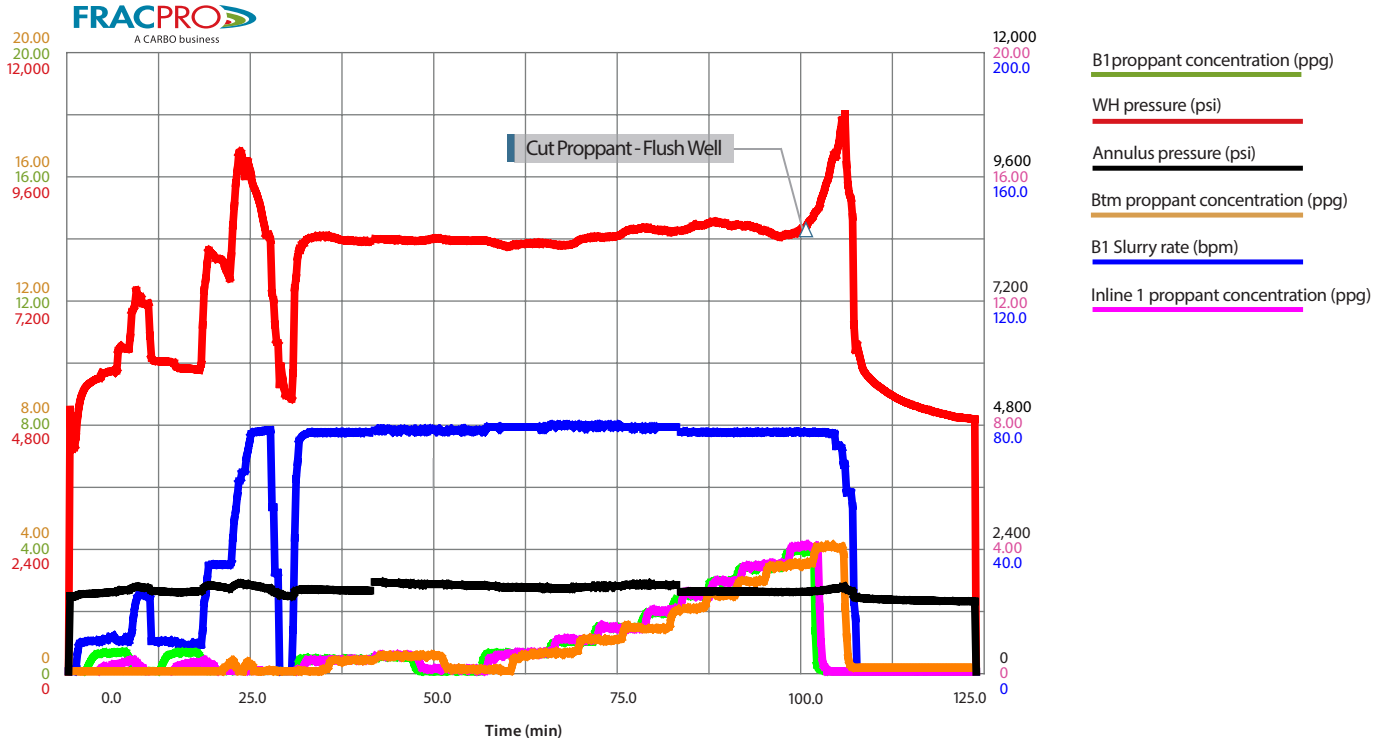
The results

STRATAGEN recommendations saved the client an aggregate $2.5 million during the year, including a potential $2.1-million alone in the reduction of screen-outs to 0.7% - far below the industry 2% average. Additionally, the experience-driven capacity to interpret pressure data on location and adjust accordingly, reduced one of the unnecessary acid spearheads, saving $150,000 while also cutting gel loading that reduced chemical costs another $300,000. The benefits of being able to make real-time corrections were reflected during the completion of one well where an unacceptable near wellbore pressure spike immediately prompted cutting the proppant concentration and flushing the well.



The capacity to make immediate corrections on site was clearly demonstrated during this well employing 30/50 CARBOECONPROP® low-density ceramic proppant at a designed concentration of 5 lb/gal. Increasing near-wellbore pressures, however, allowed only 4 lb/gal to reach the targeted fractures. STRATAGEN recommended cutting the proppant and flushing the well, with the operation eventually being suspended, thereby saving the operator the costs of unnecessary treatment.

For more information on this case history contact:

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