

# On-site diagnostics save \$80,000 by removing screen-out risks: Eagle Ford

The minimally intrusive step-down tests executed by STRATAGEN reduce costly screen-out rates below 1%

## Eagle Ford, South Texas

### The challenge

The value of performing diagnostic tests to optimize stimulation programs and maximize reservoir drainage has been widely discussed and referenced in the industry. Unfortunately, with the acceleration of unconventional drilling and the drive to put wells on line quickly, traditional well-site diagnostic testing was considered by many to be far too disruptive to the high-rate, factory-style approach to well construction and, thus, fell out of favor.

### The solution

As more operators have come to learn, STRATAGEN® diagnostic step-down tests yield a wealth of data to ensure proper placement of a fracture stimulation job, with very minimal disruption to the operation.

<p><b>Diagnostic test</b></p>  <p>15 MINUTES</p>	<p><b>Screen-out</b></p> <ul style="list-style-type: none"> <li>● Frac crew standby charges</li> <li>● Coiled tubing unit</li> <li>● Deferred production</li> <li>● Several days of time</li> <li>● Risk of future plugs becoming stuck</li> </ul>
<p>Included in <b>STRATAGEN On Site Services</b></p>	<p>Potential cost <b>\$80,000</b></p>

The combination of routine step-down tests with the analytical expertise of a STRATAGEN on-site advisor generate real-time engineering decisions that help reduce costs and enhance production. In this case, when the step-down test performed for one operator indicated an extremely poor connection between the wellbore and the fracture, the on-site STRATAGEN advisor made a number of recommendations for changing the completion design.

The operator agreed and the design was changed on location to include more perforations, pumping slugs of proppant and changing the proppant ramp, all the while carefully monitoring the pressures during treatment. Despite these changes, the formation was unable to accept all of the designed proppant and due to pressure increases above the technical limit, the on-site advisor made the call in real-time to cut proppant and flush the well. This decision resulted in the maximum concentration of proppant necessary for sustained and maximum production, while at the same time avoiding a costly screen-out.

**Well Data**

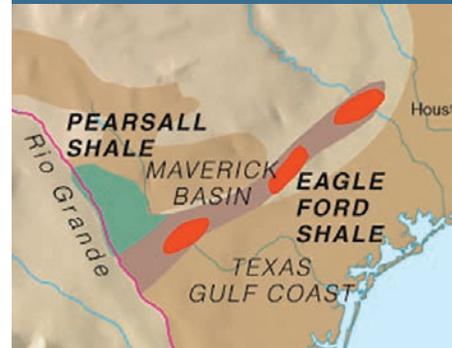
Location: Eagle Ford, South Texas

Operator: Independent

Well type: Oil

Completion design: Zipper frac completions

Diagnostics: FRACPRO® fracture design & analysis software



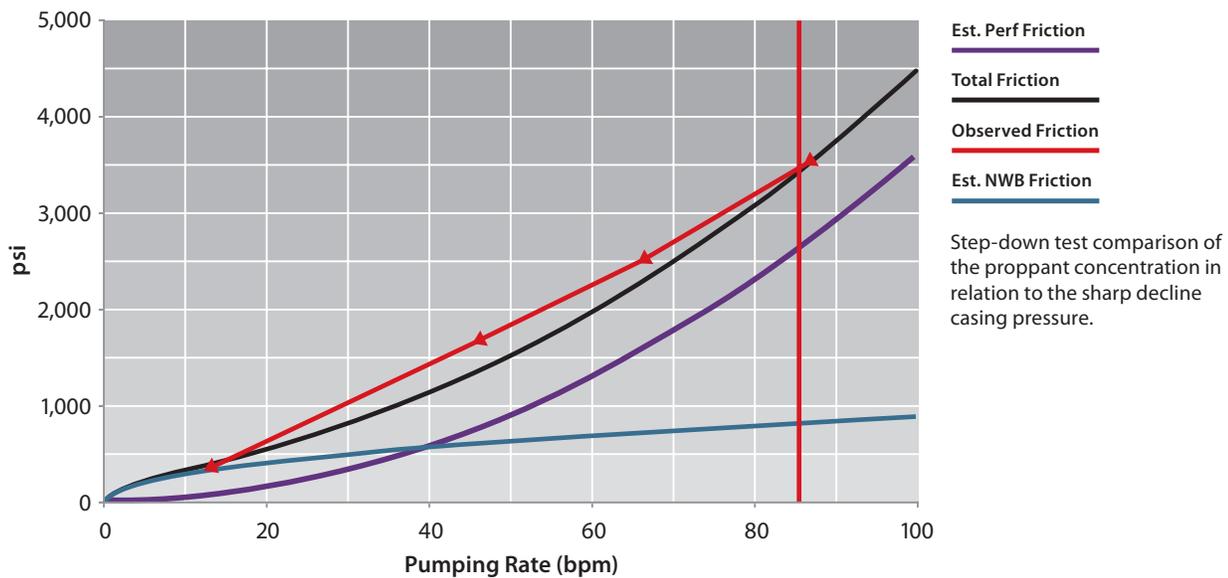
The 15 minute diagnostic test included in the STRATAGEN fracture advisory service can avoid a screen-out that can cost \$80,000

### The results

With the step-down analysis, the design was changed to lower the perforation friction and, ultimately, avoid a screen-out that can cost ~\$80,000 to remediate. Furthermore, the cost-saving insight was generated with very minimal interruption to the operation. The project also reinforced the cost-reducing benefits of having a STRATAGEN advisor on location to routinely perform step-down analysis and monitor real time pressure response. The value delivered was a combination between the step-down analysis along with the advisor who interprets the results and makes the proper engineering decisions that optimize the perforation and treatment design, enhancing the production potential of the treated zone.

STRATAGEN experience in the Eagle Ford indicates that any NWB friction pressure above 1,000 psi is likely to result in placement difficulties

### Step-down Analysis Friction: Eagle Ford Shale



For more information on this case history contact:  
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Talk to STRATAGEN to find out how we can help you enhance your production.  
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