25% Child Well Cumulative Production Increase with Enhanced Workflow for Integrating Stage-Level PFPD and Offset Measurements

Challenge

+ Fracture Driven Interactions (FDIs) in unconventional wells can significantly impact well productivity.
+ Over 70% of new wells in the Lower 48 are child wells, which often experience efficiency losses due to interference from adjacent parent wells, causing a 27-35% reduction in production.

Solution

+ An enhanced workflow that integrates real-time FDI monitoring with Post Fracture Pressure Decay (PFPD) analysis to improve understanding of fracture propagation behavior.
+ This workflow updates frac modelling with revised fracture half-lengths and cluster efficiency estimation, providing critical data to refine completion strategies.
+ A head-to-head comparison project in the Delaware was used to determine the effects of this FDI + PFPD Enhanced Workflow.

Results

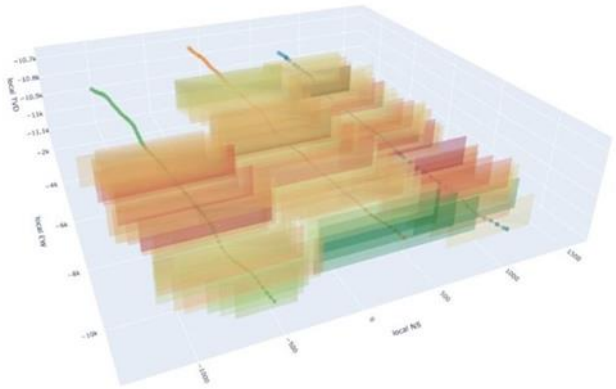
+ **Increased Fracture Precision:** Integrating FDIs with PFPD enabled a dynamic understanding of fracture propagation, allowing for timely operational adjustments.
+ **Reduced Interference:** Well-to-well interactions were effectively managed, with an average interaction of 20 psi in only 12 out of 58 stages of Well 2, compared to interactions averaging 50 psi in 50 out of 58 stages of Well 1.
+ **Optimized Production:** This workflow led to a 25% improvement in cumulative production after 18 months.

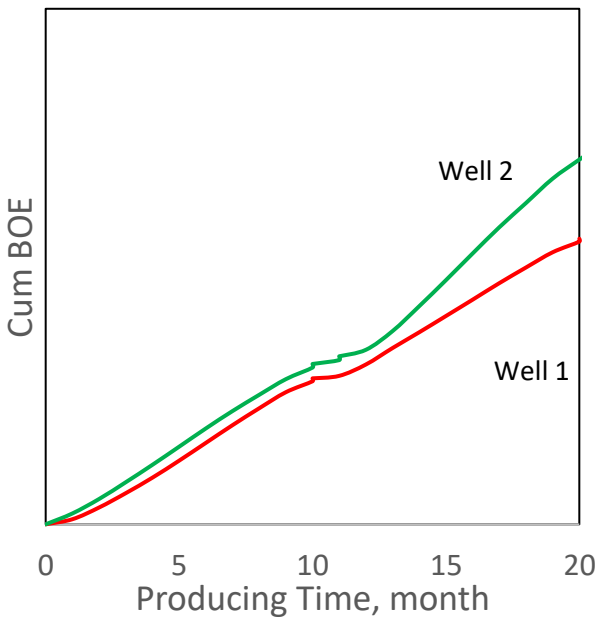
Basin – Delaware

Formation – Bone Spring Sand

Location – Lea County, NM

Producing Well Type – Oil





For More Information:

Web
www.ShearFRAC.com

Phone
1-888-544-1526

Email
info@ShearFRAC.com