

Case History

Horizontal Drilling / Drilling Fluids

DFL-NA™ Drilling Fluid Technology Helped An Eagleford Shale Operator Extend Their Technical Drilling Limits

Location: South Texas, Eagleford Shale

OPERATOR'S CHALLENGE – To extend their drilling technical limits, a major operator in the Eagleford Shale was searching for a fluids technology that could reduce the inherent friction of drilling the build and horizontal sections of their wells without negatively affecting their drilling fluid properties. Although most of their wells are drilled with oil-based muds, which are lubricious by nature, they still faced high torques, drag, and pressures, as well as downhole vibrations requiring the use of downhole mechanical vibrating tools. They also were forced to rotate long sections of their production casing to bottom, resulting in well inefficiencies and costly time delays.



EGS's SOULUTION – EGS

has engineered an environmentally safe drilling fluid technology to specifically address the friction challenges seen on directional, horizontal and extended reach wells as are drilled in the Eagleford Shale and throughout the world. Both water-based and oil-based DFL formulations have been designed to provide incomparable friction reduction. Unlike other standard friction reducing products on the market, DFL does not change drilling fluid properties as it is a “bonding lubricant” and not a flowing lubricant. DFL is engineered to reduce contact friction, to reduce the heat produced by friction, to reduce flowing fluid pressures (ECDs and SPPs) and to reduce wear on casing, drill pipe, equipment and drilling bits.

Added Value – In order to measure the effectiveness of DFL in their mud, system, the operator ran head-to-head comparisons on two wells with similar well profiles: one without DFL, and one with DFL. What was realized with the addition of DFL at 3% by volume was:

- 39% Reduction in Drilling Torque
- 26% Increase in Slack Off Weight
- 10% Reduction in Pick Up Weight
- 50% Reduction in ECDs

As well as:

- 100% increase in sliding ROP
- 100% increase in Bit Life
- Elimination of Helical Buckling
- 1,200 ft increase in non-rotated casing running length

All tolled, this added value improved operations by over 25%, thus prompting the operator to incorporate DFL as standard in their drilling fluid for the drilling of their horizontal wells. These operational improvements will allow the operator to extend the lateral reach of their horizontal wells.

