

Case History

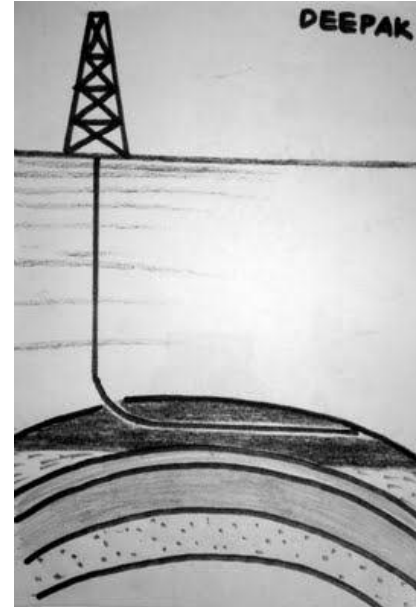
Horizontal Drilling / Drilling Fluids

Major West Texas Operator Implements DFL-A™ Drilling Fluid Technology To Improve Drilling Efficiencies by over 30%

Location: Poker Lake Field, South East, New Mexico

OPERATOR'S CHALLENGE – A

major operator in the Poker Lake Field in South East New Mexico, had reached their technical limits in the drilling of their horizontal, multilateral wells. In an attempt to take their operations to the next level, while utilizing the same drilling rigs and equipment, they focused their efforts on their drilling fluids to combat the high frictional forces that were inhibiting their drilling parameters. Since these wells are drilled with basic water-based muds, their concern with implementing a fluid's technology was the economic return for their technological investment, as the technology they chose had to not only reduce friction, but substantially



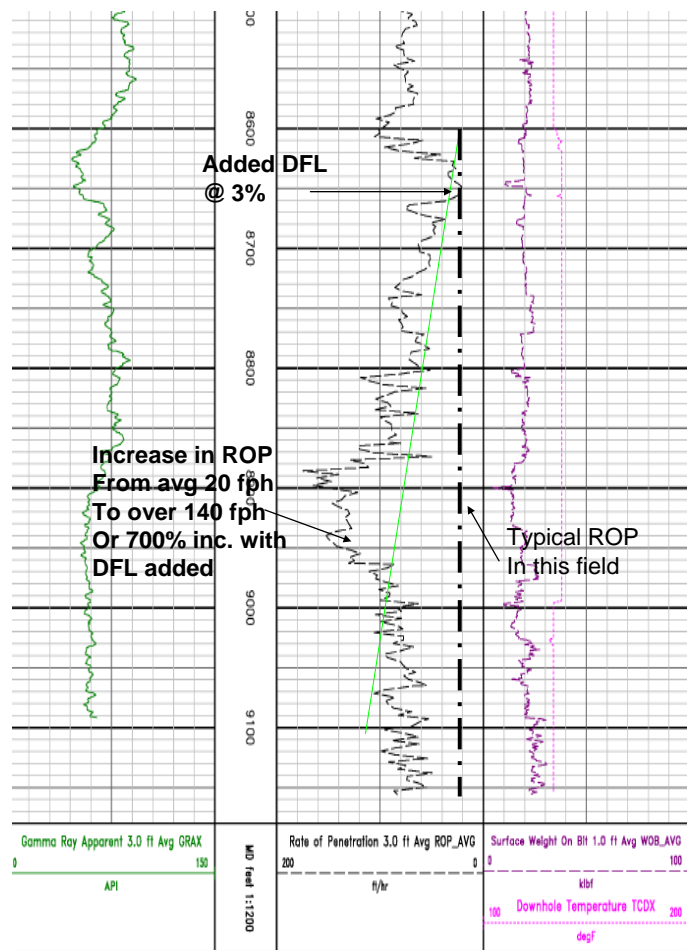
improve their drilling performance in terms of ROP in the build section and the multilateral horizontal legs.

EGS's SOULUTION – EGS

analyzed the operator's operation and prescribed the implementation of their engineered and environmentally safe drilling fluid technology to specifically mitigate the challenges they were experiencing in their build sections and long horizontal multilateral legs of their Poker Lake wells. 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, as well as improve ROPs.

Added Value – With the limitations of their drilling rigs, the drilling rate while building angle as well as while drilling the horizontal leg was limited to 20 feet per hour or less. After establishing a baseline ROP after drilling out the casing shoe and 500 feet of formation, the operator added EGS’s DFL into their drilling fluid. As the DFL was added to the mud, there was a linear correlation between the percent addition, and ROP. By the time the DFL concentration reached the prescribed 3% v/v, the ROP had increased to over 100 fph resulting in an increase of over 500%. In addition to the drilling rate improvement, the addition of



DFL into the system promoted wellbore stability thus allowing the operator eliminate post-drilling reaming in preparation for the production casing run. All tolled, this resulted in an overall operational efficiency improvement of over 30%, thus surpassing the operator’s expectations for economic viability. The DFL has now been incorporated as a standard technology on all of their wells since.