TECHNICAL SHEET

TriMAX™: Next Generation Deepwater Drilling Fluid

APPLICATIONS

The TriMAX system is designed for narrow window drilling operations with minimal tolerance between pore pressure and fracture gradients. TriMAX enables 3D performance by providing engineered downhole rheology under downhole temperatures and pressures.

The TriMAX system is a US Gulf of Mexico compliant drilling fluid, designed with a simplified formulation for field application. It can be used to drill with a wide range of mud densities and up to 300°F (140°C) static formation temperatures. The fluid is optimized for deepwater and ultra-deepwater applications.

Delivering engineered optimal rheology downhole

QMax's next generation deepwater drilling fluid, TriMAX, goes beyond today's typical flat rheology by providing 3D engineered drilling fluid rheology downhole. Traditional flat rheology mud systems focus on providing fluid rheology that remains essentially unchanged, regardless of the widespread temperatures generally seen within deepwater wells. Drilling fluid rheology is only measured at ambient pressure, therefore ignoring the impact downhole pressure and formation temperature have on the fluid properties.

TriMAX delivers performance and engineered optimal rheology downhole, where it has the most impact. Through 3D control, TriMAX provides drilling performance with effective hole cleaning and increased rates of penetration, while minimizing equivalent circulating densities by reducing the progression of low shear rate yield point of the fluid under downhole conditions. In combination with our MAXSITE hydraulics software simulations, the TriMAX system allows QMax to engineer and maintain the proper drilling fluids for individual wells, ensuring downhole control of the equivalent circulating density and equivalent static density. This greatly enhances wellbore stability and reduces the possibility of induced mud losses to formation or kicks.

TriMAX is optimized for deepwater and ultra-deepwater applications.

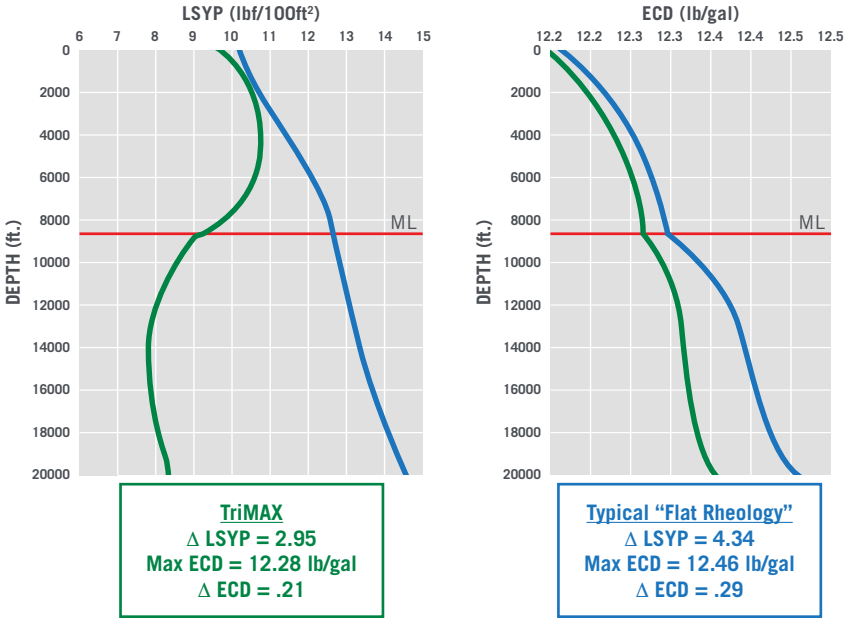
KEY BENEFITS

- Downhole fluid rheology control improves tripping speeds and lowers overall fluid gel strengths, reducing pressure spikes
- The TriMAX system is a solids tolerant fluid with excellent particle suspension across temperatures and pressures, minimizing potential barite sag
- TriMAX accommodates the drilling of troublesome formations, achieving minimal fluid interference with the internal structure of the rock, avoiding movement of water from the fluid to the formation
- Being a non-aqueous invert emulsion, TriMAX has excellent lubrication properties making it ideal for drilling wells with complicated geometries and extended reach applications
- Provides maximum lubricity resulting in minimal bit balling, low friction factor and low torque and drag

TriMAX	
Property	**Range (40 - 150°F)**
Mud Weight, lb/gal	9.0 - 18.0
Plastic Viscosity – cP	16 - 40
Yield Point, lb/100ft²	10 - 30
Gel Strengths – lb/100ft² (10s/10m/30m)	5 - 15 / 6 - 20 / 8 - 25
Lime excess, lb/bbl	1 - 3
Electrical Stability, Volts	250 - 1000
HTHP Fluid Loss – cc's/30min	2.0 - 15.0
Oil/Water ratio (OWR)	65:35 - 95:5

Performance

The graph below shows the performance of TriMAX compared to a typical flat rheology system. These fluids were built and tested in the QMax Corporate Technology Center utilizing MAXSITE hydraulics for the simulated values of a typical deepwater well.



TriMAX
Δ LSYP = 2.95
Max ECD = 12.28 lb/gal
Δ ECD = .21

Typical "Flat Rheology"
Δ LSYP = 4.34
Max ECD = 12.46 lb/gal
Δ ECD = .29

We Deliver, No Excuses