



TE Lube - Performance & Results

TE Lube is a synergistic blend of chemistries and strong filming agents that provide extreme lubrication capabilities with superior corrosion inhibition properties. The bond is created through an adsorption process where chemically reactive constituents of the TE Lube at elevated pressures and temperatures form a highly tenacious layer or film on the solid surfaces known as a boundary film. This boundary film is capable of supporting the high loads, where the load is carried by the surface asperities rather than the hydrodynamic capability of the lubricant providing its resistance to pressure. Our focus is not only on the reduction of torque and drag, but conditioning the entire system to maximize the efficiency of all the motors and pumps which directly relates to increased ROP.

TE Benefits:

- Better Motor & Bit Performance
- Stabilizes the Formation
- Limit Stick/Slip Scenarios
- Stable to Over 700F
- TOH Off Elevators
- Increased Differential Pressure
- Save Overall Drill Time
- Finer Cuttings, Easily Carried to Surface
- Cleaner Hole, Pipe, Bit, Motor & Formation
- Not Affected by the Presence of Oxygen
- Significant drop in overall Torque & Drag
- Run 2+ Mile Casing in 18 Hours
- Less Stress on Drill Pipe, Motor, & Bit
- Fewer Solids means Fewer Swab Changes
- Cleaner Fluid
- Increase ROP
- Increase WOB
- Less Trip Outs
- Easier Sliding
- Corrosion Inhibitor
- Less Down Time

Case Studies:

- Operator wanted a Lubricant that would allow them to put 60,000 lbs WOB and keep their torque under control to increase ROP. TE Lube outperformed all other lubricants tried and succeeded by saving them a minimum of 1.5 days of drilling time on each vertical/intermediate section in WBM. TE is now being used on all verticals(WBM) and laterals(OBM) for this rig. This rig goes over 2 months in between mud pump swab changes now.
- Operator had 5 fishing jobs on this pad and left 2 BHA's in the 3rd lateral well due to getting stuck both times and couldn't fish them out. They set a whipstock and gave TE Lube the ultimate test. They had changed BHA's 23 times before we got started and they TD'd the well with 2 bits from 9,581' to 20,864'. The bit and motor came out fine, but this operator requires a BHA change before last 3-4,000' no matter what. TE is now being used on all verticals and laterals for this operator.
- Operator was using slim hole tools drilling a SWD to 14,500' in WBM. They called us at 13,200' because their slim hole tools were at max torque of 9,000 lbs and had zero ROP, Rotary was at 50 RPM's and just couldn't drill anymore. They asked us to ship them totes as a last resort before they had to trip out. We got product to them ASAP and started adding to the mud pits. Within 30 minutes of adding the lube, the torque dropped to 3,500-4,500 and were able to drill again. Their ROP increased to 50-90 FPH and the RPM's went to 80. They TD'd the well in 18 hours.
- Operator was drilling the vertical/intermediate section experiencing torque over 24,000 lbs consistently at 6,500'. They called and asked us to bring some totes to see if we could help them increase their ROP and drop the torque. We got totes onsite and started pumping TE into the active system. Within one hour the torque dropped to 20,000 lbs and increased ROP to 140-220 FPH. The driller said he increased his WOB to 50K and any other lube he would have twisted off. The Mud Engineer told our VP onsite, "That Lube is amazing, I wish we had it as our product!" TE is now being used on the laterals in addition to the verticals for this operator.