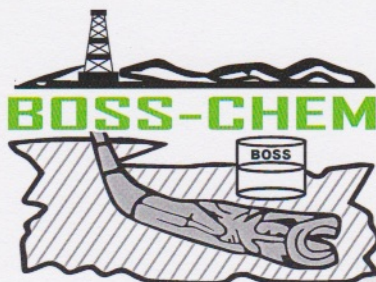


Drilling Chemicals ■ Completion Chemicals

979.778.2543

www.boss-chemcorp.com

P.O. Box 502 • Snook TX 77878



BOSS-CHEM Products

LUBRICANTS

- BOSS 155 Concentrated oil soluble, water dispersible blend
- BOSS 156 Biodegradable and environmentally friendly
- BOSS 157 Specifically designed for water based mud systems

SPECIALTY CHEMICALS

- BOSS-110 Drilling Beads
- BOSS-112 Scale and Corrosion Inhibitor
- BOSS-115 Defoamer
- BOSS-116 Demulsifier
- BOSS-121 Surfactant
- BOSS-121S Scale Inhibitor
- BOSS-130 Shale Stabilizer
- BOSS-137 Biocide
- BOSS-140 OSC DP Inhibitor Treatment
- BOSS-141 Packer Fluid
- BOSS-IC153 Water Treatment

For Pricing and More Information
979.778.2543



Delivered in:

- 55 Gallon Drums
- 275 Gallon Totes
- 330 Gallon Totes

Proud to be U.S. Owned and Operated for Over 15 Years!

BOSS 155

Concentrated oil soluble, water dispersible blend of amide and imidazoline fatty acids with oil wetting surfactant

2% Concentration by volume is all that is needed to achieve maximum results

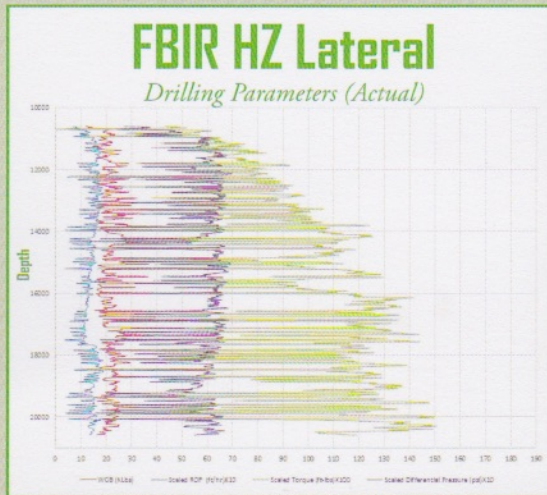
Effective at reducing the friction during horizontal and directional drilling operations

Effective up to 500°F bottom hole temperature

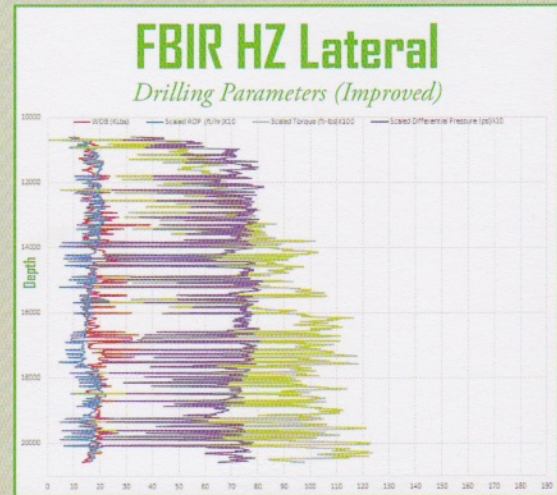
Reduces time to build the curve in half, in most cases

Reduces torque and drag causing wear, wall sticking tendencies, and bit and bottom hole assembly balling

Will not damage any elastomers of down-hole motors



Well: FBIR HZ 1D (Direct Offset)
Standard Drilling Lube - Average Values



Well: FBIR HZ Offset 2D (Direct Offset)
BOSS-CHEM Lube - Improved Values

ESTIMATED PERFORMANCE IMPROVEMENTS AND SAVINGS

Less Torque

20% average reduction in torque vs direct offset well

Less Weight on Bit (WOB)

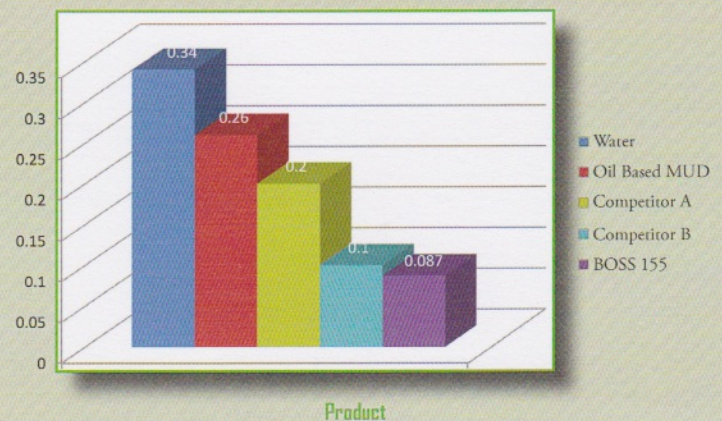
20,000 lbs. @ 18,000 ft. vs Offset WOB of 22,000 lbs. @ 18,000 ft.

Increased Rate of Penetration (ROP)

110 ft. per hour vs offset 100 ft. per hour

Decrease Days on Well

Reduced target days on well from 25 to 17 days



PRODUCT DESCRIPTION

- ✓ Industry leading flash points for hot hole environments
- ✓ Highest standard lubricating coefficient on the market
- ✓ Optimized to mitigate system foaming
- ✓ Low freezing points for sub zero temperatures

TORQUE READING COF COMPARATIVE DATA

Water, Oil Based Mud, Competitor A, Competitor B, BOSS-155

- 35% Improvement over Oil Based Mud
- 44% Improvement over Competitor A
- Cost Savings of 115% over Competitor B

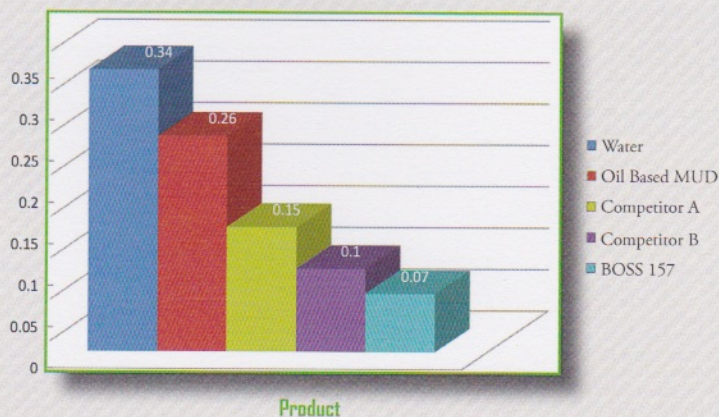
Boss 157

Non-regulated product specifically designed for water based mud systems in more environmentally sensitive locations

Effectively reduces metal on metal and metal on formation friction

Helps in lowering fluid loss, and adding lubricity to wall cakes

Effective up to 500°F bottom hole temperature



Boss 156

Environmentally Friendly



Reduces torque, drag and the potential for differential sticking by reducing the coefficient of friction of water based muds

Provides additional wellborne stability and inhibition

Reduces bit balling

Dispersible in all types of water-based fluids

A non-toxicity lubricant

Boss 110

Drilling Beads

Improves sliding ability, extend lateral drilling capability

Not adversely affected by pressure, temperature or mud chemistry

Can be used in any type system

Superior strength and roundness

Will not float out or migrate up the hole

Proprietary blended to achieve optimum particle size

For More Information
979.778.2543



BENEFITS OF BOSS

Reduces Torque

Increases Rate of Penetration

Extends Down Hole Tool Life

Mud Motors and Bits

Reduces Down Time Working on Mud Pumps

Less Metal on Metal Friction

Reduces Number of Trips

50% Less Time to Drill the Curve

Straighter Verticals

Less Dog Legs and Cork Screwing

Reduces Hook Load

Minimize Twist Off Risk

Reduces Well Bore Damage

Helps Free Stuck Pipe

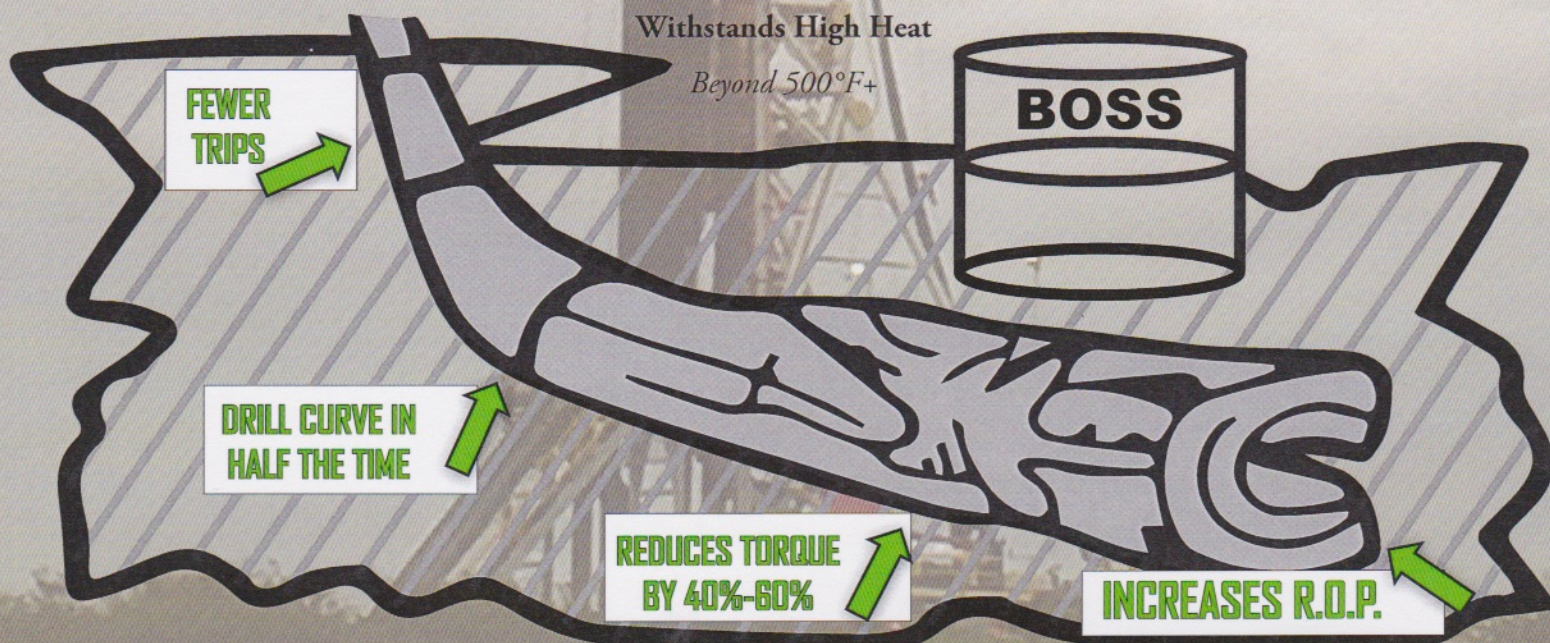
Aids with Running Casing

Prevents Bit Balling

Lowers Fluid Loss

Withstands High Heat

Beyond 500°F+



Recommended Usage of BOSS-CHEM Lubricants

HIGH TORQUE, EXCESSIVE HOOK-LOAD, OR DIFFICULTIES SLIDING

Transfer 80/100 bbls of mud to Slug/Pre-Mix Pit

Add 5% of BOSS -Chem Lubricant

3360 gal (80 bbls mud) x 5% BOSS = 168 gal = ~ 3/55 gal Drums

4200 gal (100 bbls mud) x 5% BOSS = 210 gal = ~ 4/55 gal Drums

Pump 10-25 bbl sweeps as needed to solve the above problems

It is recommended for the above problems to maintain 2% by volume in the total active system. Our process of adding 5% by volume to the slug/pre-mix pit allows the system to gradually increase to 2% and to compensate for dilution rate of base fluid(s).

Running Casing

Transfer 80/100 bbls of mud to Slug/Pre-Mix Pit

Add 6% BOSS-Chem Lubricant

3360 gal (80 bbls mud) x 6% BOSS = 202 gal = ~ 4/55 gal Drums

4200 gal (100 bbls mud) x 6% BOSS = 252 gal = ~ 5/55 gal Drums

Calculate and spot the pill in the open hole ensuring that the top of the curve is where the top of the pill lands.

Stuck Pipe

Transfer 80/100 bbls of mud to Slug/Pre-Mix Pit

Add 6% BOSS-Chem Lubricant

3360 gal (80 bbls mud) x 6% BOSS = 202 gal = ~ 4/55 gal Drums

4200 gal (100 bbls mud) x 6% BOSS = 252 gal = ~ 5/55 gal Drums

Spot the pill where it coats the entire area of the drill string that is packed off while leaving 20 bbls inside the pipe. Let the pill soak for 1 hour.

Begin pumping 1 bbl every 15 minutes while working stuck pipe free until desired result is achieved.



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