



AMMODRILL: High-Performance Water-Based System



Unconventional approach to water-based drilling fluid

Anchor USA's AMMODRILL* is a high-performance water-based drilling fluids system providing an alternative to conventional water-based drilling fluids. AMMODRILL utilizes a powerful polymer to provide outstanding rheology properties, highly-reliable suspension and improved hole cleaning. In addition, the use of an active cation inhibits clay and shale hydration providing for excellent inhibition. Inclusion of a high-performance lubricant gives increased rates of penetration (ROP) and friction coefficients equal to that of oil-based drilling fluids.

System Components & Additives

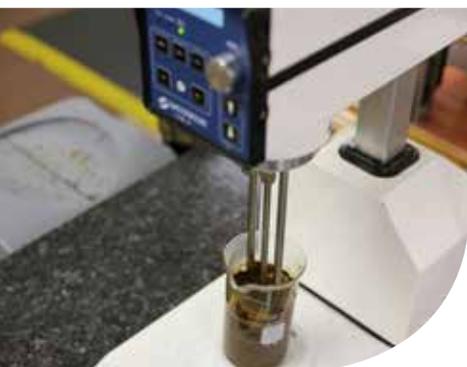
AMMODRILL is a low molecular weight amphoteric material helping to reduce dispersion and hydration of reactive clays and shale formations, effective across all pH ranges and in fresh water, sea water, saltwater, lime and low solid systems.

QXAN is a superior low shear rate viscosifier, exceeding conventional biopolymers in most fluid environments and resulting in excellent suspension and hole cleaning properties.

MAXCAP D is a low molecular weight, anionic polyacrylamide that enhances fluid lubricity. It is widely used for shale inhibition and borehole stability when drilling through reactive clay.

QPAC LV is a polyanionic cellulosic polymer, specifically designed to reduce the filtration rate of solids-laden water-based fluids where an increase of viscosity is undesirable, while avoiding an appreciable increase in the rheological properties of the fluids system.

QSTAR ENV/HT is a carboxymethyl starch manufactured as a filtration control agent for water-based drilling and completion fluids. QSTAR ENV and HT provide excellent compatibility in a wide range of saline environments.



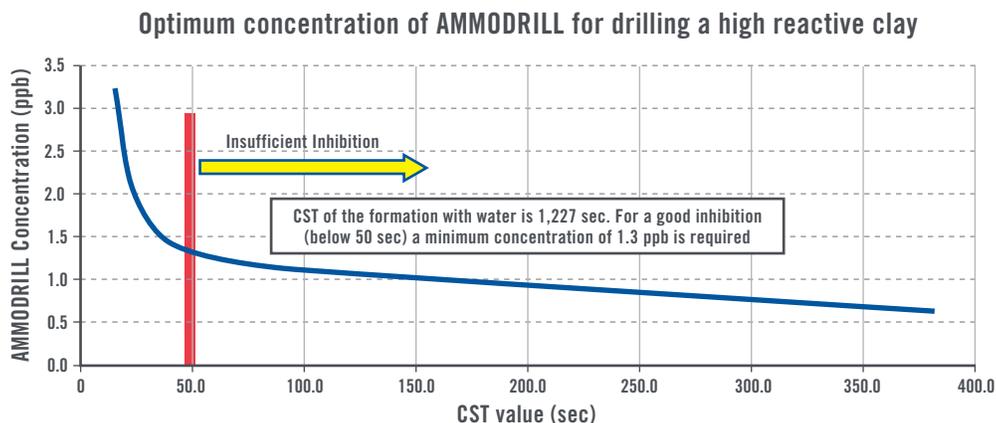
*f/k/a Anco H₂O

BENEFITS

- Excellent inhibition
- Superior yield point and low gel strengths
- Highly reliable suspension and improved hole cleaning
- Weighting agents such as calcium carbonate, barite or hematite can be used to raise the density
- Improved lubricity and ROP
- Eliminates need to set a string of casing below the salt section
- Minimizes washout in the salt section
- Eliminates need to use multiple fluids systems in the intermediate / production intervals
- Ability to maintain lower mud weights to eliminate / minimize fluids losses
- Reduced disposal costs

QSTOP is a proprietary cellulose fiber-based material used for loss circulation, seepage control, and wellbore strengthening.

QMAXPRO LUBE is a high-performance lubricant greatly reducing torque and drag, along with decreasing friction and wear, minimizing differential pressure sticking, and bit balling, with minimal effect on rheological properties.



AMMODRILL – Formulations		
Product	Function	Concentration (ppb)
Water	Continuous Phase	As Required
AMMODRILL	Clay/Shale Inhibitor	1.5 - 4.0
QXAN	Viscosifier	0.25 - 1.0
MAXCAP D	Encapsulator	0.5 - 1.5
QPAC LV	Fluid Loss Reducer	0.5 - 2.0
QSTAR ENV/HT	Fluid Loss Reducer	2.0 - 5.0
Caustic Soda	Alkalinity Control	As Required
QMAX PRO LUBE	Lubricant	3.0 - 8.0
QSTOP	Seepage Losses Control	2.0 - 5.0

AMMODRILL – Fluid Properties		
Properties	Typical Range	Min/Max Recommended
Mud Weight (ppg)	8.8 - 16.0	< 18.0
Plastic Viscosity (cP)	5 - 35	ALAP
Yield Point (lb/100ft ²)	12 - 30	< 50
Gels 10"/10' (lb/100ft ²)	3/15 - 10/30	As Required
pH	8.5 - 10.0	< 10.5
API Fluid Loss (ml/30min)	4.0 - 8.0	As Required
Calcium (mg/l)	40 - 100	< 100
MBT (ppb-eq)	0 - 15.0	< 15.0

We Deliver, No Excuses