

DRILLING FLUIDS SELECTION GUIDE

BENTONITE

Baroid Industrial Drilling Products, (281) 871-4613, baroididp.com

AQUAGEL Viscosifier: Premium-grade Wyoming sodium bentonite used as viscosifier and filtrate reducer in freshwater drilling fluids. Meets the requirements of API Specification 13A, Section 9; NSF/ANSI Standard 60 certified.

BORE-GEL Boring Fluid System: A specifically blended system using high-yield Wyoming sodium bentonite. When mixed with freshwater, it develops an easy-to-pump slurry with desirable properties for HDD drilling, pipe jacking lubrication, etc. NSF/ANSI Standard 60 certified.

QUIK-GEL Viscosifier: Easy-to-mix, finely ground, premium grade, high-yield Wyoming sodium bentonite. Imparts viscosity, fluid-loss control and gelling characteristics to freshwater-based fluids. NSF/ANSI Standard 60 certified.

QUIK-BORE High-Yield Boring Fluid System: A specially formulated product for use in HDD, primarily tunneling and micro-tunneling applications. NSF/ANSI/CAN Standard 60 certified.

Bentonite Performance Minerals, LLC, (281) 871-7900, bentonite.com

BARA-KADE PLUS: High-yield, premium Wyoming sodium bentonite that is easy to mix and imparts viscosity, increases bore-hole stability, and suspends drill cuttings in water-based drilling fluids. NSF/ANSI/CAN Standard 60 certified.

BARA-KADE 90: Wyoming sodium bentonite that meets API 13A, Section 9 specifications for use in trenching, bored piling, and slurry wall installations. NSF/ANSI/CAN Standard 60 certified.

CETCO, (800) 527-9948, cetco.com/dpg

HYDRAUL-EZ: Specially treated bentonite drilling fluid designed for directional drilling. Suspends cuttings and maintains borehole integrity with very low water loss and strong gel strength. NSF/ANSI Standard 60 certified.

SUPER GEL-X: A 200-bbl-yield, bentonite drilling fluid for maximum viscosity. Multi-purpose drilling gel provides strong wall cake and formation control for all drilling types. Controls filtration rate for borehole stabilization and prevention of fluid loss. NSF/ANSI Standard 60 certified.

PREMIUM GEL: API 13A 90-bbl-yield, bentonite drilling fluid for freshwater drilling.

PUREGOLD GEL: Organic-free and untreated 90-bbl-yield, high-quality bentonite drilling fluid. Industry standard for environmental monitoring well drilling. NSF/ANSI Standard 60 certified.

Drilling Mud Direct LLC, (720) 489-0300, www.muddirect.net

Barakade High Yield Gel: Premium-grade, high-yield Wyoming sodium bentonite. Easy to mix, quick to yield and provides excellent rheology for HDD applications. NSF/ANSI-standard 60 certified. Stored at 12 different stock points across the USA to ensure big-rig contractors never run out of mud.

M-I SWACO, (601) 649-1500, slb.com/hdd

MAX BORE HDD: One-sack, proprietary-blend system of high-yield Wyoming bentonite with additives for fluid loss control, enhanced suspension and improved lubricating qualities. Designed for gravel and cobble formations where optimum stabilization and suspension are necessary. NSF certified.

MAX GEL: Premium 220+ bbl-yield, Wyoming bentonite capable of yielding more than twice as much viscosity as regular Wyoming bentonite. Easily mixes and yields faster than most other bentonites. NSF certified.

DRILPLEX HDD: Specialty product used to enhance gel strengths of MAX GEL viscosifier. When added to bentonite, slurry produces high-fragile gels for superior suspension and carrying capacity of sand, gravel and rock cuttings from the borehole. Easy to pump, improves hole stability and reduces chances of loss circulation. NSF certified.

Wyo-Ben, Inc., (406) 652-6351, www.wyoben.com

Extra High Yield: High-yielding, fast-mixing gel that performs well in a variety of water qualities. Used widely in mineral exploration, water well and HDD.

Hydrogel Plus: High-performance bentonite with a unique formula that makes it a very effective viscosifier. This premium-grade, beneficiated Wyoming bentonite is specifically designed for use with mud recycling systems on large HDD bores.

SW-101: Unique modified sodium bentonite product designed to remain stable in either seawater- or salt-contaminated environments. Can be mixed in freshwater or seawater.

Tru-Bore: Complete, one-sack, 240-bbl/ton-yielding, pH-balanced material that controls fluid loss to the well bore for maximum borehole stability. For use in drilling difficult horizontal and vertical wells.

POLYMER

Baroid Industrial Drilling Products, (281) 871-4613, baroididp.com

AQUA-CLEAR PFD Polymer Dispersant: Concentrated, liquid, polymer dispersant that provides superior mud and sediment removal. Highly effective mud thinner containing no phosphates. NSF/ANSI Standard 60 certified.

BIO-BORE HDD Fluid Concentrate: Polymer-based system that provides a clay-free, biodegradable drilling fluid in situations where clay-based fluids are restricted.

CLAY-DRILL Polymer-Based HDD Fluid: Designed to provide borehole stabilization, counteract the sticking tendencies of clay, and maximize clay/shale inhibition without the need for additional additives. NSF/ANSI/CAN Standard 60 certified

DIAMOND SEAL Absorbent Polymer for Lost Circulation: Water-swellable - not water-soluble - 100 percent crystalline synthetic polymer. It absorbs hundreds of times its weight in water and is used primarily as a lost circulation material in HDD.

EZ-MUD® PLUS Polymer Emulsion: Liquid polymer emulsion used as a borehole stabilizing agent to prevent reactive shale and clay from swelling and sloughing. Can be added to low solids drilling fluids to help increase lubricity and fluid viscosity and improve carrying capacity of air/foam injection fluids. NSF/ANSI/CAN Standard 60 certified.

EZ- MUD GOLD Clay and Shale Stabilizer: Helps promote inhibition of clay and shale formations in water-based drilling fluids without substantially increasing viscosity. Added to QUIK-GEL, QUIK-BORE or BORE-GEL slurry, it yields an inhibitive drilling fluid system while maintaining manageable and effective fluid properties. NSF/ANSI/CAN Standard 60 certified.

NO-SAG: Biopolymer Gel Strength Enhancer Free-flowing, powdered and easily dispersed biopolymer. Helps enhance the carrying capacity of both clay- and polymer-based drilling fluids without significantly increasing the viscosity of the slurry.

N-SEAL Acid Soluble Lost Circulation Material: Acid-soluble, lost circulation material is a specially formulated extrusion spun mineral fiber. Due to its solubility in weak acids, it is easily removed from production zones. NSF/ANSI/CAN Standard 60 certified.

PENETROL Wetting Agent: Non-ionic wetting agent designed to counteract the sticking tendencies of clay and reduce or eliminate bit balling. Preferentially coats drill bits, drill string and reamers to improve drilling efficiency.

PENETROL DRY Dry Surfactant: Used to assist in counteracting the sticking tendencies of encountered clay or shale during drilling operations. Surfactant of choice for environmentally sensitive projects. NSF/ANSI/CAN Standard 60 certified.

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PERFORMATROL 930 Clay Inhibition System: A single-sack product designed primarily for minerals exploration and geotechnical drilling to provide borehole stabilization, minimize core infiltration, and maximize clay/shale inhibition as a single-sack system. NSF/ANSI/CAN Standard 60 certified.

POLY-BORE Borehole Stabilizing Dry Polymer: Water-soluble, free-flowing, easy-mixing, 100 percent dry granular polymer that provides a clear solids-free, viscous, borehole stabilizing fluid for use in all types of trenchless construction applications. NSF/ANSI/CAN Standard 60 certified.

QUIK-TROL GOLD Highly Dispersible Filtration Control Additive:

A highly dispersible, polyanionic cellulosic (PAC) polymer provides ease of mixing and improved filtration control in most water-based drilling fluids. When added to AQUAGEL, QUIK-GEL, QUIK-BORE or BORE-GEL slurry it can yield a low filtrate drilling fluid system suitable for drilling in water-sensitive formations. NSF/ANSI/CAN Standard 60 certified.

QUIK-TROL GOLD LV Highly Dispersible Low Viscosity Filtration Control Additive:

A highly dispersible polyanionic cellulosic (PAC) polymer that yields a low-filtrate drilling fluid system with manageable viscosity suitable for drilling in water-sensitive and unstable formations. NSF/ANSI/CAN Standard 60 certified.

Soda Ash: Granular powder primarily used to treat out hardness due to calcium in makeup water, and to raise pH level.

Bentonite Performance Minerals, LLC, (281) 871-7900, bentonite.com

BARA-KADE DWD: Dry, free-flowing powder designed to solidify spent drilling fluid and/or slurries to a consistency where the final material can be disposed of as a solid waste. When mixed at the recommended concentration with a solid laden slurry, BARA-KADE® DWD creates desired consistency within hours of application. NSF/ANSI/CAN Standard 60 certified.

POLYSELECT POWER DET: Proprietary blend of surfactants that reduces stickiness of clay and shale, and bit balling.

POLYSELECT POWER PAC-L: Filtration control additive is designed to reduce the filtration rate of water-based fluids, while having minimal impact to viscosity. NSF/ANSI/CAN Standard 60 certified.

POLYSELECT POWER PAC-R: Filtration control additive is designed to reduce the filtration rate of water-based fluids, while also increasing viscosity. NSF/ANSI/CAN Standard 60 certified.

POLYSELECT POWER SLURRY: Dry synthetic polymer used primarily to stabilize soils during drilled shaft and trench construction.

POLYSELECT POWER SODA ASH: Water conditioner is designed to reduce the hardness and increase the pH of make-up water utilized for drilling fluids. NSF/ANSI/CAN Standard 60 certified.

POLYSELECT POWER SWELL: Water swellable synthetic polymer designed to mitigate inadvertent returns and stabilize unconsolidated formations.

POLYSELECT POWER THIN: Phosphate-free drilling fluid thinner and dispersant that quickly acts to break up sticky clays and alter rheology. NSF/ANSI/CAN Standard 60 certified.

POLYSELECT POWER VIS: Liquid emulsion used primarily to encapsulate clay and shale to resist swelling and sloughing, and to increase lubricity and viscosity.

POLYSELECT POWER XAN: Biopolymer designed to increase suspension, while having minimal impact on viscosity.

CETCO, (800) 527-9948, cetco.com/dpg

ACCU-VIS: Liquid copolymer designed for fast field mixing, viscosity building, and clay/shale stabilization in aqueous drilling HDD fluids. NSF/ANSI Standard 60 certified.

CETCO X-TORQUE: A 100-percent environmentally safe, non-petroleum lubricant specifically developed for HDD and mineral exploration, as well as other drilling applications. Can be used in bentonite systems or polymer drilling fluids.

CLAY CUTTER: Used on any size HDD bore to greatly reduce or eliminate clay cuttings from sticking to each other and to the drilling tools. Swelling of the bore will be reduced or eliminated; rotation and pullback pressures will be significantly reduced.

CLAY CUTTER PRO: Dry, concentrated, non-hazardous, proprietary clay inhibitor that can be used with either polymer or bentonite drilling fluid systems. An ideal additive for HDD bores in reactive clay soils and can be used in recycling systems.

DRILL-TERGE: Liquid solution of nonionic surfactant formulated to increase detergency and wetting properties of drilling fluids. Designed to work in fresh or saltwater to reduce torque and drag.

HERCUL-EZ: Proprietary additive used in conjunction with bentonite-based drilling muds. With proper formulation, the system will produce a unique drilling fluid with excellent shear thinning characteristics. At low shear or at rest, the fluid will gel and allow for suspension of large cuttings yet thins immediately under pumping conditions. At rest, the fluid looks and behaves like a semi-solid, but when sheared, even slightly, reverts back to a thin, almost water-like consistency. NSF/ANSI Standard 60 certified.

INSTA-VIS DRY: Highly concentrated, granular polymer ideal for sticky and swelling clays, and shale. Increases rate of penetration and stabilizes the borehole, while improving cohesion in sandy soil. Can be used in saltwater, such as tidal conditions.

INSTA-VIS LOW VISCOSITY: Easy-mixing, dry, water-soluble polymer used in horizontal and vertical drilling applications. Compatible with recycling equipment.

INSTA-VIS PLUS: Liquid polymer designed to improve drilling efficiency in both horizontal and vertical drilled holes through its rapid field mixing, viscosity development, and clay and shale inhibition. Can be used with VERSAFOAM PLUS to stiffen, and in brackish water. NSF/ANSI Standard 60 certified.

MACRO-FILL: Granular, super-absorbent, solidification and loss circulation material. Rapidly absorbs and retains large volumes of water from aqueous solutions, but only expands 1 percent in volume.

MAGMA FIBER: This specially formulated, extrusion spun mineral fiber and coarse, long flexible fiber will give increased circulation by bridging and plugging off voids, fractures, and all types of permeable formations. NSF/ANSI Standard 60 certified.

PUREGOLD CLEANDRILL: For drilling operations where clay-based drilling fluids are restricted, and a biodegradable drilling fluid is recommended. Industry standard for use in horizontal and vertical remediation wells.

QUAD POWER POWER-BASE: Highly concentrated, liquid, polymer emulsion that serves as the base for QUAD POWER polymer drilling products. Used by itself, POWER-BASE will produce a high viscosity solution; in water it can fulfil the demands of most short bore length drilling applications.

QUAD POWER POWER-CLAY: A concentrated, non-hazardous, proprietary clay inhibitor that can either be used with bentonite fluids or can be added to other QUAD POWER polymer drilling products. POWER-CLAY is an ideal additive for HDD bores in reactive clay soils.

QUAD POWER POWER-SAND: A highly concentrated, liquid polymer that can either serve as a stand-alone fluid or can be added to other QUAD POWER polymer drilling products. Use it with POWER-BASE to increase solids suspension. POWER-SAND will produce a high viscosity solution designed to suspend sand, silt and fine gravel. It contains a combination of proprietary lost circulation materials and can produce a thin filter-cake on the walls of a borehole, which can prevent fluid from flowing out into porous formations.

QUAD POWER POWER-TERGE: A highly concentrated, liquid, surfactant/detergent that can either be used with bentonite fluids or added to other QUAD POWER polymer drilling products. Used with bentonite, POWER-TERGE will help prevent rod-sticking and seizing. When added to POWER-BASE, it can function to create an extremely high-performance slurry for clay drilling. The product is highly concentrated, so very little is used compared to most other detergents.

REL-PAC: Natural cellulosic, granular polymer designed for building a low-solids drilling fluid with increased stability. Forms a tight, thin filter cake that reduces fluid loss to the formation.

REL-PAC XTRA-LOW: Helps increase borehole stability by lowering filtrate and fluid loss more effectively than other polyanionic cellulose (PAC) polymers. Aids cleaning by not significantly raising viscosities and impeding flow. Helps control reactive formations by reducing available water, and controls unconsolidated formations by reducing whole fluid loss.

SHORE PAC: Easy-mixing, water-soluble, polymer supplied as a granular powder designed for preparation of viscous earth-reinforcing fluids or slurries in a variety of drilling applications. NSF/ANSI Standard 60 certified.

SLURRYBOND: Powdered, inorganic mineral formula used for the solidification of high solids drilling slurries. Made from non-biodegradable mineral designed for use on waste slurry that fails to pass a Paint Filter Liquids Test (PFLT).

SLURRYBOND 200: Proprietary, solid, granular, super-absorbent polymer that rapidly absorbs and retains aqueous matter. Made from non-biodegradable polymer designed for use on waste slurry that fails to pass a Paint Filter Liquids Test (PFLT) or slump test.

SLURRYBOND 2000: Powdered, inorganic mineral and polymer formula used for the solidification of high solids drilling slurries. Made from a non-biodegradable mineral and polymer mixture designed for use on waste slurry that fails to pass a Paint Filter Liquids Test (PFLT) or slump test.

SLURRYBOND 2000 G: Granular, inorganic mineral and polymer formula used for the solidification of high solids drilling slurries. Made from a non-biodegradable mineral and polymer mixture designed for use on waste slurry that fails to pass a Paint Filter Liquids Test (PFLT) or slump test.

SUPER PAC: Multi-purpose, liquid polymer designed for minimizing fluid loss to the formation. Enhances properties of bentonite drilling fluids and creates optimum drilling efficiency through filtration control.

SUPER PAC XTRA-LOW: Low-viscosity polymer that aids in the control of reactive and unconsolidated formations by reducing filtrate and whole fluid loss. Assists hole cleaning in HDD work and increases penetration rates in vertical wells by not significantly raising viscosities.

SUPER THIN: Highly concentrated additive engineered to reduce drilling fluid viscosity and assist in settling solids. It offers immediate thinning action, reduces gel strength and is more cost-effective than traditional thinners. NSF/ANSI Standard 60 certified.

SUSPEND-IT: Dry biopolymer used to increase suspension and removal of larger drilling cuttings, gravel and cobble in difficult formations. Enhances gel strength without significantly increasing viscosity.

Drilling Mud Direct LLC, (720) 489-0300, www.muddirect.net

Barakade DWD Solidify: Effectively solidifies leftover slurry and cuttings. Allows for disposal via dump truck instead of vac truck, reducing overall volume to be disposed and disposal costs.

DMD Lubra Star: Our most popular liquid additive, it reduces torque and friction, prevents sticking, lubricates many aspects of the bore, and is invaluable as an additive for pipe pull.

DMD Power PAC L/DMD Power PAC R: Dry, polyanionic-cellulose (PAC) polymer that improves filtrate/water-loss control and improves borehole stability. Available in "L" grade (viscosity neutral) and "R" grade (boosts viscosity).

DMD Power XAN: Premium-quality biopolymer used as a suspension enhancer and hole cleaning aid. Helps suspend cuttings, sand and gravel.

DMD Soda Ash: Boosts pH level of make-up water to improve bentonite mixing and performance.

Power DET: Drilling detergent formulated for HDD. Low foaming, it helps manage bit balling and prevents sticking tendencies of clay.

Power Swell: Plugging and sealing granular polymer that absorbs water to swell to 200 times its original particle size. Effective LCM for HDD.

Power Thin: Clay-thinning agent, mud thinner. A liquid that helps combat swelling clays and will also reduce the viscosity of a thick slurry. Helps manage clay problems.

M-I SWACO, (601) 649-1500, slb.com/hdd

DUO-VIS/SUPER-VIS: High-molecular-weight biopolymer used for increasing carrying capacity in water-based systems, and to increase low-shear viscosity for cuttings transport and suspension.

PLATINUM D-D: Aqueous blend of surface-active agents designed to reduce the surface tension of all water-based mud systems and reduce the sticking tendency of water-sensitive shale cuttings, which minimizes bit balling.

PLATINUM PAC: Premium, specially coated PAC designed for easy mixing without fish-eye formation. It provides filtration control and clay swelling inhibition in freshwater systems. NSF certified.

PLATINUM PAC UL: This polyanionic cellulose (PAC) is a high-quality, readily dispersible, water-soluble polymer designed to control fluid loss. And, as an "ultra-low" (UL) additive, it causes minimal increase in viscosity in water-based muds. NSF certified.

PLATINUM ROD EASE: Superior, environmentally friendly lubricant that reduces torque, corrosion and wear on equipment, while increasing ROP and overall rig potential.

POLYPAC R: This polyanionic cellulose is a high-quality, water-soluble polymer designed to control fluid loss and increase viscosity in water-based muds.

POLY-PLUS & POLY-PLUS 2000: Both PHPA polymers boost viscosity and lubricity and provide clay inhibition. POLY-PLUS 2000 is 52 percent active and will not separate under any conditions. Both polymers are NSF certified.

POLY-PLUS RD: Polymer product that is readily dispersed and designed to provide cuttings encapsulation and clay stabilization. Formulated for easy mixing with improved dispersion to eliminate "fish-eyes." This is beneficial when rapidly mixing either large quantities or high concentrations of polymer, where good mixing equipment is unavailable. Also acts as a viscosifier, friction reducer and flocculant, and provides some fluid-loss control. NSF certified.

POLYSWELL: Unique, crosslinked polymer designed to swell many times its original weight when added to a drilling fluid. Its primary application is for lost circulation.

RINGFREE: Low-molecular-weight, liquid polymer designed to thin bentonite-based fluids. Also aids in breaking up sticky or swelling clays to help reduce torque and drag. NSF certified.

Wyo-Ben, Inc., (406) 652-6351, www.wyoben.com

Borzan: This true biopolymer is highly concentrated to minimize the cost per gallon. Its gel strengths suspend solids and prevent sticking, reducing lost circulation problems.

Claymaster: Concentrated, nonhazardous, proprietary clay inhibitor that can be used with either polymer or bentonite drilling fluid systems.

Drill-X HP: Low-foaming, drilling detergent and wetting agent used in freshwater systems. It also offers lubrication characteristics.

Dril-Trol QD: Dry version of Uni-Drill, offering fluid loss control, moderate viscosity and superior clay inhibition.

Kwik-Vis "D": Premium PHPA polymer in a dry granular form. Designed to achieve high viscosities in shaft, caisson, horizontal drilling and slurry trenching operations, and in small drill applications.

Thinz-It: High-performance thinning agent for heavy clay applications. Can be used in conjunction with Drill-X to produce a unique "dispersed" mud system for better hole cleaning and faster penetration rates.

Uni-Drill: Proprietary liquid polymer designed for use in rotary and HDD operations. It mixes quickly and controls fluid loss, preventing the formation clays from swelling.

Wyo-Lube RR: Premium drilling fluid lubricant designed for HDD, rotary drilling and mining industries. Its superior lubricating properties decrease torque and drag, increase the penetration rate and reduce wear on tooling.

Wyo-Vis LVP: Powder polymer that shields clays from swelling during the boring operation, while adding limited viscosity to the mud system.