

DRILLING FLUIDS

Bentonite

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

- **Bore-Gel:** Specifically blended system using high-yield Wyoming sodium bentonite. When mixed with fresh water, it develops an easy to pump slurry with desirable properties for HDD drilling, pipe jacking lubrication, etc.
- **Quik-Gel:** Viscosifier and gellant. Easy to mix in fresh water, premium grade, exceptional high-yield Wyoming sodium bentonite. Provides excellent rheological properties. The original "Mud Engineer in the Sack" product.

Century Products (262) 820-3600, centuryproducts.net

- **HYDRAUL-EZ:** A specially treated bentonite based drilling fluid designed for horizontal drilling and as a pipe-jacking lubricant. It reduces fluid loss and maintains borehole integrity in unstable zones.
- **SUPER GEL-X:** An easy-mixing, high viscosity 200-bbl yield, fresh water drilling fluid. Produced from the highest grade Wyoming sodium bentonite, it delivers superior performance.

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

- **HYDRAUL-EZ:** Specially treated bentonite drilling fluid designed for directional drilling. Suspends cuttings and maintains borehole integrity. NSF/ANSI Standard 60 certified.
- **SUPER GEL-X:** A 200-bbl yield bentonite drilling fluid for maximum viscosity. 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. NSF/ANSI Standard 60 certified.

I.E.S. Drilling Supply (800) 388-2906, iesdrillingsupplies.com

- **Bore Gel:** The premier one sack drilling fluid for horizontal directional drilling. Bore Gel was designed precisely for directional drilling rigs.
- **Quick Gel:** The world standard for rotary drilling applications. From Texas to Kathmandu, the most trusted drilling fluid in the world.

INROCK/Drillers Supply (713) 690-5600, inrock.com

- **I-GEL:** A premium Wyoming Bentonite blended with special additives to produce a viscosifier that provides an excellent multi-purpose drilling fluid. I-GEL provides viscosity, gel strength, hole-cleaning, wall cake and lubricity while remaining pumpable. It is the ideal bentonite for HDD.
- **X-GEL:** A specially blended combination of high yielding bentonite combined with numerous additives to make it an efficient multi-purpose system for HDD applications. X-GEL provides suspension, well-bore stability, filtration control, and helps reduce torque and drag for water based applications. The product is non-toxic and environmentally safe.

M-I SWACO (832) 295-2564, miswaco.com

- **Maxbore HDD:** A one-sack system of premium Wyoming bentonite with additives for reduced fluid loss control and improved lubricating qualities. Designed for gravel and cobble formations where optimum stabilization and suspension are necessary.
- **Max Gel:** A 220+ barrel yield bentonite with low sand content. The original HDD industry standard bentonite product. Its finer grind allows it to mix easier and yield quicker than most other bentonites. Max Gel is NSF approved.
- **DrillPlex HDD:** A specialty product used to enhance Max Gel. When added to bentonite, slurry produces high fragile gels for superior suspension and carrying capacity of sand, gravel and rock cuttings from the borehole. DrillPlex HDD is easy to pump, improves hole stability and reduces chances of loss circulation.

Polymer Drilling Systems (800) 243-7455, pdscoinc.com

- **High Yield:** Specially modified for HDD or wherever a minimum 200-bbl yield is

required. Mixes rapidly for quick hydration and carries cuttings in mud with lower soil content.

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

- **Extra High Yield:** High yielding, fast mixing gel that performs excellent in a variety of water qualities. Used widely in mineral exploration, water well and HDD.
- **SW-101:** Unique one-sack product designed to remain stable in either sea water or salt contaminated environments. Usually, no other additives are required.
- **Tru-Bore:** A complete one-sack 240-bbl/ton yielding material that controls fluid loss to the well bore for maximum borehole stability; pH balanced. For use in drilling difficult horizontal and vertical wells.

Polymer

Baroid Industrial Drilling Products

- **Bio-Bore:** A polymer-based system that provides a clay-free, biodegradable drilling fluid in situations where the use of clay-based fluids is restricted.
- **Diamond Seal:** A water-swallowable, not water-soluble, 100% crystalline synthetic polymer. Absorbs hundreds of times its weight in water. It is used primarily as a lost circulation material in HDD.
- **EZ-Mud Plus:** A liquid polymer emulsion used as a borehole stabilizing agent to prevent active shale and clay from swelling and sloughing. Can be added to bentonite slurries to improve cuttings carrying capacity and to air foam injection mixtures to upgrade all properties, including foam stability and cuttings carrying capacity.
- **No-Sag:** A free flowing bio-polymer when added to a bentonite based drilling fluid provides increased gel strength, resulting in superior suspension of coarse drill cuttings, sand and gravel. Can be used with fresh or brackish water slurries.
- **Poly-Bore:** Soluble fresh water, easy mixing, 100% dry granular polymer that provides a clear solids-free, viscous, clay free, borehole stabilizing fluid for use in all types of trenchless construction applications.
- **Quik-Trol:** A modified natural cellulosic polymer. Provides filtration controlled clay stability in bentonite-based fresh water drilling and boring fluids.

Century Products

- **MAGMA FIBER:** A specially formulated extrusion spun mineral fiber. This coarse, long flexible fiber will give increased circulation by bridging and plugging off voids, fractures and all types of permeable formations.
- **SHORE PAC:** A granular water-soluble polymer designed for preparation of viscous earth-reinforcing fluids or slurries for a variety of drilling, trenching and walling application in the geo-construction industry.
- **SUSPEND-IT:** An easy mixing biopolymer additive used to control drilling fluid rheology. Designed to enhance gel strength of the drilling fluid for improved suspension and transport of drill cuttings on long bores. Effective in both fresh and salt water.
- **INSTA-VIS PLUS:** The proven liquid polymer for swelling clays! This multi-functional liquid-polymer designed to rapidly increase viscosity, halt hydration of clays, and reduce bit balling and sticking problems and increase lubricity.
- **SUPER-PAC:** This liquid multi-functional polymer is the perfect additive for sands and gravels. This fast mixing polymer has been used in some of the longest river crossings in North America. Combined with HYDRAUL-EZ or SUPER-PAC minimizes fluid loss and increases gel strength for maximum cutting removal.
- **REL-PAC:** This dry granular polymer is similar to SUPER-PAC. Designed to be used in sand, it minimizes fluid loss and assists in forming a thin filter cake in the bore hole as well as increases viscosity and gel strength.
- **DRILL-TERGE:** A blended solution of surfactants used to increase wetting properties of drilling fluids. Helps prevent clay from sticking to your tools and building up in front of your reamers. DRILL-TERGE can be added to any drilling fluid, even during the drilling operation.
- **CE-18:** A clay extending polymer made up of metal oxides and alkalizes. It provides

exceptional shear-thinning properties in bentonite muds with excellent dynamic and static carrying capacities. When CE-18 is added to bentonite-based drilling muds, it will increase gel strength without compromising viscosity for pumpability.

CETCO Drilling Products

- **PUREGOLD CLEANDRILL:** For drilling operations where clay-based drilling fluids are restricted and a biodegradable drilling fluid is recommended.
- **CLAY CUTTER:** Is to be used on any size HDD bore. Using CLAY CUTTER will 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 DRY:** Should be added to fresh or saltwater drilling fluids to increase cuttings returns and reduce torque and drag when drilling in reactive clay soils.
- **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.
- **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. 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.
- **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% in volume.
- **PROSHOT:** For use in a variety of soils types. Use as a stand alone additive or in combination with SUPER GEL-X or HYDRAUL-EZ.
- **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:** Will help increase borehole stability by lowering filtrate and fluid loss more effectively than other PAC's. 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.
- **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:** This low viscosity polymer aids in the control of reactive and unconsolidated formations by reducing filtrate and whole fluid loss. SUPER PAC-XTRA-LOW assists hole cleaning in HDD work and increases penetration rates in vertical wells by not significantly raising viscosities.
- **SUPER THIN:** Is a highly concentrated additive engineered to reduce drilling fluid viscosity, assist in settling solids, or disperse the filter cake created by a bentonite drilling fluid. 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 of drilling cuttings in difficult formations. Enhances gel strength without significantly increasing viscosity.

I.E.S. Drilling Supply

- **EZ Mud Plus:** The most highly concentrated polymer available. One jug of EZ Mud Plus has as much polymer as three jugs of the competition.
- **Poly Bore:** A rapidly dissolving and quick circulating polymer for quick reactions and enhancement of in-process drilling operations.
- **No Sag:** A special additive that quickly increases hole stability while not increasing viscosity. The result of cutting edge research and development.
- **Quik Trol:** A natural polymer that increases stability and halts borehole expansion in sensitive formations.

INROCK/Drillers Supply

- **POLY PLUS:** A liquid polymer designed to provide cuttings encapsulation, shale stabilization, boost mud viscosity and improve overall mud lubricity. It is a multi-purpose polymer that will improve mud performance and reduce friction. POLY PLUS can be used in mud cleaning systems utilizing makeup waters from fresh to saltwater.
- **POLY SWELL:** A co-polymer that provides excellent results when used as a lost circulation control additive and/or plugging agent. This polymer will expand 200 times its volume in fresh water. This material is environmentally safe and is often used in agricultural applications to retain water. It will plug small and large loss zones.
- **LIQUID PAC:** This drispac polymer that has been proven effective in battling swelling clay and seepage loss. It also helps strengthen the wall-cake and will help prevent caving and sloughing in the hole. Added benefits include improved viscosity and hole-cleaning.
- **RING FREE:** This liquid polymer is a low molecular weight, anionic thinner designed to break down clay swelling, expansion and hydration. It can be used to thin viscous muds, to increase pumpability, or to breakdown problem in-situ clays that are increasing torque and drag. This synthetic additive has a high temperature limit and is not subjected to bacterial degradation.
- **DUO VIS:** DUO VIS xanthan gum is a high molecular weight biopolymer used for increasing rheology in water-based systems. Small quantities provide viscosity and weight material suspension for all water based mud systems. DUO-VIS has the unique ability to produce a fluid that is highly shear thinning while developing a true gel structure.

Kem-Tron (281) 261-5778, kemtron.com

- **PolyKem EZT:** Liquid polymer and drilling fluid additive for use in directional drilling applications along with bentonite or as a substitute. Excellent for clear water drilling for water well drilling and exploration bores. PolyKem EZT has excellent borehole stabilization properties and prevents clay from swelling. Improves cutting transport in air foam injection.
- **Poly Kem D:** Dry polymer drilling fluids additive. Excellent borehole properties can be used to enhance, or substitute, bentonite properties.
- **Poly Seal:** Water absorbing polymer sealant for preventing loss of drilling fluids to porous unconsolidated formations or through cracks/crevices. Polymer when pumped down to area of loss circulation quickly settles and seals formation due to its swelling properties. Swells to 300 times its volume.
- **Kem X:** Dry bio-polymer drilling fluid additive to generate high viscosity. Excellent bentonite substitute. Super properties for hole cleaning and suspension, excellent for sand, cobble and rock.
- **Kem Det:** Drilling detergent with inhibiting properties to reduce torque when drilling in swelling clays. Keeps drill bit clean and prevents bit balling.
- **Kem Thin Super:** Liquid thinner used to control viscosity of drilling fluids in high solids, high viscosity drilling fluids.
- **Kem Pak ULV:** Modified polymer imparts viscosity and controls water loss properties of drilling fluid, increased borehole stability and tighter filter cake.

M-I SWACO

- **Duo-Vis/Super-Vis:** A bio-polymer, when added to a bentonite-based drilling fluid, provides high gel strength, resulting in vastly improved suspension of large drill cuttings, sand and gravel. Duo-Vis/Super-Vis is a drilling specialties product, effective with fresh or brackish make-up water.
- **Hibtrol HV:** A uniquely modified metal-cellulose polymer engineered specifically to maintain a low, stable fluid loss while providing secondary inhibition of reactive shales and a higher viscosity profile. The results are superior wellbore stability, better cuttings integrity, improved solids control and lower drilling costs. Hibtrol HV polymer does this with all the environmental benefits of a water-base mud system.
- **Platinum Pac:** A premium, specially coated PAC designed for easy mixing without fish-eye formation. It provides control and clay swelling inhibition in fresh water systems.

DRILLING FLUIDS

- **Poly-Plus & Poly-Plus 2000:** Both PHPA polymers boost viscosity, lubricity and provide clay inhibition. Poly-Plus 2000 is 52% active and will not separate under any conditions.
- **Poly-Plus LV:** Poly-Plus LV additive is a low molecular weight, medium charge PHPA designed to provide cuttings encapsulation and clay dispersion inhibition. It is designed for use in fluids based on fresh and saline water environments. Poly-Plus LV provides minimal viscosity contribution and can enhance filtration properties. When added to Max Gel or Maxbore HDD, Poly-Plus LV produces an inhibitive drilling fluids system without affecting fluid properties.
- **Poly-Plus RD:** A polymer product that is readily dispersed and designed to provide cuttings encapsulation and clay stabilization. It is 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. Poly-Plus RD also acts as a viscosifier, friction reducer and flocculant. It also provides some fluid-loss control.
- **Poly-Plus EHV:** This PHPA polymer has a higher molecular weight to provide higher viscosity at lower concentrations. It is designed to provide cuttings encapsulation and clay stabilization. Poly-Plus EHV also acts as a viscosifier, friction reducer and flocculant. It also provides some fluid-loss control.
- **PolyPac R:** This polyanionic cellulose is a high-quality, water-soluble polymer designed to control fluid loss and increase viscosity in water-base muds.
- **Platinum Pac UL:** The polyanionic cellulose (PAC) is a high-quality, water-soluble polymer designed to control fluid loss. And, because it is an "Ultra-Low" (UL) additive, it causes minimal increase in viscosity in water-base muds.
- **Platinum DD:** An aqueous blend of surface-active agents, Platinum DD is designed to reduce the surface tension of all water-base mud systems and reduce the sticking tendency of water-sensitive shale cuttings.
- **Rod Ease:** A superior lubricant that reduces torque, corrosion and wear on equipment while increasing ROP and overall rig potential.
- **Polyswell:** Polyswell is a 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:** Ringfree is a low molecular weight liquid polymer designed to thin bentonite based fluids. It also aids in breaking up sticky or swelling clays to help reduce torque and drag.
- **Flo-Plex:** This unique polymer is specially designed to impart lower filtration control for the DrillPlex system.

Polymer Drilling Systems

- **Super Mud:** Liquid polymer emulsion primarily used as a viscosifying agent and as a soil stabilizer to prevent sloughing and/or collapse of a borehole.
- **Super Mud Dry:** Dry granular polymer used as viscosifier and as soil stabilizer to prevent sloughing and/or collapse of bore hole.

Wyo-Ben

- **Borzan:** A true bio-polymer that is highly concentrated to minimize the cost per gallon. Borzan's gel strengths suspend solids and prevent sticking, reducing lost circulation problems.
- **Kwik-Vis "D":** A premium PHPA polymer in a dry granular form. Designed to achieve high viscosities in operations of shaft, caisson, horizontal drilling, slurry trenching and in small drill applications.
- **Uni-Drill:** A proprietary liquid polymer designed for use in rotary and HDD operations. Uni-Drill mixes fast and controls fluid loss, preventing the formation clays from swelling.
- **Wyo-Vis:** A high-performance, viscosifying, liquid PHPA polymer. Reduces instances of bit balling, lowers rotary torque and shields swelling borehole clays.
- **VC-55:** In pot holing, this additive significantly reduces the amount of water required by assisting in the lifting of the spoils. VC-55 lubricates both the hoses and the solids, which aids in the dumping of the spoils tank.