

CETCO DRILLING PRODUCTS



DRILLING FLUIDS

GROUTS & SEALANTS

POLYMERS & ADDITIVES

WELL REHABILITATION

SLURRY SOLIDIFICATION



CETCO®

C E T C O . C O M



GEOHERMAL HEAT LOOP

SLURRY SOLIDIFICATION

WATERWELL &



Offering the widest assortment of high quality bentonite drilling fluids, grouts, sealants, polymers, and additives, CETCO can help maximize your drilling efficiency and meet your needs in the field. Our complete line of professional products are specially designed to enhance the cost-effectiveness of drilling operations by controlling and improving drilling fluid properties.

Each and every drilling product is supported by our experienced team of field engineers and research scientists. With the industry's best on-site engineering and advanced technical support, CETCO is committed to ensuring success in any drilling project.



ENVIRONMENTAL

HORIZONTAL DIRECTIONAL

WELL REHABILITATION

CETCO has consistently provided the drilling industry with the highest quality drilling fluids that keep operators running at peak efficiency. Our bentonite based drilling fluids are made from the highest quality sodium bentonite from Wyoming.

DRILLING FLUIDS



SUPER GEL-X® is an easy mixing, high viscosity, 200 bbl yield freshwater drilling fluid produced from the highest grade Wyoming sodium bentonite. SUPER GEL-X is certified to NSF/ANSI Standard 60 by NSF International.

HYDRAUL-EZ® is a specially treated sodium bentonite drilling fluid designed to maintain borehole stability in the most difficult conditions. HYDRAUL-EZ is certified to NSF/ANSI Standard 60 by NSF International.

PUREGOLD® GEL is a minimum 90 bbl yield, organic-free, untreated, high quality sodium bentonite drilling fluid designed for the groundwater monitoring industry. PUREGOLD GEL is certified to NSF/ANSI Standard 60 by NSF International.

PREMIUM GEL® is a 200 mesh, 90 bbl yield sodium bentonite for freshwater drilling. PREMIUM GEL meets API Specification 13A Section 9 for drilling fluid materials.

PUREGOLD® CLEANDRILL is a clay-free powder designed for use in drilling operations where clay-based drilling fluids are restricted.

DRILLING FLUIDS		
PRODUCT	DESCRIPTION	RECOMMENDED DOSAGE
SUPER GEL-X®	High yield drilling fluid, 200 bbl	15 – 25 lbs/100 gals water
HYDRAUL-EZ®	Specialty drilling fluid for difficult conditions	20 – 30 lbs/100 gals water
PUREGOLD® GEL	Untreated bentonite drilling fluid	30 – 50 lbs/100 gals water
PREMIUM GEL®	API drilling fluid, 90 bbl	30 – 50 lbs/100 gals water
PUREGOLD® CLEANDRILL	Biodegradable drilling fluid	15 – 20 lbs/100 gals water

Our team of scientists and engineers have developed our grouts and sealants to satisfy both permeability and toxicology requirements for contractors and engineers. These environmentally safe products meet all regulatory approvals for permeability and toxicity and are user friendly.

GROUTS & SEALANTS

ACCU-VIS®/BELLE CRUMBLES A two-step mixture of polymer and granular bentonite, ACCU-VIS/BELLE CRUMBLES forms a slurry that provides an economical way to seal and grout boreholes, well casings, and earthen structures. Once set, the slurry forms a complete grout seal with low permeability. ACCU-VIS and BELLE CRUMBLES are certified to NSF/ANSI Standard 60 by NSF International.

CETCO® COARSE CHIPS are used to decommission wells or seal the annulus of a borehole. These natural sodium bentonite chips are screened 3/8" – 3/4" in size. CETCO COARSE CHIPS are certified to NSF/ANSI Standard 60 by NSF International.



CETCO® COATED TABLETS are able to reach a discrete depth within the waterwell, piezometer, monitoring well, or annular space. These environmentally friendly tablets are compressed into 1/4" and 3/8" sizes. CETCO COATED TABLETS are certified to NSF/ANSI Standard 60 by NSF International.

CETCO® CRUMBLES & C/S GRANULAR™ are granular products composed of polymer-free sodium bentonite used to seal casings and other earthen structures. CETCO CRUMBLES and C/S GRANULAR have mesh sizes of 8 – 20 mesh and 30 – 50 mesh, respectively. CETCO CRUMBLES and C/S GRANULAR are certified to NSF/ANSI Standard 60 by NSF International.

CETCO® GROUT & CETCO® GRANULAR GROUT are 20% solids, polymer-free, single-component, easy-to-use sodium bentonite grouts available in powdered or granular form. CETCO GROUT and CETCO GRANULAR GROUT are certified to NSF/ANSI Standard 60 by NSF International.

CETCO® TABLETS are organic-free, high-swelling pure sodium bentonite. Tablets are compressed into 1/4", 3/8", and 1/2" sizes. CETCO TABLETS are certified to NSF/ANSI Standard 60 by NSF International.

PUREGOLD® GROUT is an easy mixing, organic-free, 30% solids sodium bentonite grout engineered to form a contaminant resistant seal without affecting groundwater chemistry. PUREGOLD GROUT is a technically superior replacement for traditional cement grouts. PUREGOLD GROUT is certified to NSF/ANSI Standard 60 by NSF International.

PUREGOLD® MEDIUM CHIPS are used to decommission wells or seal the annulus of a borehole. These natural sodium bentonite chips are screened 1/4" – 3/8" in size. PUREGOLD MEDIUM CHIPS are certified to NSF/ANSI Standard 60 by NSF International.



*Product images are not actual sizes.

Able to handle any complex drilling conditions, our diverse line of polymers continue to assist contractors in the most difficult soil conditions. CETCO polymers consistently deliver the highest performance therefore adding significant value.

POLYMERS

ACCU-VIS® is a liquid copolymer designed for fast field mixing, viscosity building, and shale stabilization in aqueous drilling fluids. ACCU-VIS is certified to NSF/ANSI Standard 60 by NSF International.

INSTA-VIS™ PLUS is a multi-functional 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. INSTA-VIS PLUS is certified to NSF/ANSI Standard 60 by NSF International.

INSTA-VIS™ DRY is an easy mixing, water soluble, high molecular weight anionic polymer. This granular polymer improves drilling efficiency in both horizontal and vertically drilled holes.

PROSHOT™ is an easy mixing, water soluble, high molecular weight polymer used in horizontal and vertical drilling applications as a clay free system. Eliminates clay and shale swelling, bit balling, and sticking problems.

REL-PAC® is a non-fermenting granular polymer designed for building a low solids drilling fluid with increased borehole stability. REL-PAC is a highly dispersible polymer, which prevents the formation of hard lumps or fish eyes, for maximum product efficiency.

REL-PAC® XTRA-LOW is a low viscosity, non-fermenting granular dry polymer designed for use as a more efficient filtration control additive in a variety of drilling fluid applications. Intended for use in bentonite and polymer fluids.

SUPER PAC™ is an easy mixing, liquid multi-purpose polymer that enhances the properties of a bentonite drilling fluid. When added to HYDRAUL-EZ® or SUPER GEL-X®, SUPER PAC creates an ideal fluid for drilling in a variety of conditions.

SUPER PAC™ XTRA-LOW is a low viscosity, liquid multi-purpose polymer. SUPER PAC XTRA-LOW enhances the properties of bentonite drilling fluid.

SUSPEND-IT™ is a dry biopolymer used to increase suspension of drill cuttings in difficult formations. Enhances gel strength without significantly increasing viscosity.

VARIFLO® QD is a biodegradable polymer, coarse granular, high viscosity blend of guar gum formulated for easy and quick dispersion in drilling applications. Coarser granules prevent lumps or encapsulation.

POLYMERS			
PRODUCT	DESCRIPTION	FIELD CONDITIONS	RECOMMENDED DOSAGE
ACCU-VIS®	Liquid clay/shale inhibitor & viscosifier (PHPA, 50% Active)	Swelling clays and shale with maximum inhibition	0.5 – 1 qt/100 gals
INSTA-VIS™ PLUS	Liquid clay/shale inhibitor & viscosifier (PHPA, 38% Active)	Swelling clays and shale	0.5 – 2 qts/100 gals
INSTA-VIS™ DRY	Dry clay/shale inhibitor & viscosifier (PHPA)	Swelling clays and shale	1 – 1.5 lbs/100 gals
PROSHOT™	Dry drilling fluid polymer (High molecular weight)	Variety of soil types	Dependent upon application
REL-PAC®	Dry borehole stabilizer & fluid loss control (PAC)	Porous formation	0.5 – 1.5 lbs/100 gals drilling fluid
REL-PAC® XTRA-LOW	Dry borehole stabilizer & fluid loss control Low viscosity (PAC)	Porous formation with minimum viscosity increase	0.5 – 1.5 lbs/100 gals drilling fluid
SUPER PAC™	Liquid borehole stabilizer & fluid loss control (PAC)	Porous formation	0.5 – 1 qt/100 gals drilling fluid
SUPER PAC™ XTRA-LOW	Liquid borehole stabilizer & fluid loss control (PAC)	Porous formation with minimum viscosity increase	0.5 – 1 qt/100 gals drilling fluid
SUSPEND-IT™	Gel strength & suspension enhancer (Xanthan Gum)	Sand and gravel with maximum suspension required	0.25 – 0.5 lbs/100 gals drilling fluid
VARIFLO® QD	Quick dispersing viscosifier for fresh & saltwater drilling (Granular Guar Gum)	Unconsolidated and saltwater environments	3.5 – 7.5 lbs/100 gals

Having an extensive line of high quality and reliable additives, CETCO will assist you in improving the performance of all of your drilling operations.

ADDITIVES

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. This additive may be used in both HDD and waterwell applications.

DRILL-TERGE™ is a liquid solution of nonionic surfactants formulated to increase detergency and wetting properties of drilling fluids.

INSTA-FLOC™ DRY is designed to lower pH, break emulsions, and remove high levels of suspended solids in water filled boreholes. It works fast for water sampling and down-hole filming.

MACRO-FILL™ is a granular, advanced super-absorbent material that rapidly seals large fractures in the borehole that contribute to fluid loss. MACRO-FILL will absorb 7 to 10 times its weight but only expand 1% in volume.

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. SUPER THIN is certified to NSF/ANSI Standard 60 by NSF International.

VERSAFOAM® PLUS is an ultra high yielding, biodegradable, liquid foaming agent for use in fresh and saltwater air rotary drilling. VERSAFOAM PLUS is certified to NSF/ANSI Standard 60 by NSF International.

ADDITIVES		
PRODUCT	DESCRIPTION	RECOMMENDED DOSAGE
CLAY CUTTER™	Clay flocculant/thinner	1 gal/1,000 gals drilling fluid
CLAY CUTTER™ DRY	Clay flocculant/thinner	1/4 - 1 lb/100 gals drilling fluid
DRILL-TERGE™	Drilling detergent	2 - 3 qts/100 gals drilling fluid
INSTA-FLOC™ DRY	Reactive separating agent	40 lbs/3,000 gals liquid
MACRO-FILL™	Loss circulation media	6 - 10 lbs/100 gals drilling fluid
SUPER THIN™	Drilling fluid thinner	1 - 2 pts/100 gals drilling fluid
VERSAFOAM® PLUS	High yield drilling foam	1 - 2 qts/100 gals water

With an outstanding history, CETCO well rehabilitation products have long been the industry standard for improving well efficiencies that have been diminished by the presence of debris and related deposits, mineral encrustation, and other occurrences of chemical and physical plugging.

WELL REHABILITATION

BMR™ During development and rehabilitation, BMR removes the tough bentonite filter cake and any naturally occurring clays that adversely effects the wells performance. BMR is a non-phosphate granular product. BMR is certified to NSF/ANSI Standard 60 by NSF International.

DPA™ cleans casing, screens, gravel packs, and water-bearing formations of deposits consisting of mineral scale. Calcium carbonate, iron, and manganese are the most common. DPA is a granular product. DPA is certified to NSF/ANSI Standard 60 by NSF International.

LBA™ cleans casings, screens, and all other components of the well that are affected by debris and related deposits. LBA is a liquid product. LBA is certified to NSF/ANSI Standard 60 by NSF International.

SC-200™ This wetting agent enhances the dispersing efficiency of other well rehabilitation products. It also enables these products to enter into the pores and cracks of mineral encrustations.



WELL REHABILITATION		
PRODUCT	DESCRIPTION	RECOMMENDED DOSAGE
BMR™	Bentonite mud remover	Dependent upon well diameter. See technical data sheet
DPA™	Granular mineral scale remover	Dependent upon well diameter. See technical data sheet
LBA™	Liquid chelating agent	Dependent upon well diameter. See technical data sheet
SC-200™	Well rehabilitation enhancer	Dependent upon well diameter. See technical data sheet

CETCO is committed to bringing you the products you need to increase your portfolio of products and services. CETCO provides our customers the newest solutions in drilling product technology.

SPECIALTY PRODUCTS



CETCO® JOINT COMPOUND is a lead free, premium grade tool joint and drill collar lubricant for heavy duty drilling. A special mixture of the finest blend of copper flakes with a superior base gives maximum protection under extreme temperature and adverse conditions.

GROUNDING GROUT™ is a high-solids, single-component, organic bentonite grout. GROUNDING GROUT is specially formulated to provide a conductive seal around grounding rods in complex grounding systems.

PUREGOLD® LUBE is an environmentally safe, premium-grade lubricant, free of petroleum hydrocarbons and metals. PUREGOLD LUBE is a tool joint lubricant designed for use in environmental drilling.

PITDRY™ HDD is designed to solidify bentonite based drilling fluids for disposal purposes. PITDRY HDD is used as a part of a simple process to remove drilling fluids from the job site to the disposal site as a solid.

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

SPECIALTY PRODUCTS		
PRODUCT	DESCRIPTION	RECOMMENDED DOSAGE
CETCO® JOINT COMPOUND	Lead free joint lubricant	Apply liberally
GROUNDING GROUT™	Highly conductive grout	50 lbs/18 gals water
PUREGOLD® LUBE	Environmental joint lubricant	Apply liberally
PITDRY™ HDD	Slurry solidification agent	Dependent upon application
SLURRYBOND™	Slurry solidification agent	Dependent upon application

CETCO offers the most complete line of grouting products for the geothermal heat loop installation industry. All CETCO geothermal grouts offer ease of mixing and pumping and have low permeabilities that exceed state guidelines.

GEOTHERMAL HEAT LOOP



CETCO® ONE GEOTHERMAL GROUT is a thermally conductive bentonite grout that does not require the addition of silica sand or other thermally conductive materials for enhanced thermal conductivity. CETCO ONE GEOTHERMAL GROUT is certified to NSF/ANSI Standard 60 by NSF International.

CETCO® GRANULAR GROUT is 20% solids, polymer-free, single-component, easy-to-use sodium bentonite grout. Mixes into a smooth bentonite grout that has no lumps and pumps easily. CETCO GRANULAR GROUT is certified to NSF/ANSI Standard 60 by NSF International.

GEOTHERMAL GROUT™ has been carefully developed as a thermally conductive grout to heighten the performance of ground source heat loop applications. GEOTHERMAL GROUT is certified to NSF/ANSI Standard 60 by NSF International.

HIGH TC GEOTHERMAL GROUT™ has been carefully developed as a thermally conductive grout to heighten the performance of ground source heat loop applications. HIGH TC GEOTHERMAL GROUT is certified to NSF/ANSI Standard 60 by NSF International.

GEOTHERMAL HEAT LOOP		
PRODUCT	PRODUCT DESCRIPTION	THERMAL CONDUCTIVITY RANGE
CETCO® ONE GEOTHERMAL GROUT	Sandless thermally enhanced grout	0.80 Btu/hr/ft/F ⁽²⁾
CETCO® GRANULAR GROUT	Thermally enhanced grout	0.43 to 0.72 Btu/hr/ft/F ^{(1) (2)}
GEOTHERMAL GROUT™	Thermally enhanced grout	0.40 to 1.00 Btu/hr/ft/F ^{(1) (2)}
HIGH TC GEOTHERMAL GROUT™	Thermally enhanced grout	0.40 to 1.21 Btu/hr/ft/F ^{(1) (2)}

(1) Thermal Conductivity values will vary depending on testing method and the quality of sand used.

(2) Thermal Conductivity values are based on ASTM D-5334 procedures.

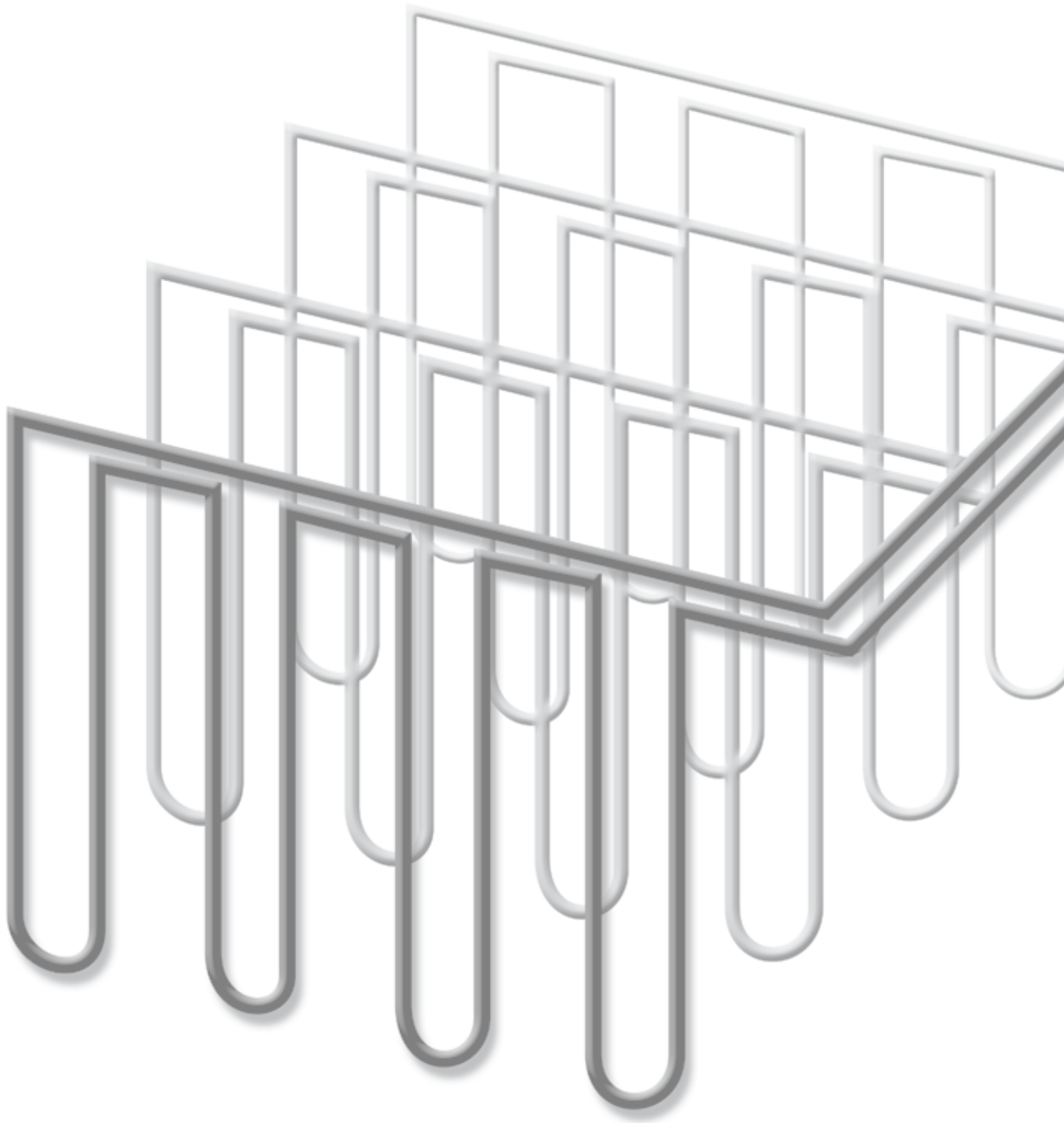
HDD MIXING CHART			
DRILLING CONDITIONS	PRODUCTS	DOSAGE PER 100 GALS	VISCOSITY ⁽¹⁾
Sands	HYDRAUL-EZ®	25 - 30 lbs	45 - 50
Sand and gravel	HYDRAUL-EZ®/SUPER PAC™	30 - 35 lbs/1 - 2 qts	50 - 55
Clays	HYDRAUL-EZ®/INSTA-VIS™ PLUS/ CLAY CUTTER™	10 - 15 lbs/0.5 - 1 qt/0.5 pt	35 - 40
Unknown	HYDRAUL-EZ®/REL-PAC® XTRA-LOW	25 - 35 lbs/1 lb	45 - 55
DIFFICULT CONDITIONS			
Gravel and cobble	HYDRAUL-EZ®/SUPER PAC™ XTRA-LOW/ SUSPEND-IT™	25 - 35 lbs/0.5 - 1 qt/1 - 2 lbs	70 - 90
Swelling clays	Add CLAY CUTTER™ to existing slurry	1 pt	35 - 40
Sticky clays	Add DRILL-TERGE™ and INSTA-VIS™ PLUS to existing slurry	2 - 3 qts/0.5 - 1 qt	35 - 40
MAKE-UP WATER			
Low pH and/or hard water	Adjust pH to 8 - 10 with SODA ASH	0.25 - 0.5 lb	—

(1) Marsh Funnel viscosity measured in seconds per quart.

CETCO® is committed to bringing you innovative, cost-effective products that go beyond merely meeting your needs for all drilling related markets. We provide our customers the newest solutions in drilling product technology.

Visit our website for additional information, technical data, and product calculators.
www.cetco.com/dpg 800.527.9948





CETCO[®]

© 2010

An **AMCOL** Company

Printed on Recycled Paper

CETDP4-10