

November 3, 1994

GMP #62

**MEMORANDUM**

TO: District Directors  
Environmental Health Managers  
Environmental Health Supervisors  
Environmental Health Specialists

FROM: Gary L. Hagy, Assistant Director  
Division of Onsite Sewage and Water Services

SUBJECT: Approved Bentonite Grout Materials  
**Wells - Product Approval - Bentonite Grout**

Attached is a list of bentonite grout materials that have been approved by the Division of Onsite Sewage and Water Services for use with private wells. These are the only materials that have been submitted and approved for use with private wells. Any material not found on this list should not be approved. These materials are **not** approved for use with public water supply wells.

As an attachment to this GMP, I have included a copy of the spec sheet for each product. Future GMP's will only include spec sheets for newly approved products. The spec sheets for products already approved should be attached to the new GMP's as they come out.

Please note that some companies manufacture several different types of bentonite materials for different uses. Only bentonite materials that are specifically recommended by the manufacturer for use as a grout material are to be used.

There has been some confusion regarding the proper mixing of bentonite. Section 3.7.C.3.c of the Private Well Regulations requires bentonite grout to be a minimum of 20% clay solids by weight. In order to achieve this, each manufacturer has provided me with the maximum number of gallons of water per bag of bentonite that would yield 20% solids. In some cases, the manufacturer does not recommend mixing a specific material to only 20% solids. In those cases

District Directors  
November 3, 1994  
Page Two

GMP #62

(in fact, in all cases), **the grout shall be mixed in accordance with the manufacturer's recommendation!** The mixing specs for each product has been added to the list along with any special instructions for using the material. Well drillers should be advised to follow the manufacturer's recommended handling procedures and cautioned not to exceed the manufacturer's recommended mixing ratios. To do otherwise may jeopardize the approval of the well.

This GMP replaces **GMP #56** which is hereby rescinded.

If you have any questions about this memo, please call me at (804) 786-1750.

Attachment

cc: Steve Cain  
OEHS Staff  
OWP

Approved

Bentonite Materials            **GMP #62**  
Office of Environmental Health Services  
November 3, 1994

**Manufacturer, Product Name, and Mixing Ratio**

Baroid Drilling Fluids, Inc.

**BENSEAL®** \*Maximum of 24 gallons of water per 50 pound bag  
(yields 20% solids).

**HOLEPLUG®** Manufacturer recommends the following procedure:  
Above the water level, pour one bag of  
hole plug in the space and then five  
gallons of water. Repeat this procedure  
until the well is grouted.

**QUICKGROUT** Manufacturer recommends maximum of 24 gallons  
of water per 50 pound bag (yields 20%  
solids).

**AQUAGUARD** Manufacturer recommends maximum of 14 gallons of  
water per 50 pound bag (yields 30% solids).

\*AQUA-GROUT™ or EZ-MUD® may be added to BENSEAL as catalysts  
to retard set-time of BENSEAL to allow placement in  
annular space. However, AQUA-GROUT™ or EZ-MUD® cannot be  
used alone as grout materials.

Colloid Environmental Technologies Company (CETCO)

**Volclay® Grout** Maximum 24 gallons of water per 50 pound  
bag (yields 20% solids). Pumped into  
annulus until grout purged at surface is at  
proper mud weight of 9.4 lbs./gallon.

**Volclay®  
Tablets** For use in sealing monitoring wells and  
abandoning boreholes. Add tablets slowly  
and steadily to prevent blocking and  
bridging - may be tremied into place for  
deep applications.

**Volclay® Chips** For sealing shallow boreholes and abandoned  
wells. Bagged material should be screened  
of fines before placing in hole. Material  
should be poured slowly down hole to  
prevent bridging or binding. In  
unsaturated conditions, chips should be  
hydrated with fresh water at 5 foot  
intervals. See application matrix on  
attached spec sheet for application data.

PureGold®

Grout **Maximum 14 gallons of water per 50 pound bag  
(yields 30% solids).**

PureGold®

Tablets **For use in groundwater monitoring wells. For shallow applications tablets should be added slowly and steadily to prevent blocking and bridging. For deep applications, may be tremied into place. When used in unsaturated zones, water should be added to adequately hydrate the tablets.**

PureGold®

Chips **For sealing shallow boreholes and abandoned wells. Bagged material should be screened of fines before placing in hole. Material should be poured slowly down hole to prevent bridging or binding. If installed in the unsaturated zones, water should be added at 2 foot intervals.**

Polymer Drilling Systems, Co. (PDSCo)

Granular Seal **Maximum 25 gallons of water per 50 pound bag  
(yields 20% solids).**

PDSCo Grout **Manufacturer recommends no more than 18  
gallons of water per 50 pound bag (yields  
25% solids).**

WYO-BEN, INC. for Drillers Service, Inc. (DSI)

EASY GROUT **Maximum 24 gallons of water per 50 pound bag  
(yields 20% solids).**

EASY SEAL **Maximum 24 gallons of water per 50 pound bag  
(yields 20% solids).**

SHUR-GROUT **Maximum 16 gallons of water per 50 pound bag (yields  
27.3% solids).**

SHUR-PLUG **Approved for abandonment of holes only!**

CHIPS 3/8 **If static water is present, pour chips from the**

bag at a rate of 1.5 to 2 minutes per 50  
pounds. A funneling device with a 1 to 1.5

Approved Bentonite Materials  
Page Three  
November 3, 1994

GMP #62

inch opening can be used to ensure a constant flow of material  
into the hole.

GMP #62  
Water - Product Approval - Bentonite Grout