

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

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This GMP replaces **GMP #56** which is hereby rescinded.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

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**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: <u>Above the water level</u> , 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)

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

ENVIROPLUG #16/EASY SEAL       **Maximum 24 gallons of water per 50 pound bag  
(yields 20% solids).**

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

ENVIROPLUG MEDIUM/SHUR-PLUG  
CHIPS 3/8       **Approved for abandonment of holes only!  
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**

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

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