



ON-SITE SYSTEMS TECHNICAL REVIEW BOARD SUMMARY OF ACTION



February 11, 2004

Members Present: Mark Musial, PE, Chairman, Bill Schnabel, Ph.D.,
Joel Neimeyer, PE, Carol Nesbett, Dave Beveridge, PE

Advisory Members: Earl Dotten, AWWA

Staff Present: Jim Cross, PE, Daniel Roth, Engineer
Hallie Stewart, AWWU, Jeff Urbanus, DHHS

Guests: Dan Young, AK Water Well Association, Bill Lawrence,
AK Water Well Association, Dave Harper, Alpine Drilling,
Brian Willie, Arrow Pump & Well, Kurt Hefty, Hefty
Drilling, Steve Morris, Municipal Health & Human
Services, Jan Deick, Golder Associates, Wayne
Westburg, M-W Drilling, Bill Sullivan, Sullivan Water
Wells, Eileen Olson, ADEC.

Mark Musial called the meeting to order. Mark stated that the annual report was emailed to everyone. There were no comments or questions on the Summary of Action so it's considered approved. Jim suggested that if there were comments on the Annual Report that can be brought up at the next meeting.

Old Business – Well Code

Definitions:

Bentonite chips should be $\frac{1}{4}$ ($\frac{3}{4}$)".

Bentonite comes in the form of powder granules or chips and is mixed in a slurry. It's aluminum silicate clay that comes in the form of beninite.

Bentonite Slurry – high solids mixture of bentonite particles.

Jim stated Title 15 will remain 15.55 Water Wells. Both the Well Code and Wastewater Code will remain in Title 15, not be changed to Title 23.

Subsurface Disposal Field – an absorption bed, deep or shallow absorption trench, seepage pit or mound system.

On page 10 of 14 on the bottom of the page regarding minimum water well production testing, we will add water quality testing. The proposal is to test a new well for coliform bacteria, other bacteria, nitrates and arsenic. New wells are not currently required to be tested.

Sanitary well seals –a mechanical seal installed at the top of the well which has been approved by Developmental Services Department.

Well seal – the top of the casing shall be closed with a sanitary well seal by the type approved by the Water Systems Council. Earl stated the Water Systems Council is a manufacturing regiment and has no health ramifications whatsoever. There is no NSF for well seals, pitless adapters and sanitary seals. Other states look at different products and make their own approval lists.

Page 7 under B1E, line 17 – it was asked wouldn't wells that are more than 50 feet away be on the as-built? Jim stated that measured distances to all existing water supply wells within 50 feet of the proposal well site, and the location of all wells on subject and adjacent properties, would be on the as-built.

On page 11 Jeff Urbanus addressed lines 25 & 26. Jim said if you dump chlorine into a well and let it sit there for a while and flush the well, how are you going to collect that water and transport it someplace else to discharge it? It was stated that water shall not be directly discharged into surface waters or allowed to get into septic tanks.

It was stated that it depends on the circumstances of a chlorinating an existing well. You run a test to get a good strong chlorine smell at every household outlet, let it set overnight and pump it. Regarding the septic system, you are going to apply chlorine into the well and immediately run it through each faucet in the house until you smell chlorine. While the chlorine is stationary in the plumbing, everything is shut down and not used until the well flushes itself out. If the chlorinated water needs to be discharged directly into a sensitive receiving environment, the chlorine shall be neutralized before being discharged.

Dan's presentation addressed well casing and well construction. There are two different philosophies: you shall case a minimum of 40 feet in all cases and a minimum of 20 ft. into bedrock, if bedrock is encountered at less than 40 ft. The other theory is to case all wells at 40 ft. Once we determine casing depth in all situations then we have to address grouting. Jim's only concern is that when you hit bedrock between 30 ft. and 40 ft., at 39 ft. then you're casing to 59" minimum depth which seems excessive. The trade off is, the deeper you hit bedrock, the more overburden you have. If you hit bedrock at any depth, there should be a minimum depth that you sink the casing into bedrock.

Shallow aquifers were studied and how they can be impacted along with fractured bedrock and competent bedrock. Jeff Urbanus asked how deep between here and ground water is it safe to get purification? Some states believe 6 ft., some 10 ft. The misconception is how the effluent gets into ground water in bedrock fractures? A 40 ft. separation in most cases is not necessarily safe.

Mark asked "Can you say how thick the fractured bedrocks zones are?"

Dan stated the amount of fractured bedrock is inconsistent and hard to predict, although you can look for the water on top of the rock. We would go a little ways into the fracture zone and then drill below.

Most of the problems that occur come from existing construction problems.

If a homeowner has excessive levels of nitrates, the labs should contact the city so we can get the homeowner to fix the problem or decommission the well. Jim stated this wouldn't work and that the neighbor's system could be making another homeowner's well high in nitrates. Carol stated it's going to be difficult to make people upgrade their well if their nitrate level is too high when the code changes. People should be given the option to choose. In the future when people sell their house, they will be required to upgrade their septic and well if it is below standards, for the protection of the groundwater.

Regarding casing depth, well setbacks is beyond the scope of the upgrade of what we're doing. Two major points to define are how we are going to do casing depth and grouting? Also, are we going to have some kind of inspection mechanism in a Health Authority Process of that well? How much does it cost to make a casing depth of 20 feet into bedrock?

Meeting adjourned!