



ON-SITE SYSTEMS TECHNICAL REVIEW BOARD SUMMARY OF ACTION



July 9, 2003

Members Present: Mark Musial, PE, David Beveridge, PE, Chris Allard, PE, Wes Turner, MD, Joel Neimeyer, PE

Advisory Members: None

Staff Present: Jim Cross, PE, Steve Morris, PE, Jeff Urbanus, DHHS, Sheila Jones.

Guests: Dan Young, Bill Lawrence, Terrasat

Old Business:

Well Code - Jim said that the municipality is looking to do sampling on shallow bedrock wells, which may be more prone to elevated nitrate levels than those wells not completed in areas of shallow bedrock. If the studies find that wells completed in areas of shallow bedrock do contain more elevated levels of nitrates than wells not in shallow bedrock, a design change could be mandated in the code. This proposed change would add an additional cost to homeowners of \$2500 - \$3000 for drilling a well, based on the current proposed well design changes submitted by the AWWA. The municipality's goal is to complete this sampling in the next couple of months.

The municipality will talk with USGS and see if they want to be involved in this study. Also, UAA could participate in this study to cut down on the cost in sampling the wells. UAA students could do some of the lab work in sampling the wells for nitrates. The wells would be sampled at different depths on multiple occasions to determine any trends and to insure consistency. Steve Morris will check to see if the DHHS has any study funding available.

When any kind of a code change takes place within the municipality, it is reviewed by the administration and then must be passed by the assembly prior to enactment. The administration and the assembly look at the economic impact of the changes in making their decision, so any design change must be justified.

Question: How will we pick the wells?

Answer – Jim stated: we have well logs & can look at the previous nitrate sampling done on various wells. We would look through the records of subdivisions that have shallow bedrock and look at well logs to choose existing wells that encounter bedrock less than 20 ft. from the ground surface.

Previously, the municipality completed a detailed study on nitrate levels in well water, and obtained access to some privately owned wells. The pump installer who tested these wells was bonded, the wells were videoed, and any violations found on the wells were given to the homeowner for informational purposes only. Suggestions were made how to correct the violations if the homeowner wished.

Currently if bedrock is encountered while drilling a well, the code requires that the casing extend 2 feet into bedrock or until casing refusal. The Alaska Water Well Association is proposing that if bedrock is encountered before 40 feet, then the casing would be extended an additional 20 feet into bedrock.

New Business – Jeff Urbanus –

Reverse osmosis and selective media are both processes of removing arsenic from well water. These systems were placed in two different homes in the Sand Lake area. They have been tested monthly for 18 months and the total amount of arsenic was tested before treatment & after. These systems removed arsenic to a level below the 10 mg/l EPA recommended MCL.

The cartridges are supposed to last about 2 years but don't always. Homeowners should test their water periodically to make sure cartridges are working properly. If they are not, the filters should be replaced more often. The study found there has been a minor fluctuation of about 20% over the past two years.

Another arsenic study was muni wide and was conducted by mail. A letter was sent out to the homeowners asking them to participate. Sampling kits were sent out to homeowners who responded, which allowed them to sample their well water and then mail the samples directly to the lab. Five hundred of the wells in Anchorage will be tested accounting for 5% of the wells in

Anchorage. These are unfiltered samples. When tested, 10% of the samples are tested for 26 different metals. At this time only 300 wells have been tested. Jeff Urbanus stated that approximately 40% of the public responded to the mailings.

A third project with UAA will more closely investigate geologic conditions in high arsenic areas of west Anchorage. This study will look at different aquifers as the wells are being drilled, to quantify some of the minerals and soil layers that are found in the formations.

From the existing Health Authority Data, 20 homes were selected based on location and nitrate concentration. These homes are being tested every other month for the next two years and the object of the study is to determine if there are any discernable trends, such as seasonal fluctuations, increase or other time trends.