



MUNICIPALITY OF ANCHORAGE

Department of Health and Human Services

Environmental Quality Program

343-4200



ARSENIC IN GROUNDWATER

Frequently Asked Questions

Recent Department of Health and Human Services studies have found elevated levels of arsenic in some private wells in the Sand Lake area and in other parts of the municipality. While the levels are not a cause for alarm, they may be a reason for concern. Arsenic is a naturally occurring element in the environment, in Alaska and elsewhere. Arsenic in groundwater is usually the result of arsenic-bearing minerals that dissolve into the groundwater naturally over time as certain types of rocks and soils are weathered.

How did this issue first come to the attention of the Municipality?

A potential buyer of a property in the Sand Lake area requested that an arsenic test be done on the well water. Test results in this well indicated a total arsenic level of 89 parts per billion (ppb) (or micrograms per liter). This level was well above the 50 ppb U.S. Environmental Protection Agency (EPA) public water supply standard in effect at that time.

What concentration of arsenic has been found in the groundwater?

The Municipality of Anchorage Department of Health and Human Services (DHHS) has sampled over 400 wells in Anchorage. Arsenic concentrations in these wells ranged from undetected to a high of 89 ppb. DHHS conducted a two-year sampling program investigating arsenic levels throughout the municipality. DHHS has completed a final report on this sampling program. Copies of the report can be obtained by contacting the Department or online at: [http://muni.org/healthesd/Arsenic Index.cfm](http://muni.org/healthesd/Arsenic%20Index.cfm)

What is the EPA standard for arsenic in drinking water?

The Environmental Protection Agency (EPA) has finalized a regulation intended to further reduce the public health risks from arsenic in drinking water, by revising the drinking water standard for arsenic from 50 ppb to 10 ppb. Public water systems must meet the new standard by January 23, 2006.

Does my well have to meet the EPA regulations for arsenic?

The EPA standard applies to public water systems. Private wells for single family homes are not subject to EPA regulations. However, the EPA standard can be used as a guideline to evaluate the water quality of private wells.

What human health concerns arise from drinking water containing these concentrations of arsenic?

There is conflicting scientific evidence on the health effects of arsenic at the relatively low concentrations that have been measured in the wells in the Sand Lake area and other parts of Anchorage. Studies have linked long term consumption of drinking water containing arsenic to cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate. Ingestion of arsenic may also cause cardiovascular, pulmonary, immunological, neurological, and endocrine (e.g., diabetes) effects. These links to health effects were determined by studying populations in areas (mainly Taiwan and South America) where groundwater concentrations of arsenic are

higher than those found in the Sand Lake area. The EPA is continuing research on the health effects of arsenic, to better define the health risks posed by low levels of arsenic in drinking water.

Is washing or bathing in water with elevated arsenic concentrations a concern?

According to the EPA, only consumption of water with elevated arsenic concentrations is a concern. Therefore, other uses of water are considered safe.

What is the concentration of arsenic in the Municipal water supply?

Drinking water provided by the Anchorage Water and Wastewater Utility (AWWU) meets all federal and state drinking water standards, including the new recommended standard for arsenic. According to their 2004 Annual Water Quality Report, the highest arsenic concentration measured in water provided by AWWU was 3 ppb. In the majority of the water sampled from the AWWU system, no arsenic was detected.

How do I get my water tested?

If you are concerned, you can collect a sample of water and have it analyzed for arsenic. There are several local laboratories that can do analysis for arsenic, and it is a relatively inexpensive test (less than \$50). Water samples require preservation with an acid, so you will have to contact the laboratory and they will provide you with a pre-preserved sample container. Ask the laboratory for any other instructions that they may have regarding how to collect the sample.

If I choose to treat my water, what are my options?

Treating water to remove arsenic can vary greatly in cost and complexity depending on the method selected. There are several local companies that deal specifically with household water treatment systems. Many are listed in the yellow pages under water purification and filtration equipment. With the issuance of the new EPA standard, new technologies for the removal of arsenic from water are now being developed. DHHS recently completed an evaluation of two such systems and found that they can effectively reduce arsenic levels to less than 10 ppb if properly maintained and serviced.

People who are considering purchasing a system to remove arsenic from water in their home should ensure that it is NSF-certified for arsenic removal. More information about NSF certification can be found at: www.nsf.org.

Another alternative is to use bottled water that does not contain arsenic for drinking and cooking.

Will this information affect me if I should decide to sell my house?

According to Anchorage Municipal Code, prior to transferring ownership or use interest in a privately owned on-site water well, the transferor shall obtain a certificate of health authority approval from the Municipality. Presently, testing for arsenic is not required to obtain health authority approval.

By Alaska Statute, AS 34.70.10, the seller of a residential real property must provide a completed written disclosure form to the buyer, prior to a written offer. Arsenic measurements may fall under this regulation.

Where can I find more information?

There is a great deal of information on arsenic in drinking water on the Internet. This department maintains a web page where information about arsenic in Anchorage can be found as well as links to other sources of information:

[http://www.muni.org/healthesd/Arsenic Index.cfm](http://www.muni.org/healthesd/Arsenic%20Index.cfm)