



# 2008 Water Quality Report

**UAF Utilities  
Division of Facilities Services**

## Mission Statement:

**Our mission is to provide high quality uninterrupted service of water, power and heat and chilled water. This mission is accomplished through a commitment to preventative maintenance, planning and inspection.**

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## Your Water

This report is to inform the on-campus population about the safety and operation of the water facilities on the main campus of the University of Alaska Fairbanks. This is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to EPA and state standards.

UAF has two primary drinking water wells and a third emergency well. The wells are drilled to depths of 70 to 90 feet. The primary wells are located in heated, secure buildings with concrete floors. The buildings and pads are elevated to prevent runoff from entering the wells. The wells are located on University property.

## Source Water Assessment

The ADEC has compiled a Source Water Assessment of our source of public drinking water. This assessment has defined an area around our wells that is critical to the preservation of the quality of our drinking water. Within this area, they have identified potential and existing sources of contamination. Based on the information gathered, ADEC has determined the overall vulnerability of our wells to contamination. The results are available at the following locations: Rasmuson Library, UAF Power Plant, and the Fairbanks North Star Borough Library.



*Photo by Ben Stacy*

**The Atkinson Building, also known as the Power Plant, is the center of the UAF Utilities complex.**

## Spanish

*Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.*

## Contaminant Sources

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be ob-

tained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the

land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants,

*The University of Alaska Fairbanks, the nation's northernmost Land, Sea and Space Grant university and international research center, advances and disseminates knowledge through teaching, research and public service with an emphasis on Alaska, the circumpolar North and their diverse peoples. UAF--America's arctic university--promotes academic excellence, student success and lifelong learning.*

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cont. from Contaminant Sources, page 1

septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. Pesticides and herbicides may come from a variety of sources such as agriculture, urban

stormwater runoff, and residential uses. Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban stormwater runoff, and septic systems. Radioactive contaminants can be naturally-occurring or be the result of oil

and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Russian

**Данный рапорт содержит важную информацию о вашей питьевой воде. Переведите его или проконсультируйтесь с тем, кто его понимает.**

## Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concen-

trations and is linked to other health effects such as skin damage and circulatory problems. Arsenic has been a major concern of the University Water Plant for many years. Naturally occurring Arsenic is very plentiful in the Fairbanks area. In 2005, the UAF Water Plant was granted reduced monitoring status by the ADEC. Our next sampling event for Arsenic is scheduled to take place in

the 2009 calendar year. The result of the last sample collected at the water treatment plant was below detectable limits for the test method used by our laboratory. The lowest detectable limit for Arsenic is 2.5 ppb. This is significant due to the EPA's lowering of the MCL for Arsenic in 2006 to 10 ppb. For comparison purposes, the UAF source water, before treatment, is 41ppb.

## Total Trihalomethanes (TTHM)

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Total Trihalomethanes (TTHM) are a byproduct of chlorinating water that contains natural organics. The ground

water used by the University Water Plant has always had these organics, derived, most likely, from decaying plant materials and thus, TTHM's have always been in the chlorinated water. An EPA survey discovered that trihalomethanes are present in virtually all chlorinated water supplies. In an effort to lower TTHM levels, EPA required large towns and

cities to reduce TTHM levels in potable water. However, recent changes in national drinking water quality standards now require that all water treatment systems, regardless of size, reduce TTHM's. For 2008, the University Water system was in compliance for TTHM's all four quarters of the year. In 2006, the UAF Water Plant implimented a strategic



Some water fountains are not located in high traffic areas. If possible, allow the water to run for 30 seconds to improve taste. You'll be glad you did!



Nanook is a derivation of nanuq, the Inupiaq word for polar bear. UAF's first teams had been nicknamed the Polar Bears, but after 1963, the Polar Bears became known as the Nanooks, which has since applied to all UAF sports teams.

Analyte	MCL	Units	Annual Avg	Frequency
Iron	0.03	ppm	0.01	Daily
Manganese	0.05	ppm	0.04	Daily
Chlorine	4.0	ppm	0.83	Daily
Hardness	NA	ppm	352	Monthly
pH	6.5-8.5	pH	7.78	Monthly

**Monthly Water Plant Analysis 2008**

**cont. from TTHM**

plan in order to reduce TTHM levels within our distribution system. This plan has been successful by allowing us to meet ADEC and EPA requirements for TTHM's. The University Water Plant

will continue this strategy in order to maintain compliance with the current EPA regulations. The UAF Water Plant is currently looking into alternative treatment technologies for

compliance with future EPA rules regarding TTHM formation and reduction.

**Contaminant Chart 2008**

Contaminant	TTHM	HAA	Nitrate
<b>Date</b>	Monthly	Monthly	Annually
<b>Units</b>	ppb	ppb	ppm
<b>MCL</b>	80	60	10
<b>MCLG</b>	None	None	10
<b>Results</b>	678.6	21.7	1.48
<b>Range</b>	29.1 -	ND -	NA
<b>Source</b>	By-product of chlorination	By-product of chlorination	Runoff from fertilizer use; Leaching from septic tanks, sewage; Leaching from natural deposits
<b>Violation</b>	No	No	No

**What are Nitrates?**

**Short-term:** Excessive levels of nitrate in drinking water have caused serious illness and sometimes death. The serious illness in infants is due to the conversion of nitrate to nitrite by the body, which can interfere with the oxygen-carrying capacity of the child's blood. This can be an acute condition in which health deteriorates rapidly over a period of days. Symptoms include shortness of breath and blueness of the skin.

**Long-term:** Nitrates and nitrites have the potential to cause the following effects from a lifetime exposure at levels above the MCL: diuresis, increased starchy deposits and hemorrhaging of the spleen.

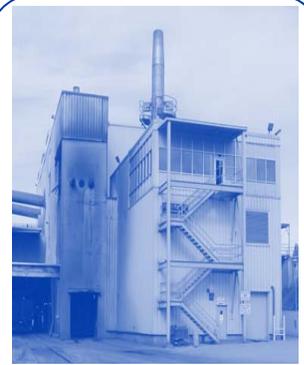


Photo by Ben Stacy

*Electricity, water, gas, and steam course through the walls of my building, keeping it alive.*

Mason Cooley

**Disinfection Byproducts**

Disinfection byproducts form when disinfectants added to drinking water to kill germs react with naturally occurring organic matter in water.

**Total Trihalomethanes.** Some people who drink water containing trihalomethanes in excess of EPA's standard over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

**Haloacetic Acids.** Some people who drink water containing haloacetic acids in excess of EPA's standard over many years may have an increased risk of getting cancer.

**Educational Statement for Lead**

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes

before using tap water. Additional information is available from Safe Drinking Water Hotline (800-426-4791).

The Division of Utilities performed its three year Lead and Copper testing in September 2007. The 90th percentile compliance samples were 1010 ppb for Copper and 3.98 ppb for Lead.

For full results of the '07 analysis, view our website at [www.uaf.edu/fs](http://www.uaf.edu/fs).

**Water Fun Facts**

- If all the world's water were fit into a gallon jug, the fresh water available for us to use would equal only about one tablespoon!

- It takes 1,851 gallons of water to refine one barrel of crude oil.

- You can refill an 8-oz. glass of water 15,000 times for the same cost as a 6-pack of soda.

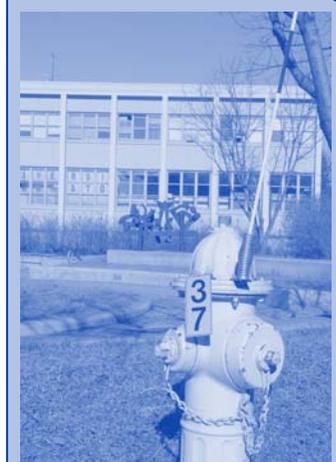


Photo by Ben Stacy

**Hydrants not only provide fire protection, they aid Utilities in "flushing" the domestic water system.**



**UAF Utilities  
Division of Facilities Services**

802 Alumni Dr  
P.O. Box 757420

Phone: 907-474-7351  
Fax: 907-474-5478  
E-mail: [bstacy@fs.uaf.edu](mailto:bstacy@fs.uaf.edu)

University of Alaska Fairbanks Alaska's  
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Staff

Associate Vice Chancellor for  
Facilities & Safety  
Kathleen Schedler, P.E.

Division of Utilities Director  
Charles "Chilkoot" Ward

Power Plant Superintendent  
Mike Setterberg

Water Plant Supervisor  
Ben Stacy

Contact Us

If you have any questions or concerns about the quality of your water, please feel free to contact the Water Plant at extension 5604.

Tours of the water plant can also be arranged for anyone interested in learning more about the campus water supply. Please contact Ben Stacy at extension 5604 or [bstacy@fs.uaf.edu](mailto:bstacy@fs.uaf.edu).

## Important Drinking Water Definitions

**MCLG:** Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**MCL:** Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

**ppb:** parts per billion, one part in one billion parts

**ppm:** parts per million, one parts in one million parts, equivalent to milligrams per liter

**ND:** Non-detect: sample result was below the lowest method detection limit.

**RAA:** Running Annual Average: computed quarterly, is the average of the quarterly averages for all samples taken during the previous four calendar quarters.



**Only Tap Water Delivers**<sup>SM</sup>

Japanese

この情報は重要です。  
翻訳を依頼してください。

Korean

이 안내는 매우 중요합니다.  
본인을 위해 번역인을 사용하십시오.

*The University of Alaska Fairbanks is an affirmative action/equal opportunity employer and educational institution.*

*"I have little need to remind you that water has become one of our major national concerns."*

Ezra Taft Benson, U.S. Secretary of Agriculture, 1955