



UNIVERSITY OF ALASKA FAIRBANKS
 FACILITIES SERVICES
 DIVISION OF WATER QUALITY

Water Data for
2015

ANNUAL WATER QUALITY REPORT

YOUR DRINKING WATER

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of UAF's 2015 water quality.

UAF conducted over 150 tests for several contaminants during 2015. **We met all EPA/ADEC sampling and regulatory limits with the exception of HAA5 and TTHM.** The results of this testing are provided in the Water Quality Data Table.

For information about our drinking water, please visit the <http://www.uaf.edu/fs/departments/utilities/water-plant/>. For questions regarding this report, please contact Scott Bell, Vice Chancellor of Facilities Services at 907-474-7000 or dispatch@fs.uaf.edu.

WHERE DOES MY DRINKING WATER COME FROM?

The University of Alaska Fairbanks water system was supplied by ground water. Four wells provided all the water used in the treatment process. These wells are sealed and secured to eliminate the possibility of contamination from outside sources. On April 8, 2016 College Utilities Corporation began providing UAF with 100% its drinking water supply. For information on College Utilities water quality, please view their report at <http://www.akwater.com/pdf/cuc-ccr.pdf>.

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SPANISH Este informe contiene informacion muy importante sobre la calidad de su agua potable. Por favor lea este informe o comuniquese con alguien que pueda traducir la informacion.

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

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.

SOURCE WATER ASSESSMENT AND ITS AVAILABILITY

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 assessment is available at the following locations: Rasmuson Library, UAF Power Plant, and the Fairbanks North Star Borough Library .

The University of Alaska Fairbanks is a Land, Sea, and Space Grant university and an international center for research, education, and the arts, emphasizing the circumpolar North and its diverse peoples. UAF integrates teaching, research, and public service as it educates students for active citizenship and prepares them for lifelong learning and careers.

WATER QUALITY DATA TABLE INFORMATION

READING THE DATA TABLE

In this table you will find terms and abbreviations that might not be familiar to you. To help we have provided the following information:

Page 7— Abbreviations

Page 7— Definitions

Additional Information on:

Page 6— Secondary Contaminants

Page 5— TTHMs and HAA5

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The tables on pages 3 and 6 list the drinking water contaminants that were detected. Although many more contaminants were tested, only those substances listed in these tables were found in your water.

All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Samples for this report were taken in 2014 and 2015. Sample requirements vary for different contaminants, therefore some of the samples were taken last year. See the sampling cycle for the 2014 samples in the data table on the next page.



UAF WATER QUALITY DATA TABLE

Contaminant	MCLG or MRDLG	MCL, TT, or MRLD	Your Water	Sample Range		Sample Date	Violation	Typical Sources of Contamination
				Low	High			
Disinfectants and Disinfectant By-Products								
There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants								
TTHMs (ppm)	N/A	0.08	0.12	0.06	0.15	2015	Yes	By-product of drinking water disinfection
HAA5 (ppm)	N/A	0.06	0.070	0.02	0.08	2015	Yes	By-product of drinking water chlorination
Chlorine as Cl ₂ (ppm)	4.0	4.0	0.23	0.01	1.64	2015	No	Water additive to control microbes
Inorganic Contaminants								
Nitrate [measured as Nitrogen] (ppm)	10	10	1.7	N/A	1.7	2015	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Arsenic (ppb) - samples every 3 years	0	10	1.7	N/A	1.7	2014	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm) - sampled every 9 years	2	2	0.16	N/A	0.16	2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppm) - sampled every 9 years	1	1	0.001	N/A	0.001	2014	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm) - sampled every 9 years	4	4	0.1	N/A	0.1	2014	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Microbial Contaminants								
Turbidity (NTU)	N/A	1	0.15	0.04	0.33	2015	No	Soil Runoff
Coliform (Positive Samples)	0	0	3 ¹	N/A	N/A	Sep 2015	No	Human and animal fecal waste
Radioactive Contaminants								
Alpha Emitters (pCi/L)	0	15	0.65	N/A	N/A	2014	No	Erosion of Natural deposits
Radium (combined 226/228) (pCi/L)	0	5	0.59	N/A	N/A	2014	No	Erosion of Natural deposits
Contaminants	MCLG	Action Level (AL)	Your Water	# of Samples Exceeding AL	Sample Date	Exceeds AL	Effects above SMCL	
Inorganic Contaminants - No MCL								
Lead - action level at consumer taps (ppb)	0	15	3.2	0	2015	No	Corrosion of household plumbing systems; Erosion of natural deposits	
Copper- action level at consumer taps (ppm)	1.3	1.3	1.0	0	2015	No	Corrosion of household plumbing systems; Erosion of natural deposits	

1. UAF resampled the positive sites and sites up and downstream of the positive samples within 24 hours of receiving the results. All resamples were negative.

WHY ARE THERE CONTAMINANTS IN MY DRINKING WATER?

The sources of drinking water (both tap 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. UAF's source drinking water is from groundwater wells.

Contaminants that may be present in source water and examples of their sources include:

- Microbial: viruses, and bacteria that could come from septic systems, agricultural livestock operations and wildlife
- Inorganic: salts and metals which are naturally occurring or result from urban stormwater runoff or farming
- Pesticides and herbicides: agriculture and residential uses
- Organic chemicals: gas stations, septic systems,
- Radioactive: naturally occurring

The presence of contaminants does not necessarily indicate that water poses a health risk.

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.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). For more information on sources of groundwater contamination, please visit : <http://water.usgs.gov/edu/groundwater-contaminants.html>

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

SPECIAL PRECAUTIONS: Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Information on Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead is found in drinking water when distribution systems, lines into buildings, facility plumbing, lead solder and fixtures contain lead. The Safe Drinking Water Act Amendments of 1986 prohibit use of pipe solder or flux in public waste system that is not lead free.

UAF Utilities is responsible for providing high quality drinking water. We follow all required regulations when it comes to lead when we maintain and build additions to the drinking water distribution system and fixtures in our buildings. There are no known lead service lines in our distribution system. As documented in the water quality data table in this report, UAF drinking water is well below any action levels.

There is one step you can take if you are concerned about lead in your tap water. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.

If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.



Disinfection By-Products (TTHM and HAA5)

To protect drinking water from disease-causing organisms or pathogens, UAF adds chlorine as a disinfectant to the campus drinking water. Trihalomethanes (TTHMs) and haloacetic acids (HAA5) form in drinking water when chlorine, which is used to disinfect drinking water, reacts with natural organic material in the water. It's common for drinking water that is disinfected with chlorine, like ours, to contain some trihalomethanes.

The Environmental Protection Agency sets limits on how much TTHM and HAA5 can be in drinking water based on a 4 quarter average called a locational running annual average (LRAA). For 2015, UAF did exceed the LRAA for TTHM for all 4 quarters of 2015 and HAA5 for 2 quarters. Notification was provided by e-mail to all employees and students.

Health effects from the low level of TTHMs and HAA5s in the UAF water system would only come from very long-term consumption of the water. People who drink water containing THMs in excess of the MCL over many years may experience problems with their liver, kidneys, or

central nervous system, and may have an increased risk of getting cancer. A health effect of drinking water containing HAA5 may be an increased risk of cancer.

To reduce the amount of TTHM and HAA5 in your drinking water, UAF has contracted with College Utilities Corporation to supply UAF with drinking water. The water came on line April 8, 2016. As the water is replaced in our 1.5 million gallon storage tank we expect to see a reduction in the TTHM numbers; HAA5 has already dropped below reporting limits. It will take some time before the LRAA for TTHM is below the limit, as the average will come down only with repeated low values from our quarterly sampling/analysis.

For additional information on TTHM and HAA5 <https://safewater.zendesk.com/hc/en-us/categories/201454937>

For UAF- specific information on TTHM, FAQs and more,, please visit: <http://www.uaf.edu/fs/> and click on the UAF Water Quality Notices.

Secondary Contaminants



EPA has established National Secondary Drinking Water Regulations (NSDWRs) that set non-mandatory water quality standards for 15 contaminants (secondary contaminants). EPA does not enforce these "secondary maximum contaminant levels" or "SMCLs." They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health at the SMCL. See table below for UAF's sampling for secondary contaminants. Only manganese exceeds this aesthetic consideration, which may cause discoloring of the water, staining and effect taste. For more information on these contaminants visit:

<http://water.epa.gov/drink/contaminants/secondarystandards.cfm>

Water Quality—Secondary Contaminants

Secondary Contaminants	MCLG	SMCL	Your Water	UAF Range		Sample Date	Exceeds SMCL	Effects above SMCL
				Low	High			
Iron (ppm)	0	0.3	0.051	0.023	0.127	2015	No	Rusty color; sediment; metallic taste; reddish or orange staining
Manganese (ppm)	0	0.05	0.165	0.043	0.257	2015	Yes	Black to brown color; black staining; bitter metallic taste
Hardness (ppm)	N/A	N/A	330	306	344	2015	No	Formation of scale on pipes and fixtures
pH	N/A	6.5-8.5	7.54	7.28	7.77	2015	No	Low pH: bitter metallic taste; corrosion; high pH: slippery feel; soda taste; deposits

Chlorine

According to the Centers for Disease Control, American drinking water supplies are among the safest in the world and disinfection of drinking water has played a critical role. The first continuous use of chlorine for disinfection of drinking water in the US took place in 1908 of the water supply for Jersey City, New Jersey. The results included a dramatic decline in the local typhoid fever rate, which was at that time approximately 100 cases per 100,000 people.

The CDC describes chlorination as the process of adding chlorine to drinking water to disinfect it and kill germs. Current studies indicate that using or drinking water with small amounts of chlorine does not cause harmful health effects. Chlorine levels up to 4 milligrams per liter (ppm) are considered safe in drinking water and provide a residual protection against recontamination. UAF water is well under this level with an average of 0.23 ppm.

If you have health concerns regarding chlorine in your drinking water, please contact your health provider for guidance.

Abbreviations		Definitions
ADEC	Alaska Department of Environmental Conservation	N/A
AL	Action Level	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
CDC	Centers for Disease Control	N/A
EI	Educational Information	N/A
EPA	Environmental Protection Agency	N/A
FDA	Food and Drug Administration	N/A
HAA5	Haloacetic Acids	N/A
MCL	Maximum Contaminant Level	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MRDL	Maximum Residual Disinfectant Level	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary for control of microbial contaminants
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
NA	Not Applicable	N/A
ND	Not Detected	N/A
NR	Not Required	Monitoring not required, but recommended.
NSDWRs	National Secondary Drinking Water Regulations	N/A
Pb	Lead	N/A
NTU	Nephelometric Turbidity Units.	Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
	positive samples	positive samples/yr: The number of positive samples taken that year
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)	N/A
ppb	ppb: parts per billion, or micrograms per liter ($\mu\text{g/L}$)	N/A
ppm	ppm: parts per million, or milligrams per liter (mg/L)	N/A
SDWA	Safe Drinking Water Act	N/A
SMCL	Secondary Maximum Contaminant Levels	N/A
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHMs	Total Trihalomethanes	N/A

CONTACT INFORMATION

QUESTIONS ABOUT THIS REPORT OR THE DRINKING WATER SYSTEM

Scott Bell, Associate Vice Chancellor of Facilities Services 907-474-7000

QUESTIONS ABOUT HEALTH EFFECTS

Safe Drinking Water Hotline 800-426-4791

LINKS WITH ADDITIONAL INFORMATION

UAF TTHM and HAA5 Exceedances <http://www.uaf.edu/fs/>

UAF Water Plant Website <http://www.uaf.edu/fs/departments/utilities/water-plant/>

College Utilities <http://www.akwater.com/pdf/cuc-ccr.pdf>

EPA Information on Lead <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>

EPA Information on Secondary Contaminants <https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals>

USGS Info on Groundwater Contaminants <http://water.usgs.gov/edu/groundwater-contaminants.html>

