

# Wrangell 2016 Water Quality Report - AK120143

## Is my water safe?

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 last year's water quality. We are committed to providing you with information because informed customers are our best allies. Last year, we conducted tests for over 80 contaminants. We only detected 10 of those contaminants, and found only 1 at a level higher than the EPA allows. As we informed you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.)

## Do I need to take 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 Water Drinking Hotline (800-426-4791).

## Where does my water come from?

Our water comes from two surface reservoirs which are interconnected by a spillway when there is an abundance of water, and a drain located in the dam of the upper reservoir when the level drops below the spillway. They are located on Mount Wrangell south of town. After the raw water enters the plant, it is treated with ozone to remove iron, reduce the level of organics, and provide some initial disinfection. It is then filtered by two roughing filters, followed by four sand filters. Chlorine is added to disinfect the water as it is pumped to our two 424,000-gallon storage tanks for use.

## Source water assessment and its availability

A source water assessment for the Wrangell surface water source was completed in 2003. The public water system for City of Wrangell is a Class A water system consisting

of 1 source intake. The water system is located in Wrangell and the intake for this water system, is a surface water source. Vulnerability rankings are assigned based on the susceptibility of the drinking water source to potential contamination, recent sampling results and the presence of potential contaminant sources - they do not necessarily indicate these contaminants will reach our source of water.

The results of the assessment are: The Wellhead/ Surface Intake Susceptibility is Very High, The Aquifer Susceptibility is Not Applicable, The overall vulnerability to potential contaminants is: Bacteria and Viruses is High, Nitrates/Nitrites is Very High, Volatile Organic Chemical is High, Inorganics/ Heavy Metals is High, Synthetic Organic Chemicals is Medium, Other Organic Chemicals is Medium.

For further information regarding this source water assessment please contact the local water system operator, or the Alaska Resources Library & Information Services (ARLIS) located at 3211 Providence Drive, Room 111, Anchorage, AK 99508; phone number 907-272-7547. Or you may call Chris Miller at the ADEC Drinking Water Protection Program at 907-269-4791, or 907-269-7549. You may also access the public source water executive summary data at the ADEC website: <https://dec.alaska.gov/eh/dw/dwp/complete.aspx>.

## Why are there contaminants in my drinking water?

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 obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). 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. The sources of drinking 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, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which 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, which 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; and radioactive contaminants, which 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.

## How can I get involved?

If you have any questions about this report or concerning your water utility, please contact Wrangell City Hall at 874 – 2381. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled council meetings. They are held on the first and last Tuesday of the month at City Hall.

## Description of Water Treatment Process

Your water is treated in a "treatment train" (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called "floc," which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin.

The clear water then moves to the filtration process where the water passes through sand, gravel, charcoal or other filters that remove even smaller particles. A small amount of chlorine or other disinfection method is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community.

## Water Conservation Tips

- Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.
- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely.
- Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

## Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides - they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or

consider connecting to a public water system.

- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

## Waivers

The City of Wrangell recently had an approved Synthetic Organic Compounds (SOC) waiver through the State of Alaska from 2014-2016. We plan to reapply for this waiver before September 30, 2018 to extend the SOC waiver from 2017-2019.

## Monitoring and reporting of compliance data violations

We failed to collect one of the quarterly samples for TTHM and HAA5's in the 2nd quarter of 2016. We are currently back on quarterly sampling and back in compliance for the sampling requirements.

We failed to collect one of the quarterly samples for Bromate in the 2nd quarter of 2016. We are currently back on quarterly sampling and back in compliance for the sampling requirements.

## Significant Deficiencies

It was determined in the sanitary survey from 2012 that there is a water treatment plant bypass that presents a potential cross connection to the distribution system. This deficiency has not been corrected. The modification requires an engineering review and at this time has not been addressed. The deficiency was given a deadline of 30 days on the letter from the ADEC dated 6/21/12. The system filed for an extension and was granted this extension. The system plans on correcting this deficiency after proper plan review.

## Additional Information for Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and

components associated with service lines and home plumbing.

Wrangell is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 or at <http://www.epa.gov/safewater/lead>.

## Water Quality Data Table

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 table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below 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. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report.

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. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

## For more information please contact:

Contact Name: Amber Al-Haddad, Public Works Director  
City & Borough of Wrangell  
Address: Box 531, Wrangell, AK 99929  
Phone: 907-874-3904  
Email: [aal-haddad@wrangell.com](mailto:aal-haddad@wrangell.com)

# 2016 Water Quality Data Table

<u>Contaminants</u>	<u>MCLG or MRDLG</u>	<u>MCL, TT, or MRDL</u>	<u>Your Water</u>	<u>Range</u> <u>Low</u>   <u>High</u>		<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
Disinfectants & Disinfectant By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haloacetic Acids (HAA5) (ppb)	NA	60	76.1	60	86.3	2016	Yes	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	26.27	24.8	29	2016	No	By-product of drinking water disinfection
Bromate (ppb)	0	10	0.63	NA	1.9	2016	No	By-product of drinking water disinfection
Inorganic Contaminants								
Barium (ppm)	2	2	0.00474	NA	NA	2011	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	0.68	NA	NA	2011	No	Discharge from steel and pulp mills; Erosion of natural deposits
Radioactive Contaminants								
Radium (combined 226/228) (pCi/L)	0	5	0.195	NA	NA	2014	No	Erosion of natural deposits
Alpha emitters (pCi/L)	0	15	0.77	NA	NA	2014	No	Erosion of natural deposits
<u>Contaminants</u>	<u>MCLG</u>	<u>AL</u>	<u>Your Water</u>	<u>Sample Date</u>	<u># Samples Exceeding AL</u>	<u>Exceeds AL</u>	<u>Typical Source</u>	
Inorganic Contaminants								
Lead - action level at consumer taps (ppb)	0	15	7.29	2014	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	
Copper - action level at consumer taps (ppm)	1.3	1.3	1.17	2014	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	

## Violations and Exceedances

### Haloacetic Acids (HAA5)

Some people who drink water containing haloacetic acids (HAA5) in excess of the MCL over many years may have an increased risk of getting cancer. The violation occurred in February and November of 2016. We also received another violation for failing to conduct quarterly sampling in the second quarter of 2016. The nature of our water treatment process and water source produces HAA5's due to incomplete treatment technique and filters that are not properly suited for organic removal. We are currently looking into replacement of the water treatment process. This upgrade will properly remove the organics and provide better water treatment capabilities.

**Additional Contaminants** - To ensure the safest water possible, the State requires us to monitor contaminants not required by Federal regulations. Of those contaminants only the ones listed below were found in your water.

<u>Contaminant</u>	<u>State MCL</u>	<u>Your Water</u>	<u>Violation</u>	<u>Explanation and Comment</u>
Nickel	0.1 MG/L	1.05 ug/L	No	Erosion of natural deposits

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter
ppb	ppb: parts per billion, or micrograms per liter
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended
Ug/L	Ug/L: number of micrograms of substance in one liter of water

Important Drinking Water Definitions	
Term	Definition
MCLG	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.
MCL	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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection 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.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level