

# Unalaska Water Quality Report – 2011

## Unalaska Water Facts...

This brochure is a snapshot of the quality of the water that the City of Unalaska provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. For more information about your water, call the Unalaska Dept. of Public Utilities at 581-1260 and ask for Dan Winters or Clint Huling.

Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. Our water supply comes from two sources, surface water from the Icy Creek Watershed in Pyramid Valley and two groundwater well sites consisting of 4 wells in Unalaska Valley. The State of Alaska has provided a "Source Water Assessment" report for our surface and ground water supplies. The report lists the vulnerabilities for our Icy creek surface water source as follows: "The water system is located in Unalaska and the intake is a surface water source. The overall protection area received a susceptibility rating of "very high". In addition, this water system has received a vulnerability rating of "very high" for bacteria/viruses, "medium" for nitrates/nitrites, "medium" for volatile organic chemicals, "medium" for heavy metals, "medium" for other organic chemicals, and "medium" for synthetic organic chemicals."

Vulnerabilities for our Well 1 and Well 2 ground water sources were listed as follows: "The water system is located in Unalaska and the intake is groundwater wells. The wellheads received a susceptibility rating of "low" and the aquifer received a susceptibility rating of "very high". Combining these scores produces a natural susceptibility of "medium" for the source. In addition, this water system has received a vulnerability rating of "medium" for bacteria/viruses, "medium" for nitrates/nitrites, "low" for volatile organic chemicals, "low" for heavy metals, "low" for other organic chemicals, and "low" for synthetic organic chemicals."

The assessment reports for our remaining 2 groundwater sources (Well 1A & Well 3) have not been completed yet. A copy of this report containing our source water vulnerabilities is available to you by contacting our office. Our water system will utilize this report to develop a protection plan for our source water.

In its effort to supply you with the safest possible product, the City of Unalaska chlorinates the water supply for disinfection of viruses and bacteria. Chlorine levels are continuously monitored to ensure proper dosages are being added.

In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. We treat our water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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 Safe Drinking Water Hotline (800-426-4791).

To comply with Safe Drinking Water Act amendments, the City of Unalaska will be annually issuing a report on monitoring performed on its drinking water. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.

For the 2010 calendar year (2011 results will be published in 2012), fifteen components were detected in trace amounts well below Federal Safe Drinking Water Act Maximum Contaminant Levels set for public water systems throughout the country. The tables included in

this report list the detected constituents. Their presence does not necessarily indicate that water poses a health risk.

For the 2010 calendar year we received one minor state violation. We are required by ADEC to take ten Total Coliform (TC) samples per month. In July 2010 we only took nine TC samples. All nine sample results were satisfactory. The sample results for the subsequent ten samples in August 2010 were also satisfactory. The minor violation was due to the fact that we failed to take a total of ten TC samples in the month of July.

Some people may be more vulnerable to substances found 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. Environmental Protection Agency/Center for Disease Control 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).

For opportunities for public participation in decisions that may affect the quality of water, please attend the regularly scheduled City Council meetings on the second and fourth Tuesdays of each month at 7 p.m.



## Water Quality Data...

Contaminants that may be present in source water before we treat it include:

*Microbial contaminants*, such as viruses and bacteria, which may come from, septic systems, livestock, and wildlife.

*Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban storm-water runoff or industrial or domestic wastewater discharges.

*Pesticides and Herbicides*, which may come from a variety

of sources such as agriculture and residential uses.

*Radioactive contaminants*, which are naturally occurring.

*Organic chemical contaminants*, which originate from industrial processes, gas stations, storm runoff, and septic systems.

The tables below list all the drinking water contaminants that we detected during the 2010 calendar year. There are many regulations pertaining to sampling and monitoring of our water system. We constantly monitor the water supply for various constituents.

We have detected radon in our ground water in 1 out of 2 samples tested. There is no federal regulation for radon levels in drinking water. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. For additional information, call your state radon program or call EPA's Radon Hotline (800-SOS-RADON).

We also tested our surface water supply for Cryptosporidium. The testing consisted of two samples per month for one year. Two Cryptosporidium oocysts were found in one of the twenty four samples. Cryptosporidium is a microbial pathogen found in drinking water through out the U.S. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing performed from January 1-December 31, 2010. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. By virtue of previous testing with satisfactory results we have obtained a waiver for Synthetic Organic Compounds (SOC), Other Organic Compounds (OOC) and for Asbestos, and did not test for these contaminants during this time period.

Substance	MCL	MCLG	Level Detected	Typical Source of Substance	Health Effects
Turbidity	5 NTU	N/A	3.3 NTU	Soil Runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
Total Trihalomethanes	80 ppb	0	20.40 ppb	By-product of drinking water chlorination	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 Halo acetic Acids	60 ppb	0	18.30 ppb	By-product of drinking water disinfection	Some people who drink water containing halo acetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

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Substance	MCL	MCLG	Level Detected	Typical Source of Substance	Health Effects
Radon (Tested 2005)	Prescriptive MCL  300 pCi/L	Alternate MCL  4000 pCi/L	305 +/-30 pCi/L	Occurs naturally in soils and water	Some people who drink water containing radon in excess of the MCL over many years may have an increased risk of getting cancer.
Gross Alpha (Tested 2006)	15 pCi/L	0	-0.66 to -1.60 pCi/L	Occurs naturally in soils and water	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Gross Beta (Tested 2006)	4 pCi/L	0	-0.85 to 0.14 pCi/L	Occurs naturally in soils and water	Certain minerals are radioactive and may emit forms of radiation known as beta radiation. Some people who drink water containing beta emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Radium 226 (Tested 2006)	5 pCi/L	0	0.07 pCi/L	Occurs naturally in soils and water	Some people who drink water containing radium 226 in excess of the MCL over many years may have an increased risk of getting cancer.
Radium 228 (Tested 2006)	5 pCi/L	0	0.93 to 2.50 pCi/L	Occurs naturally in soils and water	Some people who drink water containing radium 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (Tested 2006)	0.03 mg/L	0	0.0002 to 0.0003 mg/L	Occurs naturally in soils and water	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Cryptosporidium (Tested Oct. 2006- Sept. 2007)	0	0	2 oocysts	Microbial Contaminate	Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection.
Barium (Tested 2008)	2000 mg/L	2000 mg/L	0.000977- 0.00853 mg/L	Occurs naturally in soils and water	Some people who drink water containing barium in excess of the MCL over many years may have an increased risk of high blood pressure.

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Substance	MCL	MCLG	Level Detected	Typical Source of Substance	Health Effects
Chromium (Tested 2008)	0.100 mg/L	0.100 mg/L	0.000273-0.000671 mg/L	Occurs naturally in soils and water	Some people who drink water containing chromium in excess of the MCL over many years may have an increased risk of allergic dermatitis.
Selenium (Tested 2008)	0.05 mg/L	0.05 mg/L	0.000635-0.002310 mg/L	Occurs naturally in soils and water	Some people who drink water containing selenium in excess of the MCL over many years may have an increased risk of hair and fingernail loss.

Substance	Action level	90 <sup>th</sup> percentile	# homes exceeding Action level	MCLG	Typical Source of substance	Health Effects
Lead (Tested 2006)	0.015 mg/L	0.014 mg/L	2 out of 20 tested	0	Corrosion of household plumbing systems; Erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Copper (Tested 2006)	1.3 mg/L	0.942 mg/L	0 out of 20 tested	1.3 mg/L	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

**NOTE:** The EPA requires monitoring of over 70 drinking water contaminants. Those listed above are the only contaminants detected in your drinking water. For a complete list contact Unalaska Water Utility.

**Maximum Contaminant Level (MCL)** - The “Maximum Allowed” (MCL) is 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.

**Maximum Contaminant Level Goal (MCLG)** – The “Goal” (MCLG) is 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.

**Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Action Level (AL)** -The concentrations of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

**Parts per million (ppm) or milligrams per liter (mg/L)** - parts of contaminant per million parts of water.

**Parts per billion (ppb) or micrograms per liter (µg/L)** - parts of contaminant per billion parts of water.

**Pico curies per liter (pCi/l)** - A measure of radioactivity.

**Nephelometric Turbidity Unit (NTU)** - a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

We’re proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Thank you for your understanding.

Please call our office if you have questions.

The City of Unalaska works diligently to provide top quality water to every home. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children’s future.

