

# 2011 ANNUAL CONSUMER CONFIDENCE REPORT

## ON THE QUALITY OF TAP WATER DISTRIBUTED ON FAIRCHILD AFB, WA

Water provided by the Fairchild AFB public water system (ID# 24350O) is safe to drink and meets all requirements set by the Safe Drinking Water Act (SDWA) and Washington State Department of Health (DOH).





## Your Annual Water Quality Report

This is an annual report on the quality of water delivered by Fairchild AFB, Washington. Under the "Consumer Confidence Reporting Rule" of the federal SDWA, community water systems are required to report this water quality information to the consuming public. Presented in this report is information on the source of our water, its constituents and the health risks associated with any contaminants.



## The Source of Your Drinking Water

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. Fairchild AFB's drinking water comes primarily from five groundwater wells, drawing water from the underground Spokane Valley-Rathdrum Prairie and Hangman Creek Aquifers. When demand dictates, additional water is obtained from the West Plains Aquifer. Water is disinfected with chlorine and then fluoridated before being pumped into the distribution system for consumption.



## Special Health Considerations

We continually monitor the drinking water for contaminants. Our water is safe to drink; however, 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 and Prevention (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 at 1-800- 426-4791.



# General Information

## Common Sources for Detected Contaminants

We monitor for various contaminants in the water supply to meet all regulatory requirements. Common sources for detected contaminants can include the following:

**Microbial contaminants**, such as viruses, parasites, and bacteria, which 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 storm run-off, 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, storm water run-off, and residential uses.

**Organic chemicals**, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run-off and septic systems.

**Radioactive materials**, which can be naturally occurring or be the result of oil and gas production and mining activities.

## Reported Contaminants

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. 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 EPA's Safe Drinking Water Hotline at 1-800- 426-4791.

## Lead

In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing. The more time water has been sitting in pipes, the more dissolved metals, such as lead, it may contain. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children. To help reduce potential exposure to lead: for any drinking water tap that has not been used for 6 hours or more, flush water through the tap until the water is noticeably colder before using for drinking or cooking. You can use the flushed water for watering plants, washing dishes, or general cleaning. Only use water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water is available from EPA's Safe Drinking Water Hotline at 1-800-426-4791 or online at <http://www.epa.gov/safewater/lead>

## Conservation of Water

1. Take shorter showers... keeping showers less than 5 minutes can save up to 1,000 gallons per month.
2. Plug the bathtub before turning the water on, and then adjust the temperature as the tub fills up.
3. Fix leaky faucets: Just one drip a second can waste 2,000 gallons of water per year.
4. If practical, try to run the dishwasher or washing machine only when completely full.
5. Water your lawn only when necessary and consider landscaping with native plants adaptable to your climate's conditions.
6. Don't let the water run needlessly when washing dishes, shaving, or brushing your teeth

## FAFB's Alternate Water Source

During water contingencies, Fairchild AFB can be supplied by the City of Spokane Water system by use of an intertie. In 2011, 216,920 gallons of Spokane water was supplied to Fairchild AFB. For information about Spokane water quality or their current Consumer Confidence Report contact the City of Spokane Water Department at (509) 625-7800 or [www.spokanecity.org](http://www.spokanecity.org)

## Monitoring Your Drinking Water



Fairchild AFB's drinking water is analyzed using EPA-approved laboratory methods. Our personnel take water samples from representative points within the distribution system. These samples are then transported to an accredited laboratory where the full spectrum of EPA approved water quality analyses is performed.

The primary monitoring groups sampled at Fairchild AFB are provided in the table below and are monitored using EPA-approved methods. Monitoring includes, but is not limited to, the following analytes/contaminants:

<i>Analyte/Contaminant Group</i>
Biological contaminants (total coliform group) <sup>1</sup>
Radiological
Lead and copper
Inorganic contaminants (IOCs) <sup>2</sup>
Synthetic Organic Compound (SOCs) <sup>3</sup>
Volatile Organic Compounds (VOCs) <sup>4</sup>
Disinfection byproducts & disinfectant residuals
Turbidity



<sup>1</sup> Contaminants in this group include total coliform, fecal coliform, and heterotrophic bacteria.

<sup>2</sup> Contaminants in this group include metals and nitrate.

<sup>3</sup> Contaminants in this group include such compounds as herbicides, pesticides, and insecticides.

<sup>4</sup> Contaminants in this group include such compounds as benzene, carbon tetrachloride, and trichloroethylene (TCE).

## Source Water Assessment

Fairchild AFB's Wellhead Protection Plan was approved by the Washington State DOH on 21 May 1997. An update was prepared on 17 Dec 2001 and again in Jan 2008. The plan and associated updates were prepared to comply with the federal Safe Drinking Water Act Amendments of 1986. In Washington, the DOH's Office of Drinking Water implements these requirements through the Washington State Wellhead Protection Program. The goal of the Wellhead Protection Plan is to prevent contamination of the groundwater that is used by Fairchild AFB to supply drinking water to base residents, workers, and visitors. It addresses:

- (1) Delineation of wellhead protection areas
- (2) Inventory of potential sources of contamination
- (3) Informing interested parties regarding delineation and inventory findings
- (4) Contingency plans for alternate water sources
- (5) Emergency spill response measures

Current risks to the main well field are all in the low range. Twenty-four commercial and/or industrial locations were originally evaluated as potential sources of contamination to the main well field. No existing commercial and/or industrial operations were identified that would pose a risk to the quality of water pumped from the alternate well field.

If you require further information on the quality of our source water, a copy of the source water assessment or wellhead protection plan can be obtained by contacting: 92d Civil Engineer Squadron, Programs Development Element (92 CES/CEPD) at (509) 247-4537, Fairchild AFB, WA 99011.

## Definitions of Key Terms

To gain a better understanding of the contents of this report, several key terms must be defined. They are as follows:

**Maximum Contaminant Level or MCL** - 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 or MCLG** - 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.

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

**Variations and exemptions** - State or EPA permission not to meet an MCL or treatment technique under certain conditions.

**Maximum Residual Disinfectant Level (MRDL)** - 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.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - 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.

**Secondary Maximum Contaminant Level (SMCL)** - These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

*Please note that variations and exemptions are not the same as reduced monitoring waivers. Variations and exemptions are permissions granted by the Washington State DOH or the EPA to exceed an MCL under certain conditions. Fairchild AFB currently has no variations or exemptions. Reduced monitoring waivers are granted because sample results from the Fairchild AFB water system have consistently been below MCLs for certain contaminants.*

## Acronyms/Terms Used In This Report

<b>µmhos/cm</b>	micromhos per centimeter; a measurement of the rate at which a small electrical current flows through a solution
<b>ppm</b>	parts per million; a unit of measure equivalent to milligrams per liter (mg/L) of water
<b>ppb</b>	parts per billion; a unit of measure equivalent to micrograms per liter (µg/L) of water
<b>ppt</b>	parts per trillion; a unit of measure equivalent to nanograms per liter (ng/L) of water
<b>MFL</b>	million fibers per liter; a measure of asbestos in water
<b>NA</b>	Not applicable
<b>SDWA</b>	Safe Drinking Water Act; Federal law which sets forth drinking water regulations
<b>Level Found</b>	total trihalomethanes; byproducts of drinking water disinfection
<b>pCi/L</b>	picocuries per liter; (a unit of measure of radioactivity)
<b>NTU</b>	Nephelometric Turbidity Units; a unit used in measuring cloudiness in water

## *Your Water. Your Health*





### Water Quality Data Tables

The following tables list all of the detected drinking water contaminants for the 2011 calendar year.

The state allows us to monitor for some contaminants either initially or less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though more than one year old, is still considered representative of the quality of your drinking water. Please note that none of the constituents listed in the following tables exceeds the MCL. It is important to note that our system had no regulatory violations during the past year. The table lists only those contaminants that had some level of detection. The EPA has determined that your drinking water IS SAFE at these levels. Many other contaminants have been analyzed also, but were not present or were below the detection limits of the analytical equipment

### **Main Well Field**

Contaminant	Units	MCLG or MRDLG	MCL or MRDL	Your Water	Sample Date	Violation	Typical Sources
<b><u>Inorganic Contaminants</u></b>							
Conductivity	µmhos/cm	700	700	234	2009	No	Erosion of natural deposits; A measurement of the ability of a sample to conduct an electric current. An indication of the amount of ions in the water.
Hardness (CaCO <sub>3</sub> )	ppm	NA	NA	117	2009	No	Erosion of natural deposits
Nitrate (as Nitrogen)	ppb	10,000	10,000	963	2011	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits.
Turbidity	NTU	NA	1	0.17	2009	No	Soil runoff
<b><u>Radioactive Contaminants</u></b>							
Gross Alpha	pCi/L	Zero	15	2.8	2009	No	Erosion of natural deposits
Radium 228	pCi/L	Zero	5	1.1	2009	No	Erosion of natural deposits


### **Alternate Well Field**


Contaminant	Units	MCLG or MRDLG	MCL, TT or MRDL	Your Water	Sample Date	Violation	Typical Sources
<b><u>Inorganic Contaminants</u></b>							
Conductivity	µmhos/cm	700	700	229	2009	No	Erosion of natural deposits; a measurement of the ability of a sample to conduct an electric current. An indication of the amount of ions in the water.
Fluoride	ppb	400	4,000	519	2009	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Hardness (CaCO <sub>3</sub> )	ppm	NA	NA	88	2009	No	Erosion of natural deposits
Nitrate (as Nitrogen)	ppb	10,000	10,000	673	2011	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits.
Sodium	ppm	NA	NA	8.28	2009	No	Naturally occurring or due to road salt, water softeners, and/or animal waste.
Turbidity	NTU	NA	1	0.15	2009	No	Soil runoff

<b>Radioactive Contaminants</b> (Alternate Well Field continued)							
Gross Alpha	pCi/L	Zero	15	2.6	2009	No	Erosion of natural deposits
Radium 228	pCi/L	Zero	5	0.46	2009	No	Erosion of natural deposits
<b>Unregulated Contaminants*</b>							
Chloroform	ppt	70,000	N/A	570	2010	No	
Bromodichloromethane	ppt	N/A	N/A	650	2010	No	
Chlorodibromomethane	ppt	Zero	N/A	760	2010	No	

\* Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help EPA determine their occurrence in drinking water and potential need for future regulation.

Contaminant	Units	SMCL	MCL, or MRDL	Your Water	Sample Date	Violation	Typical Sources/Definitions
<b>Secondary Contaminants</b>							
Color	color units	15	NA	10	2009	No	Soil erosion; water color has no health effects. When color is present at levels as low as 5 units, some people may find the color aesthetically displeasing and objectionable.
Iron	ppb	300	NA	226	2009	No	Naturally occurring
Sulfate	ppm	250	NA	11.3	2009	No	Naturally occurring
Total Dissolved Solids	ppm	500	NA	152	2009	No	Soil runoff; a measure of all inorganic and organic particles suspended in a liquid
Zinc	ppb	5,000	NA	162	2009	No	Naturally occurring or due to mining waste or corrosion of household plumbing

 Over 90 Synthetic Organic Compounds (SOCs) were sampled during July 2007. None of these compounds were detected above the laboratory detection limits.

 Over 200 Bacteriological tests were sampled in 2011 with zero exceedances.



### **Public Involvement**

This Consumer Confidence Report was prepared by TSgt Michael Huggins of the 92d Aerospace Medicine Squadron's Bioenvironmental Engineering Flight. For additional information regarding this report, or if you have any questions or concerns regarding this report, please contact the Bioenvironmental Engineering Flight at (509) 247-2391. If you want to learn more about your drinking water, please contact Maj Cameron or TSgt Huggins at the above number to discuss your concerns and/or questions.