

2004

Annual Consumer Confidence Report on the Quality of Tap Water

Distributed on Fairchild AFB, WA

Introduction

This is an annual report on the quality of water delivered by Fairchild AFB, WA. Under the "Consumer Confidence Reporting Rule" of the federal Safe Drinking Water Act (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 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. Contaminants that may be present in source water include: (a) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (b) 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; (c) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; (d) 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; (e) 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, which limit the amount of certain contaminants in water provided by public water systems. FDA 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).

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. Immunocompromised 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/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 800-426-4791.

Fairchild AFB's drinking water comes primarily from groundwater wells located near Ft. George Wright (Spokane Falls Community College area) in Spokane, WA. Three wells draw water from the underground Hangman Creek Aquifer. When consumption dictates, additional water is obtained from a well located at the extreme southeast corner of Fairchild AFB. This well draws water from the West Plains Aquifer.

Monitoring of Your Drinking Water

Fairchild AFB water system uses only EPA-approved laboratory methods to analyze your drinking water. Our personnel take water samples from numerous points within the distribution system and at previously identified housing residents' taps. These samples are then shipped to an accredited laboratory where the full spectrums of EPA approved water quality analyses are performed.

At Fairchild AFB, we monitor for the contaminant groups listed in Column 1 of the following table using EPA-approved methods. Column 2 of the table specifies the monitoring frequency for these contaminant groups.

Analyte Groups and Monitoring Frequency Table

Analyte/Contaminant Group	Monitoring Frequency
Biological contaminants (total coliform group) ¹	Ten samples per month
Radiological	Once every 3 years
Lead and copper	As directed by state health department
Inorganic contaminants (IOCs) ²	4 quarterly samples, once every 3 years
Synthetic Organic Compound (SOCs) ³	4 quarterly samples, once every 3 years
Volatile Organic Compounds (VOCs) ⁴	4 quarterly samples, once every 3 years
EDB/Soil fumigants	Once every 3 years

1 Contaminants in this group include total coliform, fecal coliform and heterotrophic bacteria.

2 Contaminants in this group include metals, nitrate, fluoride and asbestos (asbestos not required until Jan 2004 compliance cycle).

3 Contaminants in this group include such compounds as herbicides, pesticides, and insecticides.

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

Source Water Assessment

A source water assessment has been performed for the source of your drinking water (the Hangman Creek Aquifer and the West Plains Aquifer). A source water assessment is performed to determine the quality of water before it is treated and distributed to customers. Additionally, source water assessments help us to identify ways to better protect our water source. A source water assessment performed in 1997 indicated that neither aquifer is located near any significant sources of contamination.

A copy of our source water assessment was sent to the State of Washington Department of Ecology for review. If you require further information on the quality of our source water, a copy of the source water assessment can be obtained by contacting: 92d Medical Group, Bioenvironmental Engineering Flight (92MDG/SGGB) at (509) 247-2391, Fairchild AFB, WA 99011

Definitions of Key Terms

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

Maximum Contaminant Level (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. Under the Safe Drinking Water Act, the EPA establishes these MCLs for compliance purposes.

Maximum Contaminant Level Goal (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.

Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

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

Maximum residual disinfectant level goal or 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.

Maximum residual disinfectant level or 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.

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

Please note that variations and exemptions are not the same as reduced monitoring provisions. Variations and exemptions are permissions granted by the State of Washington DOH or the EPA to exceed an MCL under certain conditions. Reduced monitoring waivers are granted because sample results from the Fairchild AFB water system have consistently been below MCLs for certain contaminants.

Additional Acronyms/Terms Used In This Report

Below is a listing of acronyms and terms (with explanations) used in this Consumer Confidence Report.

MCL	Maximum Contaminant Level; the highest level of a contaminant that is allowed in drinking water
MCLG	Maximum Contaminant Level Goal; the level of a contaminant in drinking water below which there is no known or expected health risk
TT	Treatment Technique; a required process intended to reduce the level of a contaminant in drinking water
AL	Action Level; the concentration of a contaminant, which, if exceeded, trigger treatment or other requirements, which a water system must follow
ppm	parts per million; a unit of measure equivalent to a single penny in \$10,000
ppb	parts per billion; a unit of measure equivalent to a single penny in \$10,000,000
ppt	parts per trillion; a unit of measure equivalent to a single penny in \$10,000,000,000
ppq	parts per quadrillion; a unit of measure equivalent to a single penny in \$10,000,000,000,000
mg/kg	milligrams per kilogram; a unit of measure equivalent to part per million (ppm)
µg/L	micrograms per liter; a unit of measure equivalent to part per billion (ppb)
µmhos/cm	Microumhos per centimeter, a measurement of the rate at which a small electrical current flows through a solution
mrem/yr	millirem per year; a measure of radioactivity in water
mg/L	milligrams per liter; a unit of measure equivalent to part per million (ppm)
MFL	million fibers per liter; a measure of asbestos in water
CCR	Consumer Confidence Report
SDWA	Safe Drinking Water Act; Federal law which sets forth drinking water regulations
pCi/L	picocuries per liter; a measure of radioactivity in water
NTU	nephelometric turbidity unit; a measure of turbidity in water
TTHMs	total trihalomethanes; byproducts of drinking water disinfection

Level Found laboratory analytical result for a contaminant; this value is evaluated against an MCL or AL to determine compliance.

Range the range of the highest and lowest analytical values of a reported contaminant. For example, the range of reported analytical detections for an unregulated contaminant may be 10.1 ppm (lowest value) to 13.4 ppm (highest value). EPA requires this range to be reported.

Results Table. Detected Contaminants

The following table presents the constituents detected in the results of our monitoring for the reporting period of calendar year 2003. Note, none of the constituents listed below exceeds the MCL.

Results Table - Detected Contaminants from Ft Wright Wells

Contaminant	MCLG	MCL	Level Found	Range	Sample Date	Exceeded Standard?	Likely Source of Contaminant
Barium	2 ppm	2 ppm	.037ppm	0 – 0.037 ppm	26 Feb 03	No	Erosion from natural deposits
Chromium	100 ppb	100 ppb	5.5 ppb	0 – 5.5 ppb	26 Feb 03	No	Industrial waste disposal, such as metal plating industry
Nickel	100 ppb	100 ppb	1.2 ppb	0 – 1.2 ppb	26 Feb 03	No	Industrial waste disposal
Arsenic	10 ppb	10 ppb	3.1 ppb	0 – 3.1 ppb	09 Jul 02	No	Erosion from natural deposits
Nitrate (as Nitrogen)	10 ppm	10 ppm	2.3 ppm	0 – 2.3 ppm	14 Jul 03	No	Runoff from fertilizer use
Chloride	250 ppm	250 ppm	3.6 ppm	0 – 3.6 ppm	26 Feb 03	No	Deicing salt
Sulfate	250 ppm	250 ppm	11 ppm	0 – 11 ppm	26 Feb 03	No	Erosion from natural deposits
Conductivity	700 umhos/cm	700 umhos/cm	270 umhos/cm	0 -270 umhos/cm	26 Feb 03	No	Measurement of the dissolved ions in the water
Total Dissolved Solids (TDS)	500 ppm	500 ppm	150 ppm	0 – 150 ppm	26 Feb 03	No	Erosion from natural deposits

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 representative, are more than one year old.

Results Table - Detected Contaminants from On-Base Well

Contaminant	MCLG	MCL	Level Found	Range	Sample Date	Exceeded Standard?	Likely Source of Contaminant
Chloride	250 ppm	250 ppm	3.6 ppm	0 – 3.6 ppm	26 Feb 03	No	Deicing salt
**Fluoride	2 ppm	4 ppm	0.3 ppm	0 – 0.3 ppm	26 Feb 03	No	Water additive which promotes strong teeth
Sulfate	250 ppm	250 ppm	15 ppm	0 – 15 ppm	26 Feb 03	No	Erosion from natural deposits
Barium	2 ppm	2 ppm	0.016 ppm	0 – 0.016 ppm	26 Feb 03	No	Erosion from natural deposits
Nitrate (as Nitrogen)	10 ppm	10 ppm	0.5 ppm	0 – 0.5 ppm	26 Feb 03	No	Runoff from fertilizer use
Chromium	100 ppb	100 ppb	3.6 ppb	0 – 3.6 ppb	26 Feb 03	No	Industrial waste disposal, such as metal plating industry
Cyanide	200 ppb	200 ppb	20 ppb	0 – 20 ppb	26 Feb 03	No	Industrial effluent
Conductivity	700 umhos/cm	700 umhos/cm	230 umhos/cm	0 – 230 umhos/cm	26 Feb 03	No	Measurement of the dissolved ions in the water
Total Dissolved Solids (TDS)	500 ppm	500 ppm	160 ppm	0 – 160 ppm	26 Feb 03	No	Erosion from natural deposits
Total trihalomethanes (TTHMs)	NA	80 ppb	38.5 ppb	0 – 38.5 ppb	15 Apr 02	No	Byproducts of drinking water disinfection

**Fluoride is reported as an additive of water, not a contaminant

Detected Contaminants

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists only those contaminants that had some level of detection. Many other contaminants have been analyzed also, but were not present or were below the detection limits of the lab equipment.

Public Involvement

The Consumer Confidence Report was prepared by SSgt Walter Bennett of the 92d Aeromedical Dental Squadron, Bioenvironmental Engineering Flight. For additional information regarding this report, please contact the Bioenvironmental Engineering Flight at (509) 247-2391.