



2008 WATER QUALITY REPORT

Birch Bay Water & Sewer District

PWSID 95904U



This report describes your drinking water sources and quality, and explains how this quality compares to stringent federal water quality standards. This publication conforms to the federal regulation requiring water utilities to provide water quality information annually.

Although this report is necessarily technical, we are attempting to provide it in a user-friendly format. Our goal is to help you understand what is in your water – and what isn't. Your drinking water is tested by the City of Blaine and the District to ensure the water delivered to your home meets all federal and state water quality standards. **We are pleased to report that your drinking water meets or exceeds all Federal and State requirements.**

BLAINE WATERSHED SUPPLIES YOUR DRINKING WATER

Blaine's water source is a system of deep wells tapping into aquifers underlying the City's forested reserve east of Boblett Street, south of H Street and west of Harvey Road.



WHY MONITOR?

The sources of drinking water (both tap & bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface or under the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source water include: *Microbial Contaminants* (viruses, parasites, bacteria), *Inorganic Contaminants* (salts & metals, naturally occurring or as a result of run-off, industrial discharges, mining, farming), *Pesticides & Herbicides* (from agriculture, stormwater runoff, residential uses), *Organic Chemicals* (byproducts of industrial processes, gas stations, septic systems), and *Radioactive Contaminants* (naturally occurring or as a result of mining and/or oil & gas production).

WHO DECIDES WHAT IS SAFE (AND WHAT IS NOT)?

In order to ensure that tap water is safe to drink, the WA Department of Health and the **United States Environmental Protection Agency (EPA)** prescribe regulations that limit the amount of certain contaminants in water provided by public water systems (such as Birch Bay Water & Sewer District). The Food & Drug Administration (FDA) and the Washington Department of Agriculture regulations establish limits for contaminants in *bottled* water.



All 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 (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as 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 (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 (1-800-426-4791).

The **City of Blaine** protects, provides, and treats our water supply. Various compounds are monitored at specific frequencies (continuously, daily, monthly, quarterly or annually) and at various locations (prior to treatment, entering the distribution system, and throughout the distribution system) in accordance with federal and state regulations. The City tests for almost 200 parameters including inorganic substances (IOCs), synthetic organic substances (SOCs), volatile organic substances (VOCs), and microbial substances and chlorine disinfection by-products.

Birch Bay Water & Sewer District purchases water from Blaine, designs, operates, and maintains your local water storage and distribution system. The District also checks chlorine levels, monitors and verifies new construction, and follows coliform (a bacteria common to the intestinal tract of mammals), lead & copper, and asbestos monitoring plans in which water sample tests are taken at various locations and frequencies to assure water quality. Specific District water quality questions can be directed to the **District's Operations Manager, Mike Sowers**, at (360) 371-7100.

Maximum Contaminant Levels (MCLs) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.



Your drinking water currently meets EPA's standard for arsenic. However, it does contain low levels of arsenic as can be seen in the Test Results on the following page. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory diseases are due to factors other than exposure to arsenic. EPA's standard balances the current understanding of arsenic's health effects against the costs of removing arsenic from drinking water.

Chlorine is added by Blaine to ensure the water is safely disinfected, but chlorine within our system is minimal. Free chlorine residual samples within our system are on average 0.058 ppm (parts per million), well below the maximum residual disinfectant goal of 4.0ppm. The District also installed a continuously-monitoring chlorine analyzer in Jan of 2009 to monitor the chlorine levels, integrity of our system, and, the chlorine levels from the City of Blaine.

Birch Bay Water & Sewer System, ID 95904U, had one non-acute system violation in October 2008. The violation was a result of routine coliform monitoring, during which a sample tested positive for total coliform. A general summary follows:

Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of a potential problem. The samples that showed the presence of coliform were further tested to see if other bacteria of greater concern, such as fecal coliform or E.coli were present. None of these bacteria were found at any time.

Follow-up samples taken within the next few hrs were negative (no harmful bacteria present) for all coliform bacteria and it was therefore not an emergency, but as our customer you have a right to know. (*Notices were mailed in Late October and early November*). Many additional tests in November further confirmed that no harmful bacteria were present.

An investigation finds that the likely source of contamination occurred when the lip of the sample bottle was inadvertently touched, or, may have been due to the sample station itself. The sample station has since been replaced and the 6 samples taken since then at that location have been fine. In any case, this should provide an idea of the sensitivity and integrity of these kinds of tests, test results, and our reporting of these kinds of anomalies.

TEST RESULTS

Our water's hardness is between 46 and 86 ppm. Our water is considered moderate for hardness. If water is too hard, scaling can occur and a water softener may be needed.

Over 100 samples were taken and tested for total coliform bacteria. With the exception of the sample violation in October (see text box on previous page), all tests were negative (good).

INORGANIC CONTAMINANTS (Measured at wells)

Detected Compounds	Violation Yes/No	Detected Range	Average level detected	Units	MCLG	MCL	Likely Source of Contamination
Arsenic*	No	<2 to 11	5.6	ppb	n/a	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Cadmium*	No	<0.5 to 2.7	0.9	ppb	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries & paints
Flouride**	No	<0.2 to 0.4	0.2	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)***	No	<0.5 to 1.1	0.5	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

VOLATILE ORGANIC CONTAMINANTS (Measured in the distribution system)

Contaminant	Violation Yes/No	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Haloacetic Acids (HAA)****	No	ND	ppb	n/a	60	Byproduct of drinking water disinfection (chlorine)
TTHM **** [Total Trihalomethanes]	No	0.58 to 1.02	ppb	n/a	80	By-product of drinking water chlorination (chlorine)

* Testing done between 10/12/06 and 8/1/08. Frequency of testing is set by Department of Health regulations
 ** Testing done between 10/12/06 and 7/17/08. Frequency of testing is set by Department of Health regulations.
 *** Testing done in 2008.
 **** Testing done 7/29/08. Frequency of testing is set by Department of Health regulations. More testing to occur in 2008

INORGANIC PARAMETERS (Measured at home sites)

Detected Compounds	Violation Yes/No	Detected Range	90th Percentile	Unit Measurement	MCLG	AL	Typical source
Lead*	No	.001-.005	.002	ppm	0	.015	Corrosion of household plumbing systems, erosion of natural deposits
Copper*	No	0.005 – 0.222 mg/l	0.218	ppm	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits
Asbestos**	No	<0.083		# of fibers/L x 10 ⁶ > microns	7 MFL	7 MFL	Naturally occurring, asbestos-cement pipe. Asbestos in excess of the MCL over many years may increase chance of developing intestinal polyps.

* Lead and copper samples drawn between Aug 21 and Aug 23, 2007. Testing is conducted at 20 home sites within the water system. Frequency is set by DOH regulations (Typically every 3 yrs). "90th Percentile" = Only 10% of the samples had higher values than this level
 ** Test Date was 4/24/06. MFL = Millions of Fibers per Liter, where a value of "7" = 7 million fibers greater than 10µm in length, per liter.

SECONDARY EPA REGULATED PARAMETERS



Detected Compounds	Violation Y/N	Detected Range	Average level detected	Unit Measurement	MCL
Manganese*	N	<0.005-0.05	0.024	ppm	0.05
Iron	N	<0.0015-.14	.04	ppm	0.3
Chloride*	N	2.3-46	18.2	ppm	250
Sulfate*	N	4.1-14	8.9	ppm	250

* Testing done between 10/12/06 and 7/5/07.
 ** Testing done between 4/25/07 and 7/29/08.
AL - Action Level
MCL - Maximum Contaminant Level
MCLG - Maximum Contaminant Level Goal
n/a - Non-applicable
ppm - parts per million (milligrams per liter)
ppb - parts per billion (micrograms per liter)
ND

Frequency of testing is set by Department of Health regulations.
 Frequency of testing is set by Department of Health regulations.
 The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
 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.
 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.
 There is no MCLG established for this compound.
 One part per million corresponds to one minute in two years or a single penny in \$10,000.
 One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
 Not Detected within the sensitivity of the instrument

GENERAL NOTES

1. The District will continue its hydrant flushing program in 2009 in an effort to maintain good water quality. Flushing notices (street signs) will be provided with as much advance notice as possible, typically one week. However, emergency flushing (that required by main breaks and emergency repairs) could occur at any time.

With flushing, you may experience a temporary reduction in water pressure. You may also see some color and/or sand, or you may notice a change in the taste and odor of your water. These conditions are normal during flushing activities and should only be temporary in nature. We recommend that you minimize water use while flushing is in progress to prevent drawing the color, sand, debris into the water lines within your house. This change in observable quality is not harmful to public health, but it is unsightly and can clog filters and stain laundry.

Following main flushing, or, if you should experience any of these changes or note some cloudiness or rust color in your water, we recommend that you refrain from using hot water or washing your laundry until you **flush the pipes of your home**. Flushing of your home's pipes is accomplished by opening your front outside hose bib until it runs clear and has no noticeable taste or odor. It is important to flush using the cold water piping, via a hose bib or cold water faucet, to prevent drawing color and sand into your hot water heater.

2. The District is recoating two reservoirs and replacing a large water main along Blaine Road in 2009. As a result, water lines, valves, and pumps are being utilized in a different manner and may stir up some rust or sediment. Project completion is expected by late summer, 2009.

3. Look for water conservation tips and updates in your newsletters. Conservation works!

