



# WATER QUALITY REPORT for 2007

## Birch Bay Water & Sewer District

PWSID 95904U

May 2008

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 have attempted 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.

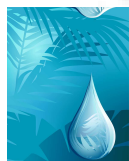


The sources of drinking water (including both tap & bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface or under the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals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

### HOW ARE YOU PROTECTED?

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 and 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 (*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. Commissioners' meetings are held at the District's offices, twice per month, typically every second and fourth Thursday of the month. For more information in regards to meetings, newsletters, and current information check the District's web site at [www.bbwsd.com](http://www.bbwsd.com), or call (360) 371-7100.

### SHOULD YOU BE CONCERNED ABOUT ANYTHING IN OUR WATER?

All water, bottled or otherwise, *may be reasonable expected* to contain some amount of contaminants. **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.

Chlorine is added by Blaine to ensure the water is safely disinfected. Free chlorine residual samples within our system are typically 0.01 to 0.05 ppm (parts per million), well below that of most nearby municipalities & Districts and far less than the maximum residual disinfectant goal of 4.0 ppm.



Your drinking water currently meets EPA's standard for arsenic. Your water does contain low levels of arsenic as can be seen in the test table due to the City of Blaine's issue with a single well this past year. A seasonal well source sample contained arsenic concentration of 12 ppb above the MCL of 10ppb. Blaine then tested the source water after it was mixed with other sources and before it reached by any customer's tap. Because of the low arsenic concentration of the other wells, this test showed a concentration of 4ppb, well below the 10ppb MCL. The lower 4ppb average (mixed) concentration is what entered the Birch Bay Water Distribution System. However, this seasonal well test with the abnormal results was not taken during normal operation, the distribution system did not have high arsenic levels, our typical arsenic levels are significantly less than 4ppb, and the test was not considered a violation.

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.

Because of a missed sample in 2006, our water supplier, the City of Blaine, issued a Nitrate violation notice in their confidence report for the 2007 monitoring year. Their notice is as follows:

CITY OF BLAINE WATER SYSTEM #U07300  
NOTICE TO WATER SYSEM USERS  
ANNUAL NITRATE MONITORING VIOLATION

As operators of a public water system, we are required to monitor your drinking water for specific contaminants at prescribed intervals. Results of regular monitoring are an indicator of whether your drinking water meets health standards. During 2006, we did not monitor or test for nitrate for Well S-02, one of our systems of nine wells used to supply water for public consumption. Therefore we cannot document the quality of your drinking water during that time.

At this time:

- No action is required.
- Our routine nitrate sample required for 2007 has been collected.
- Samples for Well S-02 will be collected in the future as required.

Nitrates have been detected only once in the history of testing Well S-02. In 2003, we detected 0.5 mg/L of nitrates, well below the MCL of 10 mg/L

If you have any questions, please contact Mike Trueblood by telephone at (360) 371-5549 or by mail at 1200 Yew Avenue in Blaine.

In addition, 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.

**TEST RESULTS for 2007** (unless otherwise noted)

**INORGANIC CONTAMINANTS (Measured at wells)**

Detected Compounds	Violation Y/N	Detected Range	Average level detected	Units	MCLG	MCL	Likely Source of Contamination
Arsenic*	N	<0.2 to 12	4	ppb	n/a	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Cadmium*	N	<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 and paints
Flouride**	N	<0.2 to 0.4	0.2	ppb	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)***	N	<0.5 to 1.2	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 Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Haloacetic Acids (HAA)****	N	1	ppb	n/a	60	Byproduct of drinking water disinfection (chlorine)
TTHM **** [Total Trihalomethanes]	N	0.6	ppb	n/a	80	By-product of drinking water chlorination (chlorine)

- \* Testing done between 10/12/06 and 12/24/07. Frequency of testing is set by Department of Health regulations.  
 \*\* Testing done between 10/12/06 and 7/05/07. Frequency of testing is set by Department of Health regulations.  
 \*\*\* Testing done in 2007.  
 \*\*\*\* Testing done 8/3/2004. Frequency of testing is set by Department of Health regulations. More testing to occur in 2008

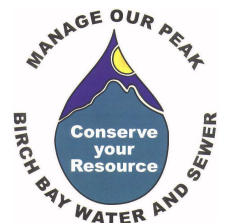
**INORGANIC PARAMETERS (Measured at home sites)**

Detected Compounds	Violation Y/N	Detected Range	90th Percentile	Unit Measurement	MCLG	AL	Typical source
Lead*	N	.001-.005	.002	ppm	0	.015	Corrosion of household plumbing systems, erosion of natural deposits
Copper*	N	0.005 – 0.222	0.218	ppm	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits
Asbestos**	N	<0.083	N/A	# of fibers/L x 10 <sup>6</sup> > 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). "90<sup>th</sup> Percentile" = 9 out of 10 homes were at or below 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	0.028	ppm	0.05
Iron	N	<0.0015-.14	.04	ppm	0.3
Chloride*	N	2.3-46	18.2	ppm	250
Sulfate*	N	4.8-14	8.9	ppm	250



- \* Testing conducted between 10/12/06 and 7/5/07. Frequency of testing is set by Department of Health regulations.  
 \*\* Testing conducted between 4/25/07 and 10/30/07. Frequency of testing is set by Department of Health regulations.
- AL** - Action Level  
The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- 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.
- 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.
- n/a** - Non-applicable  
There is no MCLG established for this compound.
- ppm** - parts per million (milligrams per liter)  
One part per million corresponds to one minute in two years or a single penny in \$10,000.
- ppb** - parts per billion (micrograms per liter)  
One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.