

CITY OF BELLEVUE
DRINKING
WATER
QUALITY
REPORT

Water testing performed in 2005



June 2006

*Safe, High-quality,
Reliable Water*

PWS ID#: WA5305575

此份有关你的食水报告, 内有重要资料和讯息, 请找他人为你翻译及解释清楚。

Данный рапорт содержит важную информацию о вашей питьевой воде. Переведите его или проконсультируйтесь с тем, кто его понимает.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Wording above: This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Water of the Highest Quality

The City of Bellevue is happy to report that your drinking water once again meets or exceeds all state and federal drinking water standards. Stringent testing throughout 2005 shows that Bellevue's water is safe, with no regulatory violations of any kind. This 2006 Water Quality Report, sent in accordance with the federal Safe Drinking Water Act, provides you with testing results, where your water comes from, and other important information.

Bellevue Utilities delivers high-quality water to a population of 131,800. We design, operate, and maintain the city's water storage and distribution system to make sure your water is safe and reliable every time you turn on the tap.



Contacts

We've Moved

If you pay your bill in person, please note that we have moved to a new City Hall, located at 450 110th Avenue NE, Bellevue. Pay your bill at the Service First Center on the first floor or use the drop box: enter City Hall campus from 112th Avenue NE, drive up the incline and curve right. The blue drop box is on your left. Our mailing address is the same: P.O. Box 90012, Bellevue, WA 98009-9012.

Call Us or Send an Email

If you have questions about this report or your drinking water, call (425) 452-2030. For Bellevue Utilities 24-hour emergency services, call (425) 452-7840. For billing issues, call (425) 452-6973. Or send an email to Utilities@ci.bellevue.wa.us

Safe Drinking Water Act Hotline

You can also direct water questions to the U.S. EPA's hotline at (800) 426-4791 or email hotline-sdwa@epamail.epa.gov.

Get Involved

The Environmental Services Commission advises Bellevue City Council on utilities issues. To tap into water issues, call Bellevue Utilities at (425) 452-4480 for meeting dates and other information.



Where Does My Water Come From?

Bellevue's drinking water comes from the Cedar and South Fork Tolt rivers in the Cascade Mountains. Customers who live in the Enatai, Somerset, Woodridge or Meydenbauer neighborhoods typically drink Cedar River water. If you live in other areas of Bellevue, your water comes from the Tolt River.

Cascade Water Alliance, a regional water supplier, purchases water from Seattle and provides it to Bellevue and other members in a cost-effective and environmentally sensitive way. Eight municipalities and water districts in King County make up Cascade's membership.

To meet our region's growing need for additional water, Cascade is working to develop new sources to supply water for the next 50 years and beyond. Cascade recently completed a contract to purchase water from the City of Tacoma and will be constructing the infrastructure necessary to link the two systems. Connecting regional systems allows for more flexibility and is just one of the ways Cascade is making sure members will have enough water for the future. For more information, visit www.cascadewater.org.

Source Water Assessment

The Washington State Department of Health (WSDOH) has conducted a Source Water Assessment for the Cedar and Tolt River water supplies, as required by the federal Safe Drinking Water Act. These assessments determine how susceptible the water system is to contamination prior to treatment. The Cedar and Tolt River watersheds were listed as having high susceptibility, which is normal for open sources such as rivers and lakes. By default, all surface water sources in the state were rated as highly susceptible. To view the report, visit Source Water Assessment at WSDOH's Web site at www.doh.wa.gov/ehp/dw/.

Treating Water For Safety

Your water is treated to ensure that it is safe and to improve taste and odor. Water at the Cedar River supply is screened, disinfected with chlorine, and fluoridated. A small amount of lime is also added to control corrosion to pipes. Ozonation (a form of oxygen used for disinfection) improves taste, and ultraviolet light disinfection kills *Giardia*, *Cryptosporidium*, and other bacteria. The Tolt River supply's treatment includes ozonation, filtration, fluoridation, pH and alkalinity adjustment, and chlorination.



Frequently Asked Questions

How does bottled water compare to tap water?

The EPA sets standards for tap water provided by public water systems; the Food and Drug Administration sets bottled water standards. Some bottled water is treated more than tap water, while some is treated less or not treated at all. Cost is also a factor. Bellevue's water generally costs less than ½ of 1 cent per gallon, so bottled water costs about 1300 times more than water from your tap!

I sometimes get a pink stain on my bathroom fixtures. What is it?

The pink stain is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is not in your water, is harmless, and does not cause disease. It is believed to be airborne bacteria that multiply in damp environments. Household cleansers usually kill the bacteria and get rid of the stain.

I have a new dishwasher and need to set my water for hard or soft. Which is it?

Your water is soft. Hardness comes from two minerals in the water—calcium and magnesium. The range of hardness for the Tolt and Cedar supplies is 1.69 to 1.73 grains per gallon—some of the softest water in the country. Detergent lathers easier in soft water, so you may need less.

Slow the Flow

Conserving water is always an important strategy for managing water use, especially when summer activities bump up demand. Conserving can lower your water bills. Many measures can lower wastewater and energy costs too. Making every drop count, even small amounts, adds up. Here are things you can do to slow the flow:

Free And Easy

- Wash only full loads of dishes and laundry.
- Turn the water off when shaving, brushing teeth, and washing dishes.
- Shorten your shower time and rack up big savings in water and energy.
- Sweep driveways and sidewalks instead of hosing with water.
- Tune up your watering system. Adjust misaligned or blocked spray heads. Rebates are available for qualified irrigation system upgrades. Visit www.cascadewater.org for details.
- Cut back unnecessary watering. Trees, shrubs and perennials, if well established and well placed, need less water than newly planted areas.
- Improve watering schedules. Adjust watering to weather conditions, water



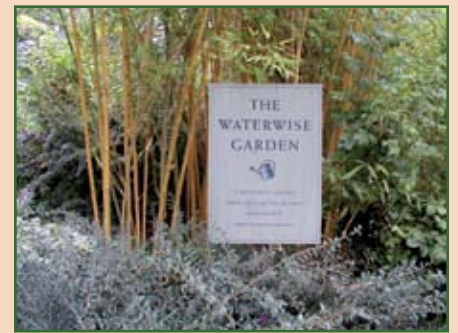
early morning or late evening, and use timers to limit watering periods.

- Check for soil moisture before watering to be sure it's time. Dig into the soil with a trowel a few inches. If it feels moist, hold off.

- Water deeply, but infrequently. Keep roots moist, but don't overdo it. After watering, check the soil to see if moisture has reached the roots.

Some Cost, Greater Savings

- Fix leaking faucets, toilets and watering systems. For help in determining if you have a leak, call Utilities at 425-452-6973.
- Replace older toilets with new low-flow models that use 1.6 gallons per flush.
- Purchase a new water-efficient clothes washer. Rebates up to \$100 are available



on qualified models. Visit www.cascadewater.org for details.

- Add shut-off nozzles to your garden hose.
- Choose low-water use plants and group plants with similar water needs together. Visit the Waterwise Garden at the Bellevue Botanical Garden for ideas.
- Mulch your planting beds to reduce water loss and weed growth.
- Improve water penetration in lawn areas by aerating.
- Improve soil by adding compost throughout areas when planting.

Did you know...that of all the earth's water, 97% is salt water found in oceans and seas. Of the 3% remaining, 2% is frozen. That leaves only 1% fresh water—a very limited resource!

Cryptosporidium Levels Are Low

Cryptosporidium parvum is a disease-causing organism commonly found in the natural environment throughout the United States. In the Tolt and Cedar River watersheds, *Cryptosporidium* sources include deer, elk, and voles. In accordance with federal requirements, your water was monitored for *Cryptosporidium* in 2005. *Cryptosporidium* was detected in 6 of the 36 samples collected from the Cedar supply and in 3 of the 15 samples from the Tolt. The levels found were very low compared to typical rivers and streams throughout the country. There have been no disease outbreaks associated with Bellevue's drinking water. Although chlorination is not effective against *Cryptosporidium*, ozone disinfection, conducted at both the Cedar and Tolt treatment plants, is very effective at destroying *Cryptosporidium* and other microbes.



Keeping the Water System in Top Shape

Water delivered to your home or business comes through Bellevue's water distribution system, which is designed, constructed, operated, and maintained to ensure a safe and dependable supply. The city's infrastructure includes 27 water reservoirs, 23 pump stations, 616 miles of water main, 40,000 water meters, and 11,000 fire hydrants and valves.

Earthquake-safe Reservoirs

In 2005, the 1-million-gallon Meydenbauer reservoir, located in West Bellevue, was replaced with a larger 1.2-million-gallon reinforced concrete reservoir. The original reservoir, built in 1953, did not meet current building code requirements for earthquake resistance and was operating at 50 percent capacity. Replacing it was the most cost-effective way to provide a dependable facility. The new Meydenbauer reservoir is designed to withstand a major earthquake and still provide water for general use and firefighting. An aging pump station was replaced, and a chlorine analyzer was installed to monitor chlorine and pH levels for an added measure of safety.

Clean, Well-maintained Reservoirs

Each year, one-third of Bellevue's 27 reservoirs are drained, cleaned, and inspected to improve water quality. About every 15 to 25 years, the paint inside water reservoirs is removed and reapplied. The process is similar to repainting your house, except the city uses industrial quality paint safe for contact with drinking water. Last year Bellevue repainted the inside of the Factoria water reservoir and made other repairs and improvements to enhance water quality and increase security.

Water Main Flushing

Have you ever seen Bellevue Utilities employees flushing water down the street in your neighborhood and wondered what was happening? The process is called flushing. Why is it done? When water travels through underground pipes, it moves so slowly that sediment builds up over time along the pipe's surface. The buildup of sediment can cause taste and odor problems. Water main flushing rapidly removes sediment and scours the pipes clean, improving water quality.

Because most of the city's streams are home to salmon and other fish, Bellevue Utilities flushes water into the sanitary sewer whenever possible. If the sanitary sewer can't handle the flow, employees lessen the impact of flushed water going into the storm drainage system in several ways: 1) neutralize chlorine with a product similar to crushed vitamin C; 2) reduce the force of the water being flushed; and 3) avoid flushing during the dry months of July to September, when streams are low, or in the fall when fish are spawning. Flushing is also suspended if we are facing drought conditions.

Leak Detection

Part of keeping water main pipes in good condition is finding leaks when they are small and can be repaired easily. A pilot leak detection program, which is part of our ongoing condition assessment, is helping employees do just that. By surveying water mains and service lines for leaks based on pipe type and topography, we hope to detect small leaks before they become major breaks that can cause flooding and water outages. Bellevue Utilities will be surveying about 50 miles of water main in 2006.



The new Meydenbauer Reservoir was designed to blend into a hillside for minimal impact to the neighborhood.



Improvements were made inside the three-million-gallon Factoria Reservoir.



To improve water quality, Bellevue flushes about 20 percent of its system each year.



Important Health Concerns

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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.

Lead Concerns

The water Bellevue delivers to your home does not contain lead or copper. However, it is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Of particular concern is copper pipe with lead solder, primarily found in homes plumbed with copper pipes prior to 1985 or homes that do not meet the plumbing code.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Also, flush your tap for thirty seconds to two minutes before using tap water. (You can save the water for watering plants.) Additional information is available from the Safe Drinking Water Hotline (800-426-4791). If you would like a brochure about lead in drinking water, please call Bellevue Utilities at 425-452-2030.

Lead and Copper Monitoring

Below are the 2005 results of two samplings at 100+ homes throughout Bellevue. A total of 14 out of 204 samples had lead levels above the Action Level; copper was not a problem. Treatment improvements on the Cedar and Tolt rivers are helping to reduce the corrosiveness of the water to your plumbing.

LEAD AND COPPER MONITORING RESULTS IN BELLEVUE

PARAMETER AND UNITS	MCLG	ACTION LEVEL+	2005 RESULTS OF FIRST ROUND*	HOMES EXCEEDING ACTION LEVEL	SOURCE
Lead, ppb	0	15	13	9 of 103	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.30	0 of 103	Corrosion of household plumbing systems
PARAMETER AND UNITS	MCLG	ACTION LEVEL+	2005 RESULTS OF SECOND ROUND*	HOMES EXCEEDING ACTION LEVEL	SOURCE
Lead, ppb	0	15	8	5 of 101	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.15	0 of 101	Corrosion of household plumbing systems

* 90th Percentile: i.e. 90 percent of the samples were less than the values shown.

+ The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

From the Environmental Protection Agency

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. 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 these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, 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, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which may also come from gas stations, urban stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



What's in My Water?

Your water is monitored every day of the year and tested for over 100 compounds, based on EPA standards. Rigorous testing in 2005 verified that the water delivered to your home or business met or exceeded all state and federal drinking water requirements. Few substances were found, and all were below the EPA's Maximum Contaminant Level (MCL) allowed. We listed them in the following table, however, because we want you to know what was detected and how much of the substance was present.

WATER QUALITY MONITORING RESULTS IN 2005

DETECTED COMPOUNDS	UNITS	EPA's Allowable Limits		Levels in Cedar Water		Levels in Tolt Water		VIOLATION	TYPICAL SOURCES
		MCLG	MCL	AVERAGE	RANGE	AVERAGE	RANGE		
Raw Water (Before treatment)									
Total Organic Carbon	ppm	NA	TT	0.7	0.3 to 1.3	1.4	1.2 to 1.7	No	Naturally present in the environment
Cryptosporidium	#/100L	NA	NA	ND	ND to 8	ND	ND to 2	No	Naturally present in the environment
Finished Water (After treatment)									
Turbidity (cloudiness)	NTU	NA	TT	0.5	0.2 to 4.2	0.05	0.02 to 0.14	No	Soil runoff
Fluoride	ppm	4	4	0.94	0.9 to 1.0	1.0	0.8 to 1.1	No	Water additive that promotes strong teeth
Total Coliform¹	% positive samples	0	5%	Highest Month = 0 Annual Average = 0			No	Naturally present in the environment	
Chlorine	ppm	MRDLG =4	MRDL =4	Average = .75 ppm Range = ND-1.5 ppm			No	Water additive used to control microbes	
Total Trihalomethanes	ppb	NA	80	Average = 26.75 Range = 9.7 – 69.2			No	By-products of drinking water chlorination	
Haloacetic Acids	ppb	NA	60	Average = 18.58 Range = 0 – 37.7			No	By-products of drinking water chlorination	
Sodium	ppm	No EPA limit set		2.06	NA	1.07	NA	No	Naturally present in the environment

¹ For a list of other compounds that were monitored for but not detected, call the Utilities Drinking Water Quality Office.

Key to Abbreviations

AL: Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

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.

MRDL: Maximum Residual Disinfectant Level - 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.

MRDLG: Maximum Residual Disinfectant Level Goal - 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.

NTU: Nephelometric Turbidity Unit - Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2005 is 5 NTU, and for the Tolt it was 0.3 NTU. 100% of the samples from the Tolt in 2005 were below 0.3 NTU.

NA: Not Applicable

ND: *Not Detected*

ppm: 1 part per million = 1 mg/L = 1 milligram per liter

ppb: 1 part per billion = 1 ug/L = 1 microgram per liter

1 ppm = 1000 ppb

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