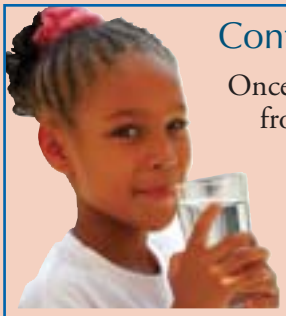
Annual Water Quality Report

Water testing performed in 2004

PWS ID#s: 02950K and 07618L



Continuing Our Commitment

Once again we proudly present our annual water quality report. This edition covers all testing completed from January through December 2004. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

For more information about this report, or for any questions relating to your drinking water, please call Michael Wolanek, Water Quality Specialist, at (360) 403-3541.

Where Does My Water Come From?

The City of Arlington provided drinking water to two service areas in 2004: Arlington and Island Crossing. Water in the Arlington service area comes from three separate sources: groundwater drawn from a well field located near the Stillaguamish River, groundwater drawn from a deep well located near the Arlington Airport, and treated water purchased from Snohomish County PUD that comes from the City of Everett's Spada Lake Reservoir. Drinking water in the Island Crossing service area came from water we purchased from the City of Marysville. Sources of water from the north Marysville service area include Edward Springs, a ranney collector at the Stillaguamish River, and several public wells. The Island Crossing service area was fully integrated into the Arlington Service Area on February 8, 2005, and now receives water from the Arlington sources described above.

How Is My Water Treated and Purified?

Groundwater drawn from our well field located near the Stillaguamish River is treated in several steps at Arlington's water treatment facility. First, raw (untreated) water is pumped from the well field to the treatment plant, where a primary treatment chemical is added that causes small particles to stick together and form bigger particles called floc. Next, polymer is added to aid the filtering process and the water is passed through a clarifying filter where 60% to 70% of the floc is removed. After that, the water passes through a finishing filter where most of the remaining floc is taken out, and then chlorine is added for disinfection. When treated water is pumped to your home or business we add sodium hydroxide to adjust the pH level, making the water less corrosive to your pipes and plumbing fixtures. Water drawn from our well near the Arlington Airport does not require filtration, but we do add chlorine for disinfection. Drinking water purchased from Snohomish County PUD is treated at the City of Everett water treatment plant using a treatment process similar to the process used by Arlington. Everett adds fluoride to the water for enhanced dental protection. The Island Crossing water system provided our customers with drinking water purchased from the City of Marysville. This water does not go through a filtration process, but chlorine is added for disinfection.

Community Participation

You are invited to participate in our public city council meetings and voice your concerns about your drinking water. Arlington City Council meets the first and third Monday of each month beginning at 7 p.m. at Hadley Hall, in the Community Youth Center, 18513 59th Avenue NE, Arlington, WA. For meeting information, call the city clerk's office at (360) 403-3421, or visit our Web site at www.ci.arlington.wa.us.

Is it Safe to Drink Water From a Garden Hose?

No. Substances used in vinyl garden hoses to keep them flexible can get into the water as it passes through the hose. These chemicals are not good for you nor are they good for your pets. Allow the water to run for a short time in order to flush the hose before drinking or filling your pets' drinking containers. There are hoses made with "food-grade" plastic that will not contaminate the water. Check your local hardware store for this type of hose.

Contamination from Cross-Connections

Cross-connections that could contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, visit the Web site of the American Backflow Prevention Association (www.abpa.org) for a discussion on current issues.

Lead in Drinking Water

Lead is a naturally occurring element in our environment. Consequently, our water supply is expected to contain small, undetectable amounts of lead. However, most of the lead in household water usually comes from the plumbing in your own home, not from the local water supply. The U.S. EPA estimates that more than 40 million U.S. residents use water that can contain lead in excess of EPA's Action Level of 15 ppb.

Lead in drinking water is a concern because young children, infants and fetuses appear to be particularly vulnerable to lead poisoning. A dose that would have little effect on an adult can have a big effect on a small body. On average, it is estimated that lead in drinking water contributes between 10 and 20 percent of total lead exposure in young children.

All kinds of water, however, may have high levels of lead. We maintain our drinking water supply at an optimum pH and mineral content level to help prevent corrosion in your home's pipes. To reduce lead levels in your drinking water you should flush your cold-water pipes by running the water until it becomes as cold as it will get (anywhere from 5 seconds to 2 minutes or longer) and use only 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.

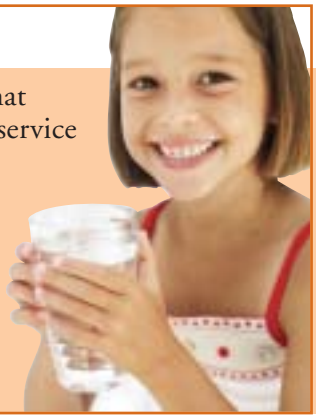
For more information, please contact the Safe Drinking Water Hotline (800-426-4791).

Working Hard for You

Under the Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting national limits for hundreds of substances in drinking water and also specifies various treatments that water systems must use to remove these substances. Each system continually monitors for these substances and reports their findings to the U.S. EPA. The U.S. EPA uses these data to ensure that consumers are receiving clean water.

This publication conforms to the regulation under SDWA requiring water utilities to provide detailed water quality information to each of their customers annually. We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

Additional Fluoride Information Available



The City of Arlington's water is obtained from sources with very different fluoride levels that mix within the city's water mains. Consequently, the distribution of fluoride to individual service connections varies throughout the city. In some places, fluoride concentrations will be adequate for dental protection, and in others supplemental fluoride prescriptions may be needed. We have recently updated our brochure that provides fluoride information specific to your neighborhood. This brochure helps you and your dental or medical provider know what the fluoride levels mean to you and your children, in particular. Pick up a copy when you pay your water bill at City Hall, or contact the Water Department by calling (360) 403-3541 or (360) 403-3526.

Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but also can save you money by reducing your water bill. Here are a few suggestions:

Conservation measures you can use inside your home:	*You can conserve outdoors as well:*
• Fix leaking faucets, pipes, toilets, etc.	• Water the lawn and garden in the early morning or evening.
• Replace old fixtures; install water-saving devices in faucets, toilets and appliances.	• Use mulch around plants and shrubs.
• Wash only full loads of laundry.	• Repair leaks in faucets and hoses.
• Do not use the toilet for trash disposal.	• Use water-saving nozzles.
• Take shorter showers.	• Use water from a bucket to wash your car, and save the hose for rinsing.
• Do not let the water run while shaving or brushing teeth.	
• Soak dishes before washing.	
• Run the dishwasher only when full.	

Information on other ways that you can help conserve water can be found at www.epa.gov/safewater/publicoutreach/index.html.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL (MRDL)	MCLG (MRDLG)	Arlington Service Area AMOUNT DETECTED	Arlington Service Area RANGE LOW–HIGH	Island Crossing Service Area AMOUNT DETECTED	Island Crossing Service Area RANGE LOW–HIGH	Snohomish County PUD AMOUNT DETECTED	Snohomish County PUD RANGE LOW–HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2004	10[1]	0[1]	2	ND-2	2.5	ND-5	ND	ND	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Fluoride (ppm)	2004	4	4	0.32	ND-1.09	0.14	ND-0.37	0.84	0.61-0.98	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2004	10	10	0.88	ND-0.88	1.33	0.64-2.02	0.09	0.05-0.12	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Chlorine (ppm)	2004	(4)	(4)	0.76	0.2-1.39	0.83	0.25-1.47	0.85	0.3-1.8	No	Water additive used to control microbes
Haloacetic Acids [HAAs)] (ppb)	2004	60	NA	11.3	ND-26	16.5	4.3-33.5	28.1	7.9-35	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2004	80	NA	18.9	5.6-35.5	22.9	3.1-37	36.5	25.4-46.7	No	By-product of drinking water disinfection
Turbidity[2] (NTU)	2004	TT	NA	0.039	0.021-0.039	6.0[3]	0.1-6.0	0.08	ND-0.08	No	Soil runoff

Tap water samples were collected for lead and copper analyses from homes throughout the service areas

SUBSTANCE (UNITS)	YEAR SAMPLED	AL	MCLG	Arlington Service Area AMOUNT DETECTED (90th%TILE)	Arlington Service Area HOMES ABOVE AL/ TOTAL HOMES SAMPLED	Island Crossing Service Area AMOUNT DETECTED (90th%TILE)	Island Crossing Service Area HOMES ABOVE AL/ TOTAL HOMES SAMPLED	Snohomish County PUD AMOUNT DETECTED (90th%TILE)	Snohomish County PUD HOMES ABOVE AL/ TOTAL HOMES SAMPLED	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2004	1.3	1.3	0.986	0/20	0.392[4]	0/27	0.068[4]	0/178	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2004	15	0	4	1/20	3[4]	0/27	3[4]	3/178	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	Arlington Service Area AMOUNT DETECTED	Arlington Service Area RANGE LOW–HIGH	Snohomish County PUD AMOUNT DETECTED	Snohomish County PUD RANGE LOW–HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2004	0.9	ND-0.9	1.7	1.2-2.1	By-product of chlorine disinfection
Chloroform (ppb)	2004	3.3	ND-3.3	34.8	24.2-44.6	By-product of chlorine disinfection
Dichloroacetic Acid (ppb)	2004	NA	NA	12.1	3.9-18.2	By-product of chlorine disinfection
Trichloroacetic Acid (ppm)	2004	NA	NA	16.0	4.0-20.3	By-product of chlorine disinfection

[1] These arsenic values are effective January 23, 2006. Until then, the MCL is 50 ppb and there is no MCLG.

[2] Turbidity is the measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our treatment. During the reporting year, 100% of all samples taken from Arlington and PUD sources met water quality standards.

[3] A turbidity reading of 6.0 NTUs was taken in May 2004 at Marysville's Edward Springs source. High turbidity can hinder the effectiveness of disinfectants. No other readings of greater than 5.0 NTU were recorded for the year. This source continues to meet the criteria for remaining unfiltered.

[4] Samples from the Island Crossing Service Area and from Snohomish County PUD were collected in 2003.

Table Definitions

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.

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 contamination.

NA: Not applicable

ND: Not detected

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

Substances That Might Be in Drinking Water

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.

Important Health Information

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.