

EXPLANATIONS

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. 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 the 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 at 1-800-426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Highland Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Please call our office if you have questions. We at Highland Water District work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Highland Water District is an Equal Opportunity provider and employer.



CONSUMER CONFIDENCE REPORT FOR 2016

CONTACT INFORMATION

If you have any questions about this report or concerning your water utility, please contact the office at 360-794-6900. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings.

Meeting Location:

The District Office at 24602 Old Owen Rd.

Meeting Time:

The second Thursday of every month, at 7:00p.m. Highland Water District routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2016. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. We purchase our water from the City of Everett which is treated surface water from Lake Chaplin.

Definitions & Required Statements

Cryptosporidium

Cryptosporidium is a one-celled intestinal parasite that if ingested may cause diarrhea, fever, and other gastrointestinal distress. It can be found in all of Washington's rivers, streams, and lakes and comes from animal or human wastes deposited in the watershed. *Cryptosporidium* is resistant to chlorine, but is removed by effective filtration and sedimentation treatment such as that used by Everett. It can also be inactivated by certain types of alternate disinfection processes such as ozonation and UV light contactors. Past monitoring results suggest that *Cryptosporidium* is present in Everett's source only occasionally and at very low concentrations. In 2016, Everett collected monthly *Cryptosporidium* oocysts samples from the source water at the plant intakes. One sample contained 0.097 oocysts/L.

Treatment Polymers

During water treatment, organic polymer coagulants are added to improve the coagulation and filtration processes that remove particulates from water. The particulates that are removed can include viruses, bacteria and other disease causing organisms. The USEPA sets limits on the type and amount of polymer that a water system can add to the water. In addition to the EPA limits, the State of Washington requires that all polymers used be certified safe for potable water use by an independent testing organization (NSF International). During treatment, Everett adds only NSF approved polymers and the levels used are far below the safe limits set by the USEPA.

Important Terms:

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.

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 water treatment technology.

Maximum Residual Disinfectant Level (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.

Maximum Residual Disinfectant Level Goal (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.

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

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

Parts per Million (ppm)/ Parts per Billion (ppb) – A part per million means that one part of a particular contaminant is present for every million parts of water. Similarly, parts per billion indicate the amount of a contaminant per billion parts of water.

Not Applicable (N/A) - Means EPA has not established MCLGs for these substances.

HIGHLAND WATER DISTRICT & FRIAR CREEK WATER SYSTEM

2016 WATER QUALITY ANALYSIS RESULTS

Detected Regulated Contaminants

PARAMETER	MAJOR SOURCE	UNITS	EPA REGULATIONS		HWD/FCWS RESULTS		
			IDEAL LEVEL/GOAL (MCLG)	MAXIMUM ALLOWABLE (MCL)	RANGE OR OTHER	AVERAGE VALUE OR HIGHEST RESULT	COMPLY?
Total Coliform Bacteria	Naturally present in the environment	% Positive	0	5% Positive per month	0	0%	Yes
Total coliform bacteria monitoring tracks the microbial quality in the water distribution system. Highland collects approximately 3 samples per month or 36 per year. Friar Creek Water System collects 1 sample per month or 12 per year.							
Fluoride	Dental health additive	ppm	2	4	0.1–1.0	0.7	Yes
Fluoride is added to your water in carefully controlled levels for dental health. In April 2016, the Washington State Department of Health changed the fluoridation requirement to a target of 0.7 ppm from the previous target of 1.0 ppm. The minimum value of 0.1 ppm is due to several maintenance-related feed outages lasting no more than a few hours in duration. These results are from the City of Everett.							
Residual Disinfectant Level (free chlorine)	Added as a drinking water disinfectant	ppm	4.0 (MRDLG)	4.0 (MRDL)	0.2–1.0	0.7	Yes
Haloacetic Acids (5) (HAA5)	By-product of drinking water chlorination	ppb	N/A	60	25.6-41.2*	32**	Yes
Total Trihalomethanes (TTHM)	By-product of drinking water chlorination	ppb	N/A	80	31.8-54.7*	44**	Yes
Haloacetic acids and trihalomethanes form as by-products of the chlorination process that is used to kill or inactivate disease-causing microbes. The TTHM and HAA5 results are from the one location in Highland and one location in Friar Creek which are monitored to determine compliance with current regulations. * = range of results taken from all two locations. ** = highest locational running annual average of the two sites that were monitored. (Highland WD had one location tested quarterly, while Friar Creek had one location tested annually.)							
Turbidity	Soil erosion	NTU	N/A	TT	100%	0.05	Yes
Turbidity is a measure of the amount of particulates in water in Nephelometric Turbidity Units (NTU). Particulates in water can include bacteria, viruses and protozoans that can cause disease. Turbidity measurements are used to determine the effectiveness of the treatment processes used to remove these particulates. The values reported are the lowest monthly percentage of samples that met the EPA turbidity limit and the highest single filtered water turbidity measurement obtained during the year. In 2016, no filtered water turbidity results were above the EPA 0.3 NTU limit so the lowest percentage was 100%. The plant targets production of filter water turbidities of 0.10 NTU or less. City of Everett results.							

Detected Unregulated Contaminants

PARAMETER	UNITS	IDEAL LEVEL/GOAL (MCLG)	EVERETT WATER RESULTS	
			RANGE DETECTED	AVERAGE VALUE
Bromodichloromethane	ppb	0	1.3-3.0	1.7
Chloroform (Trichloromethane)	ppb	70	26-62	37
Dichloroacetic Acid	ppb	0	3-16	13
Trichloroacetic Acid	ppb	20	17-26	22

These substances are individual disinfection by-products for which no MCL standard has been set, but which must be monitored to determine compliance with the USEPA Stage 2 Disinfection By-products Rule MCLs for Total Trihalomethanes and Haloacetic Acids (5).

Lead, Copper and pH

PARAMETER	MAJOR SOURCE	UNITS	EPA REGULATIONS		HWD/FCWS RESULTS		
			IDEAL LEVEL/GOAL (MCLG)	ACTION LEVEL (AL)	90th% LEVEL	HOMES EXCEEDING THE AL	COMPLY?
Lead	Plumbing, erosion of natural deposits	ppb	0	15	2	0 of 108 (0.0%)	Yes
Copper	Plumbing, erosion of natural deposits	ppm	1.3	1.3	0.122	0 of 108 (0.0%)	Yes
USEPA and state regulations require water systems to monitor for the presence of lead and copper at household taps every three years. Everett and many of the water systems it supplies conduct lead and copper monitoring in their combined service area as a regional group. The above data was collected in 2015. The next required round of sampling will be in 2018. The 90th% level is the highest result obtained in 90 percent of the samples collected when the results are ranked in order from lowest to highest. In the past, the results for water tested before it enters household plumbing were even lower than the tap results. This indicates that there is virtually no lead or copper in the water, but household plumbing may contribute to the presence of lead and copper at the tap. Highland WD and Friar Creek WS are included in the City of Everett results.							
pH	Soda ash is used to reduce water corrosivity by increasing pH and alkalinity	s.u.	Daily Avg 7.6	Min Daily Avg 7.4	Average 7.6	Minimum 7.4	Yes
The Washington State Dept of Health requires Everett to operate the corrosion control treatment program at or above a minimum daily average pH of 7.4. pH is measured six times per day (once every four hours). The average daily pH cannot be below 7.4 for more than nine days every six months. In 2016, the average daily pH never dropped below 7.4.							

USEPA required lead statement. The USEPA drinking water regulations require this statement be included with the lead and copper sampling results regardless of the levels observed:

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Voluntary Information

PARAMETER	UNITS	EVERETT WATER RESULTS	
		RANGE DETECTED	AVERAGE VALUE
Alkalinity ^{1,2}	ppm	14 - 26.5	17.2
Aluminum ¹	ppm	0.005 - 0.080	0.02
Arsenic ³	ppb	<0.1 - 0.2	0.2
Calcium Hardness ^{1,2}	ppm ⁴	7.8 - 13	9.5
pH ¹	s.u.	7.6 - 9.8	8
Sodium ³	ppm	5.5 - 7.2	6.2
Total Hardness ^{1,2}	ppm ⁴	10.3 - 15.6	12.3

¹ Results are from samples collected from 26 locations in Everett's distribution system.
² Hardness and alkalinity units are in ppm as CaCO₃ (calcium carbonate equivalent units).
³ Arsenic and Sodium were monitored at the treatment plant effluent.