



King County Water District No. 90

2016 WATER QUALITY REPORT

FOR THE YEAR 2015

OUR OFFICE IS LOCATED AT:

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PURPOSE OF THIS REPORT

King County Water District No. 90 (KCWD90) is committed to providing residents with a safe and reliable supply of high quality drinking water. Seattle Public Utility (SPU) and private laboratories test our water using sophisticated equipment and state of the art procedures. We are proud to report that the water provided by KCWD90 meets or exceeds established state and federal requirements for appearance, safety and water quality standards.

SYSTEM OVERVIEW

KCWD90 serves mostly residential area, east of Renton. KCWD90 purchases approximately 75% of its water from SPU's treated Cedar River Supply (chlorination, fluoridation, UV and ozone). The remaining 25% of supply is produced from our own wells. Wellfield treatment includes disinfection, oxidation/filtration for manganese removal and fluoridation. The Washington Department of Health has determined the District's Wellfield is rated as "low susceptibility" for contamination. This is due in part to the fact that the District's ground water source is in a confined aquifer.

In 2015, KCWD90 distributed 638 million gallons of water to its customers. The District takes pride in delivering you safe drinking water. To get that water to your homes the water needs to be treated, pumped and stored for use. Then it needs to travel through 131 miles of water main to get to our customers. This is all done for less than a cost of a penny per gallon.



LEAD AND COPPER TESTING

KCWD90 2013 Lead and Copper Monitoring Results

Parameter and Units	MCLG	Action Level+	90 th Percentile*	Homes Exceeding Action Level	Source
Lead, ppb	0	15	1.9	0 of 30	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.076	0 of 30	

* 90th Percentile: Out of every 10 homes sampled, 9 were at or below this level. + The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Next round of Lead and Copper testing is scheduled for summer of 2016.

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. SPU 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 running your tap for 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

Lastly, remember that drinking water is typically only a minor contributor to overall exposure to lead. Other sources, including paint, soil, and food also contribute.

KCWD90 takes any potential lead exposure very seriously. Your water starts its journey as rainfall or snowpack with no detectable lead. Eventually the water reaches your home or business through a pipe called a service line. Unlike some of the cities you may have heard about in the news, KCWD90 does not have any lead service lines. While lead levels in the District are generally considered safe, it is possible to find elevated levels of lead and copper in some home tap samples. These elevated levels usually come from corrosion of lead components in a home's plumbing. Corrosion is a chemical process that can release lead by eating away at the plumbing system. By treating our water, the District in conjunction with Seattle Public Utilities (SPU) successfully reduces corrosion. We purchase 75% of our water from SPU and 25% comes from our own wells. Both of these sources of water are lead free. In addition, the District benefits from the Corrosion Control Efforts of SPU.

Here is some of what SPU does to ensure the water system is less corrosive to lead plumbing:



- Developed a corrosion optimization program in 2003. This process reduces the potential for contaminants to leach into the water, which is possible in homes with lead solder.
- Continuously monitor water chemistry at all treatment facilities and collect routine samples throughout the distribution system to ensure it maintains water pH at a less-corrosive level.
- Monitor water quality indicators at distribution system locations and report results monthly to the Washington Department of Health.

DEFINITIONS

ACTION LEVEL: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. Action levels apply to Lead and Copper testing.

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.

MRL: Minimum Reporting Level - The minimum level at which a contaminant must be reported.

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.

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

NTU: Nephelometric Turbidity Unit - Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

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

2015 RESULTS		EPA's Allowable Limits		Levels in Cedar Water		Levels in Tolt Water		Levels in KCWD 90 Wellfield Water			
Detected Compounds	Units	MCLG	MCL	Average	Range	Average	Range	Average	Range	Typical Sources	
Raw Water	Cryptosporidium*	#/100 L	NA	NA	1	ND to 8	ND	ND	N/A	N/A	Naturally present in the environment
	Total Organic Carbon	ppm	NA	TT	0.7	0.5 to 1.5	1.5	1.2 to 1.8	N/A	N/A	Naturally present in the environment
Finished Water	Arsenic	ppb	0	10	0.5	0.4 to 0.7	0.6	0.4 to 0.7	N/A	N/A	Erosion of natural deposits
	Barium	ppb	2000	2000	1.6	(one sample)	1.3	(one sample)	N/A	N/A	Erosion of natural deposits
	Bromate	ppb	0	10	ND	ND	0.4	ND-2	N/A	N/A	By-product of drinking water disinfection
	Chlorine	ppm	MRDLG = 4	MRDL = 4	Average = 0.88 Range = 0.0 to 1.7				0.98	.66 to 1.30	Water additive used to control microbes
	Chromium	ppb	100	100	0.27	0.25 to 0.33	0.2	ND to 0.24	N/A	N/A	Erosion of natural deposits
	Coliform, Total	%	0	5%	Highest Month = 0.4% Annual Average = 0.035%				Highest Month = Annual Average =		Naturally present in the environment
	Fluoride	ppm	4	4	0.8	0.7 to 0.9	0.8	0.7 to 0.9	0.84	0.58 to 1.19	Water additive, which promotes strong teeth
	Haloacetic Acids(5)	ppb	NA	60	41	18 to 41	48	26 to 68	27	15.2 to 35.2	By-products of drinking water chlorination
	Manganese	ppm	0.05	0.05	N/A	N/A	N/A	N/A	0.036	0.002 to 0.590	Naturally present in the environment
	Nitrate	ppm	10	10	0.01	(one sample)	0.1	(one sample)	0.2	(one sample)	Erosion of natural deposits
Total Trihalomethanes	ppb	NA	80	38	26 to 43	62	26 to 91	30	21.3 to 37.4	By-products of drinking water chlorination	
Turbidity	NTU	NA	TT	0.4	0.1 to 1.2	0.07	.04 to 1.4	0.08	0.1 to 1.0	Soil runoff	

* Cryptosporidium was not detected in any samples from the Tolt supply (10 samples). It was detected in 2 of 9 samples from the Cedar supply. This monitoring is not required for the wells.



SENSITIVE PEOPLE

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, may be particularly at risk from infections. If there is concern, these people should seek advice about drinking water from their health care providers. EPA and the Center for Disease Control (CDC) provide guidelines on appropriate means to reduce the risk of infection by Cryptosporidium and other microbial contaminants. For this information, please call the Safe Drinking Water Hotline 800-426-4791.

2015 Unregulated Contaminants Monitoring Rule 3 Results

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help the EPA determine their occurrence in drinking water and potential need for future regulation. Only those contaminants with a positive result are shown here.

KCWD90's 2015 UCMR3 Monitoring Results				
Contaminant	Range	Average	MRL	Units
1,4 Dioxane	0.077	0.077	0.07	ppb
Chlorate	29 - 100	78.25	20	ppb
Chromium 6+	0.039 - 0.13	0.082	0.03	ppb
Chromium, Total	0.21	0.21	0.02	ppb
Strontium, Total	27 - 57	44	0.3	ppb
Vanadium, Total	.024 - 0.86	0.47	0.2	ppb

ppb = parts per billion

There were also 15 contaminants that were monitored for but not detected for UCMR3, shown in the list below.

Contaminants Not Detected

- 1,1-dichloroethane
- 1,2,3-trichloropropane
- 1,3-butadiene
- Bromochloromethane (Halon 1011)
- Bromomethane (methyl bromide)
- Chlorodifluoromethane (HCFC- 22)
- Chloromethane (methyl chloride)
- Cobalt
- Molybdenum
- Perfluorobutanesulfonic acid (PFBS)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorohexanesulfonic acid (PFHxS)
- Perfluorononanoic acid (PFNA)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorooctanoic acid (PFOA)



CONSERVATION AND SALMON

The Saving Water Partnership (SWP), which is made up of KCWD90 and 18 water utility partners, has set a six-year conservation goal: "Reduce per capita use from current levels so that the SWP's total average annual retail water use is less than 105 mgd from 2013 through 2018 despite forecasted population growth." For 2015, the Saving Water Partnership met the goal, using 96.9 mgd despite a record hot summer.

Conserving Water Helps Salmon

Feel proud when you conserve water – you're saving money on your water bill and keeping water in the rivers and streams for salmon. It's especially important to use water wisely in the summer and fall months, when stream flows are lowest. Your actions help protect precious freshwater



habitat for salmon and other species that live in and around our streams. Witness your work when salmon make their annual migration home to our local streams. Look for the Salmon SEEson campaign this summer and fall for the latest on when and where the fish will be.

REQUIRED ADDITIONAL HEALTH INFORMATION

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain 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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap 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 dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants 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, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or 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, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can, also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.