Water District 19 Consumer Confidence Report

2009 Water Quality Report

This Consumer Confidence Report is designed to give you, our customer, an overview of Water District 19's water quality for 2009. Inside you will discover where your water comes from and what steps are taken to guarantee you receive water that is safe to drink every time you turn on the tap.

At Water District 19 we strive to provide our customers with drinking water that meets or exceeds the stringent standards set by the state and federal governments. To this end we constantly monitor the water from the sources all the way to the tap. We have adopted voluntary state health department goals that go well beyond the basic requirements.

The water quality in our distribution system—the pipes that carry the water from our tanks and treatment plant to your home—is regularly monitored for quality control. Daily samples are taken at the far ends of the system and analyzed to ensure sufficient chlorine residual remains. A visual inspection is also completed to determine the need for additional system flushing. Monthly samples are taken for analysis and sent to a state certified laboratory to test for coliform bacteria. Additional sampling is done on a schedule dictated by the Washington Department of Health for constituents such as asbestos and disinfection by-products. We are pleased to report that all results indicate a water quality that consistently exceeds US EPA standards. (results of recent analyses are on pages 2 and 3 of this report)

Additional efforts to ensure the highest quality water gets to your home include annual system flushing through fire hydrants and an extensive cross connection control program. Protecting against contamination due to cross connections is a major concern as well as a regulatory requirement. Water District 19 monitors compliance for customers who install and maintain backflow prevention devices to maximize protection against contamination.

All water quality information is available to the public during office hours (M - F, 8 a.m. to 4 p.m.). This includes all test results from either in-house analysis or from state certified labs.

If you have any concerns regarding the quality of your water, contact the District office and we will investigate it immediately.

What YOU Can Do To Help Protect Our Water Sources

The quality of our tap water can be directly impacted by the activities that occur near our water sources, both ground (wells) and surface water (streams). Vashon Island is a sole source aquifer, meaning that the only source of water is the rain and "second-hand" water from irrigation, septic systems, etc.

If care is not exercised, there are significant long-term consequences of using fertilizers and pesticides, and the improper disposal of household hazardous wastes such as paint thinners, antifreeze, pharmaceuticals and personal care products, etc. Nitrates from animals and other sources are also a concern. These substances accumulate over time, and will become a slow, sometimes irreversible contamination problem to our groundwater that could effect generations to come.
Continued, See **You Can Help**, *page 4*

For More Information On Water Quality Please Contact

Water District 19
(206) 463-9007
water19@water19.com

Or

U.S. Environmental Protection Agency
Safe Drinking Water Hotline 1-800-426-4719
www.epa.gov/safewater

Or

Washington State Department of Health
Regional Office
(253) 395-6750
www.doh.wa.gov/ehp/dw

Inside this report:

Mission:

To provide a sufficient quantity of good quality water at a reasonable cost to our customers, in perpetuity.

Sources for Water District 19

Water District 19 uses both surface water and groundwater sources. Our surface water comes from Beall and Ellis Creeks and our groundwater comes from a well field on 103rd Ave. SW and Morgan Hill Well on 216th.

Water from the creeks is pumped to our Treatment Plant. There the water is filtered and chlorinated before being pumped into the distribution system. Excess water then fills the 1,000,000 gallon storage tank common to the wells and the treatment plant.

Ground water currently comes from three wells, each over 600' deep. Water from these wells is chlorinated before entering a 625,000 gallon storage tank. The water is then re-chlorinated and pumped to the million gallon tank. The 1,000,000 gallon tank is 80 feet tall and provides the pressure to our entire distribution system.

We have an additional well at Morgan Hill (see Notable Events, page 4) which, as of 2010, is a permanent source . When in use, this water is chlorinated and stored in a 100,000 gallon tank at the premise before entering the distribution system.

Source water protection is a primary concern. At Water District 19 we subscribe to the tenets of the Washington State's Source Water Assessment Program (SWAP) which evaluates potential threats to the safety of public water supplies by assessing sources of contamination. For information on this program contact the regional DOH Drinking Water Office at (253) 395-

Surface Water Treatment Process

REGULATIONS FOR TREATING GROUNDWATER AND SURFACE WATER ARE DIFFERENT

Raw surface water from Beall and Ellis Creek enters the treatment plant. There it is combined with water from our recycle pond. The recycle pond holds water from our filter rinses and comprises no more than 15% of the water entering the plant. At the plant, water is treated with Pass-C (polyaluminum chloride) and Superfloc 573 (a cationic polymer) to bind with minerals and organic matter which aid in coagulation and filtration. The water then passes through the filtration process. During the filtration process water flows up through an adsorption clarifier, over (via a trough) to the multi -media filtration chamber and on into the clear well . The clarifier media is composed of graded quartz. The filtration media consists of layered anthracite coal, silica sand and fine garnet.

After passing through the filtration chamber, the water is chlorinated with a 6.25% solution of sodium hypochlorite (liquid chlorine). Once in the clear well, the chlorinated water flows through a series of baffles and chambers to provide adequate contact time for disinfection. This contact time ensures the chlorine will be effective against bacteria, viruses and pathogens. Water is then pumped from the clear well into the distribution system.

Chlorination

We use sodium hypochlorite diluted to 6.25% (equivalent to household bleach) as our disinfectant. We sample chlorine concentrations in the water as it enters the distribution system and throughout the system, daily. We measure concentrations in mg/L* .

While disinfection helps to maintain the safety of our water, chlorine can also react with natural materials to form "Disinfection Byproducts" (DPB's) that may pose a health risk. We have been collecting data on DBPs every year since 2005 and we sample for them quarterly. Our results are typically well below EPA MCL's*.

Chlorine Monitoring Point	Unit	MRDGL	MRDL	Average	Range
Entry into Distribution System	mg/L	4.0	4.0	1.0	0.3 - 1.75
Throughout Distribution System	mg/L	4.0	4.0	0.45	0.01 - 1.52

2009 Results:

DPB's	Units	MCL	Ave	Max	Min
Total HAA's *	µg/L	60	37.5	97.6	11.5
Total THM*	µg/L	80	42.1	73.8	15.4

In 2009 we completed two, year long studies regarding Disinfection Byproducts (DBPs) and raw (stream) water quality. The DBP study identified appropriate sample sites for our quarterly HAAs and THMs. The results will help us track areas within our District most effected by DPBs. The raw water study determined our risk exposure to the protozoan parasite *Cryptosporidium*. The results indicated that our source waters are well below the triggers for cryptosporidium monitoring.

* see Definition of Terms page 3

Water Quality Standards

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 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 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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Contaminants that may be present in source water before we treat it include:

Microbial contaminants

Inorganic contaminants

Pesticides and herbicides

Organic chemical contaminants

Radioactive contaminants

In order to ensure that tap water is safe to drink, the Department of Health and EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulates contaminants in bottled water that must provide the same level of public health protection.

Water Quality Test Results 2009±

In 2009 we sampled all sources for radioactive contaminants with no contaminants detected. In 2008 we tested our surface water for 45 different Volatile Organic Compounds (VOCs). In 2007 we sampled our surface water for Synthetic Organic Compounds (SOCs). Examples of VOCs would be solvents, fuels, paints, industrial by-products while SOCs include herbicides, pesticides, and insecticides. There were no detectable VOCs or SOCs. Our Groundwater is considered less susceptible to contamination so we monitor for VOCs and SOCs every three years. We tested the well field in 2009 for SOCs and for VOCs in 2007. There were no detectable contaminants. We also sampled our distribution system for the presence of Asbestos and none was detected.

We sample monthly for coliform bacteria, an indicator for potential disease causing bacteria in water. All samples taken for 2009 were satisfactory.

This table shows the most recent data concerning inorganic contaminant (IOC) sampling. The groundwater data is from 2009 and the surface water data is from 2008. Of the 20 regulated chemicals tested for, we provide data on the chemicals present at the time of testing.

Inorganic Contaminant	Units	MCL	Test Result		In Compliance	Typical Source of Contamination
EPA Regulated (Primary)			**Groundwater**	**Surface Water**		
Arsenic	µg/L	10	7.1	ND	yes	Erosion of Natural Deposits
Nitrate	mg/L	10	ND	ND	yes	Erosion of Natural Deposits, leaching from septic systems
State Regulated						
Sodium	mg/L	-	34	5.9	yes	Erosion of Natural Deposits
Hardness (CaCO3)	mg/L	-	64	80	yes	Erosion of Natural Deposits
Conductivity	umhos/cm	700	300	180	yes	
Turbidity	NTU	1	0.2	0.8	yes	Erosion of Natural Deposits
EPA/State Unregulated						
Lead	mg/L	0.015	0.002	0.014	yes	corrosion of plumbing
Copper	mg/L	1.3	.002	0.21	yes	corrosion of plumbing

umhos/cm = unit of conductivity **ND** - Not Detected **NTU** - Nephelometric turbidity Units

Lead and Copper: We sampled 10 homes for lead and copper in 2009. Lead and copper are typically a result of corrosion of household plumbing systems. All samples were well below the EPA action levels*. The action levels for lead and copper are 0.015 mg/L and 1.3 mg/L, respectively. In fact, only one site sampled detected Lead. The result was 0.008 mg/L. Copper was not detected in any of our samples.

* Definition of Terms

Maximum Contaminant Level Goal or 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 or 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 technology.

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

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

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 (e.g. chlorine, chloramines, chlorine dioxide).

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.

mg/L: Milligrams per liter, equal to parts per million.

µg/L: Micrograms per liter, equal to parts per billion.

THM: Trihalomethane, a regulated disinfection by-product.

HAA: Haloacetic Acids, regulated disinfection by-product

± Contains the most recent test results for water quality standards dictated by Washington State and EPA.

Public Participation Opportunities

Regular Board of Commissioners meetings the second Tuesday of every month at 4:30 p.m. at the District office and are always open to the public. Other special meetings as scheduled by the Board.

Please Conserve Water

Conservation is critical to our operational integrity. We are responsible for the governance and stewardship of this precious resource. Education and incentives are our primary tools for promoting wise water use. We encourage our customers to make use of our rebate programs for water efficient washers, low flow toilets and rain barrels. Please call or stop by our office for more information regarding these programs. Conserving water reduces the need to invest in additional infrastructure and consequently, minimizes costs. The most critical period for water usage is during the summer months of July, August and September, when demand is highest and the supply of water from our creeks is lowest. Please don't over-irrigate or otherwise waste water during this period.

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You Can Help, *continued from page 1*

An important step toward protecting our source water is control of hazardous wastes. Upcoming opportunities for recycling some of these wastes include: **April 24th** for an island-wide free recycling day at McFeeds on Vashon Hwy and Cemetery Rd. sponsored by Vashon Reclaim / Recycling & Transfer Station. See **http://vashonreclaim.com/** for more info; **April 30th through May 2nd** there will be a free household hazardous waste (HHW) pickup sponsored by King County at 17001 107th Ave SW. See **http://www.lhmp.org/home/HHW/wastemobile.aspx** for more info;

There are ongoing opportunities to recycle wastes for free on island such as: Used motor oil: True Value Service Center, 9715 SW 174th.; Car batteries: Ricks Diagnostic & Repair, 9919 SW 178th.

The Vashon Recycling & Transfer Station will take many items year round for a small fee.

Proper management of livestock waste is also important. Visit **http://www.kingcounty.gov/environment/wlr/agriculture-program/livestock-programs.aspx** for more information.

Notable events 2009—What's planned for 2010

In 2009, work continued on the Beall Well adjacent to our Water Treatment Plant. Equipment for mitigating the elevated level of ammonia found in the source was installed.

The regulatory approval process for the District's Comprehensive Water System Plan was completed. An ongoing effort will take place at the request of King County to jointly study water resource development and zoning.

A water right change application was approved by the Washington Department of Ecology for the transfer of part of our wellfield water right to Morgan Hill Well. The District gained access to 35 gallons per minute of capacity in the process, in hopes of bridging the gap between what our water right quantity allows and what we have been able to produce.

In 2010, the District plans to invest $100,000 for main replacement projects. Work is scheduled to begin on Ridge Road, which will be a multi-year effort.

Chemical feed equipment will be installed for the Beall Well. In addition, full scale pilot testing will be completed prior to requesting final approval from the Department of Health. This effort is estimated to cost an additional $50,000. The goal is to have the well available for summer 2010.