VALLEY WATER DISTRICT
14515 Pioneer Way E
Puyallup WA 98372
253-841-9698
www.valleywaterdistrict.com

Annual
Drinking Water Quality Report
Buttes Water System
2018

Este informe contiene informacion muy importante sobre la calidad de su agua potable. Por favor lea este informe o comuniquese con alguien que pueda traducir la informacion.

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with information because informed customers are our best allies.

At Valley Water District we vigilantly safeguard and routinely monitor your drinking water. **This report is a snapshot of water quality monitoring for the period of January through December 2018**. We are proud to report that this system has not violated a maximum contaminant level or any other water quality standard.

The water source for this system is a well located in the Orting Valley. The well is 90 feet deep and capable of pumping 500 gallons per minute. Your water is treated by filtration and disinfection. Filtration removes particles suspended in the source water. Particles typically include clays and silts, natural organic matter, iron and manganese, and microorganisms. Your water is also treated by disinfection which involves the addition of chlorine or other disinfectants to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water. Disinfection is considered to be one of the major public health advances of the 20th century.

Employing water conservation strategies, taking steps to minimize the use of pesticides and fertilizers, and disposing of household chemicals properly are all ways that you can do your part to positively impact the quality of your drinking water. Please visit our office or log on to our website for great water saving tips and related information.

Read this report at your leisure. It is designed to help you understand how we continually strive to protect water resources, improve the water treatment process, and provide you with safe, dependable drinking water.

How can I get involved?
We want our valued customers to be informed about their water utility. If you would like to learn more, please attend any regularly scheduled Board Meeting held at the District Office on the first and third Tuesday of each month, at 7:00 p.m.

If you have questions about the information in this report or any concern regarding water quality and the services we deliver every day, please contact the District office at 253-841-9698.

Sean Vance, District Manager ~ Brian Thompson, Field Supervisor ~ Email: service@valleywaterdistrict.com

Why are there contaminants in my drinking water?

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 dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity such as the following:

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

Inorganic Contaminants, such as salts and metals, can be naturally occurring or result from urban storm- water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides may come from a variety of sources such as agriculture, urban storm-water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals are byproducts of industrial processes and petroleum production and can also come from gas stations, urban storm-water runoff, and septic systems.

Radioactive contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

Do I need to take special precautions?

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit 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 which must provide the same protection for public health.

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline at 800-426-4791.

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 800-426-4791.

Visit www.wateruseitwisely.com for great water saving tips!

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels.

Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haloacetic Acids (HAA5) (ppb)	NA	60	8.3	9.3	10.1	2018	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	17.11	12.9	13.8	2018	No	By-product of drinking water disinfection
Inorganic Contaminants								
Antimony (ppb)	6	6	5	NA		2018	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Arsenic (ppb)	0	10	1	NA		2018	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	.1	NA		2018	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium (ppb)	4	4	.3	NA		2018	No	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	5	5	1	NA		2018	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	100	100	7	NA		2018	No	Discharge from steel and pulp mills; Erosion of natural deposits
Copper - source water (ppm)	NA		.02	NA		2018	No	Corrosion of household plumbing systems; Erosion of natural deposits
Cyanide (ppb)	200	200	10	NA		2018	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories
Fluoride (ppm)	4	4	.2	NA		2018	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Lead - source water (ppm)	NA		.001	NA		2018	No	Corrosion of household plumbing systems; Erosion of natural deposits
Mercury [Inorganic] (ppb)	2	2	.2	NA		2018	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Nitrate [measured as Nitrogen] (ppm)	10	10	.2	NA		2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite [measured as Nitrogen] (ppm)	1	1	.1	NA		2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	50	50	2	NA		2018	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Sodium (optional) (ppm)	NA		7.2	NA		2018	No	Erosion of natural deposits; Leaching
Thallium (ppb)	.5	2	1	NA		2018	No	Discharge from electronics, glass, and Leaching from ore-processing sites; drug factories

2018 Supplemental Testing					
Analytes	**Results**	**MCL**	**EPA Regulated Secondary**	**State Regulated**	**Source**
Iron (mg/L)	1.76	0.3	Yes	No	Iron is naturally occurring. As rainwater it infiltrates the soil and underlying geologic formations dissolves iron, causing it to seep into aquifers that serve as sources of groundwater for wells.
Manganese (mg/L)	0.27	0.05	Yes	No	Manganese is a naturally occurring mineral that is present in soils, rocks, and sediment.
Silver (mg/L)	<.01	0.1	Yes	No	Silver occurs naturally in the environment, mainly in the form of its very insoluble and immobile oxides, sulfides and some salts.
Chloride (mg/L)	4.9	250	Yes	No	Chloride occurs naturally in groundwater but is found in greater concentrations where seawater and run-off from road salts (salts used to de-ice icy roads) can make their way in to water sources.
Sulfate (mg/L)	2.6	250	Yes	No	Sulfate is one of the major dissolved components of rain. As water moves through soil and rock formations that contain sulfate minerals, some of the sulfate dissolves into the groundwater.
Zinc (mg/L)	<.2	250	Yes	No	Can be introduced into water naturally by erosion of minerals from rocks and soil, however, most zinc is introduced into water by artificial pathways such as by-products of steel production or coal-fired power stations, or from the burning of waste materials. Zinc is also used in some fertilizers that may leach into groundwater. Older galvanized metal pipes and well cribbings were coated with zinc that may be dissolved by soft, acidic waters.
Sodium (mg/L)	6	NA	No	Yes	In drinking water, sodium can occur naturally or be the result of road salt application, water treatment chemicals or ion-exchange water-softening units.
Hardness (mg/L)	90.8	NA	No	Yes	As water moves through soil and rock, it dissolves very small amounts of minerals and holds them in solution. Calcium and magnesium dissolved in water are the two most common minerals that make water "hard." The degree of hardness becomes greater as the calcium and magnesium content increases and is related to the concentration of multivalent cations dissolved in the water.
Conductivity (umhos/cm)	138.1	700	No	Yes	Conductivity is a measure of water's capability to pass electrical flow. This ability is directly related to the concentration of ions in the water. These conductive ions come from dissolved salts and inorganic materials such as alkalis, chlorides, sulfides and carbonate compounds. Compounds that dissolve into ions are also known as electrolytes. The more ions that are present, the higher the conductivity of water. Likewise, the fewer ions that are in the water, the less conductive it is.
Turbidity (NTU)	4.66	NA	No	Yes	Turbidity is a measure of the degree to which the water loses its transparency due to the presence of suspended particulates. The more total suspended solids in the water, the murkier it seems and the higher the turbidity. Turbidity is considered as a good measure of the quality of water.
Color (color units)	<5	15	No	Yes	The color in water is primarily of vegetable origin and is extracted from leaves and aquatic plants. Naturally water draining from swamps has the most intense coloring. The bleaching action of sunlight plus the aging of water gradually dissipates this color, however. All surface waters possess some degree of color. Likewise, some shallow wells, springs and an occasional deep well can contain noticeable coloring.
Nickel (mg/L)	<.005	NA	No	Yes	The primary source of nickel in drinking-water is leaching from metals in contact with drinking-water, such as pipes and fittings.

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	1.3	1.3	.26	2017	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	4	2017	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Unit Descriptions	
Term	**Definition**
Color Units	A measurement of color from dissolved materials plus suspended matter
NA	Not Applicable
ND	Not Detected
NR	Monitoring not required; but recommended
ppb	parts per billion, or micrograms per liter (µg/L)
ppm	parts per million, or milligrams per liter (mg/L)
umhos/cm	The unit of measurement for conductivity in water is reported as micromhos which is the reciprocal of the measurement for resistance ohms.
Important Drinking Water Definitions	
Term	**Definition**
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.
MNR	Monitored Not Regulated
MPL	State Assigned Maximum Permissible Level
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 Disinfection 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 Units: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
Variances & Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Additional Information for Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Cross Connection Control Survey

The District encourages all customers to complete a Cross Connection Control Survey, which can be requested at the District office or found at the Forms Page of the District's website valleywaterdistrict.com. The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. The District is responsible for enforcing cross-connection control regulations and insuring that no contaminants can, under any flow conditions, enter the distribution system. If you have any of the devices listed below please contact us so that we can discuss the issue, and if needed, survey your connection and assist you in isolating it if that is necessary.

- Boiler/ Radiant heater (water heaters not included)
- Underground lawn sprinkler system
- Pool or hot tub (whirlpool tubs not included)
- Additional source(s) of water on the property
- Decorative pond
- Watering trough

Additional Information for Lead

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. Valley 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 (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.