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Annual Drinking Water Quality Report Sierra Water System

2019

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 2019.** We are proud to report that this system has not violated a maximum contaminant level or any other water quality standard.



This system's water source is a neighborhood well located within the Sierra development. Your water is treated by filtration and disinfection. Filtration removes particles suspended in the source water. Disinfection 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. **Other Source Results:** Due to Sierra's well being down for a week, water was trucked from the View Royal System (which is also on an intertie with Tacoma Water). The last 3 pages contain the water quality information for the View Royal System and the water quality information provided to Valley Water District by Tacoma Water.



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 stormwater 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 stormwater runoff, and residential uses.

Organic Chemical Contaminants, including synthetic and volatile organic chemicals are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater 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.

2019 ~ Sierra Water System ~ 2019

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	4.1	NA		2017	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	11.1	NA		2017	No	By-product of drinking water disinfection
Inorganic Contaminants								
Antimony (ppb)	6	6	3	NA		2012	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Arsenic (ppb)	0	10	1	NA		2012	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	.01	NA		2012	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium (ppb)	4	4	.3	NA		2012	No	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	5	5	.1	NA		2012	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		2012	No	Discharge from steel and pulp mills; Erosion of natural deposits
Cyanide (ppb)	200	200	10	NA		2012	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories
Fluoride (ppm)	4	4	.2	NA		2012	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron (Secondary Contaminant)	NA	.3	1.59	NA		2019	No (Secondary Contaminant)	Naturally occurring metal.
Mercury [Inorganic] (ppb)	2	2	.2	NA		2012	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		2019	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite [measured as Nitrogen] (ppm)	1	1	.1	NA		2012	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	50	50	2	NA		2012	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Sodium (optional) (ppm)	NA		7	NA		2012	No	Erosion of natural deposits; Leaching
Thallium (ppb)	.5	2	1	NA		2012	No	Discharge from electronics, glass, and Leaching from ore-processing sites; drug factories

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	.311	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead- action level at consumer tap (ppb)	0	15	2.1	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

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.
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.
MNR	Monitored Not Regulated
MPL	State Assigned Maximum Permissible Level
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
Variations & Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
Term	Definition
ppb	parts per billion, or micrograms per liter (ug/L)
ppm	parts per million, or milligrams per liter (mg/L)
NA	Not Applicable
ND	Not Detected
NR	Monitoring not required; but recommended

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

Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- ◆ Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- ◆ Pick up after your pets.
- ◆ If you have your own septic system, properly maintain your system to reduce leaching to water sources.
- ◆ Dispose of chemicals properly; take used motor oil to a recycling center.
- ◆ Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.

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.

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. Sierra Water System 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>.

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.

2019 ~ View Royal Water System ~ 2019

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	3.33	3.4	4.2	2019	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	7.28	4.5	5.7	2019	No	By-product of drinking water disinfection
Inorganic Contaminants								
Antimony (ppb)	6	6	3	NA		2012	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Arsenic (ppb)	0	10	10.7	3.2	10.7	2019	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	.01	NA		2012	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium (ppb)	4	4	.3	NA		2012	No	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	5	5	.1	NA		2012	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		2012	No	Discharge from steel and pulp mills; Erosion of

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
								natural deposits
Cyanide (ppb)	200	200	10	NA		2012	No	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories
Fluoride (ppm)	4	4	.2	NA		2012	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron (mg/L)	.3	.3	.1	NA		2018	No	Iron is naturally occurring.
Manganese (mg/L)	.05	.05	.01	NA		2018	No	Manganese is a naturally occurring mineral that is present in soils, rocks, and sediment.
Mercury [Inorganic] (ppb)	2	2	.2	NA		2012	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	.2	NA		2017	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	50	50	2	NA		2012	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Sodium (optional) (ppm)	NA		14	NA		2012	No	Erosion of natural deposits; Leaching
Thallium (ppb)	.5	2	1	NA		2012	No	Discharge from electronics, glass, and Leaching from ore-processing sites; drug factories

Radioactive Contaminants

Alpha emitters (pCi/L)	0	15	0	NA	NA	2015	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	0	NA	NA	2015	No	Erosion of natural deposits

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
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Inorganic Contaminants

Copper - action level at consumer taps (ppm)	1.3	1.3	.1	2017	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	2	2017	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Violations and Exceedances

Arsenic: Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. There was an exceedance of the MCL for arsenic in August of 2019. The current MCL for arsenic is 10 parts per billion, the measured amount for the August 2019 sample was 10.7 parts per billion which is an excess of .7 parts per billion. The samples in the months before and after August were well within the acceptable range for arsenic. The filtration system was evaluated to determine the cause of the exceedance. The filter process and backwash reclaim cycles were adjusted. The District also contracted with an engineering firm to evaluate the overall treatment operation to find long term solutions to ensure that the system continues to operate as designed.

2019 Tacoma Water Quality Results

Constituent	Highest Level Allowed (MCL)	Highest Level Detected	Ideal Goals (MCLG)	Range of level Detected or # exceed AL	Regulation Met?	Potential Sources of Contaminant
REGULATED AT THE GROUNDWATER SOURCES						
Arsenic	10 ppb	6 ppb	0	0 - 6 ppb	Yes	Natural erosion
Nitrate	10 ppm	4.95 ppm	10 ppm	0 – 4.95 ppm	Yes	Agricultural uses; septic
Trichloroethylene	5 ppb	.99 ppb	0	0 – .99 ppb	Yes	Industrial contamination
UNREGULATED AT THE GROUNDWATER SOURCES						
Chloroform	not regulated	0.77 ppb	not regulated	0 – 0.77 ppb Average 0.228	not regulated	Industrial contamination
REGULATED AT THE TREATMENT PLANT						
Fluoride	4 ppm	.97 ppm	4 ppm	0.12 – .97 ppm	Yes	Treatment additive
Turbidity	1 NTU	.047 NTU	not applicable	0.020 – .047 NTU	Yes	Soil erosion
REGULATED IN THE DISTRIBUTION SYSTEM						
Disinfection Byproducts	Highest running annual average allowed	Our running annual average	MCLG	Range of Level Detected	Regulation Met?	Potential Sources of Contaminant
Total Trihalomethane	80 ppb average	12.8 ppb average	not applicable	7.3 –26 ppb	Yes	Disinfection interaction
Haloacetic Acid	60 ppb average	6.6 ppb average	not applicable	3.1-10 ppb	Yes	Disinfection interaction
Bromate	10 ppb	0	0	0	Yes	Disinfection interaction
Chlorine Residual	4 ppm	NA	4 (MRDLG)	0.2-1.84ppm	Yes	Treatment additive
Total Coliform	< 5% positive	0.000%	0	0 of 2228 sites	Yes	Sampling technique
REGULATED AT THE CONSUMERS TAP						
Lead and Copper: Sampled last in 2019 Required every 3 years	90% of taps sampled must be below Action Level	90% of taps sampled were at or below this level	MCLG	Number of sites above the AL	Regulation Met?	Potential Sources of Contaminant
Lead	15 ppb (AL)	ND	0	0 of 51 sites	Yes	Household plumbing
Copper	1.3ppm (AL)	ND	1.3 ppm	0 of 51 sites	Yes	Household plumbing

Definitions

MCL- Maximum Contaminant Level: The highest level of a contaminant that allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available technology.

MCGL- Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for margin of safety.

ppm = Part Per Million

ppb = Part Per Billion

NTU – Nephelometric Turbidity Unit is a standard to measure water clarity.

AL – Action Level is the concentration which, if exceeded, triggers treatment or other requirements which a water system must follow. Action Levels are reported at the 90th percentile for homes at greatest risk.

MRL- Minimum Reporting Level, also known as the Method Reporting Limit: The smallest amount of a substance that can be reliably quantitated in sample.

ND = Not Detected – This compound was analyzed and not detected at a level greater than or equal to the State Detection Reporting Level.