Quality. Service. Value.®

DRINKING WATER REPORT 2021

MIRRORMONT WATER SYSTEM

State ID #552501, King County

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ABOUT YOUR WATER QUALITY

Washington Water Service (Washington Water) is committed to being a leader in providing communities and customers with traditional and innovative utility services. Washington Water is proud of its service record and is staffed with courteous and knowledgeable water professionals who are dedicated to meeting your needs. While we are proud of our past record, we continually strive to improve upon the quality of services we provide to you, our valued customer.

This 2021 Drinking Water Report is your annual update on the quality and safety of your drinking water. It includes the most recent water quality results through the monitoring period ending December 31, 2021, in accordance with state and federal regulations (not all testing is required every year). This report also provides access through references and telephone numbers to source water assessments, health effects information, and other water system topics. This allows you to make personal health-based decisions regarding your drinking water consumption and become more involved in decisions which may affect your health.

Most importantly, this report shows that your drinking water source meets all primary and secondary EPA and Department of Health standards.

We hope you find this information helpful.

YOUR WATER SYSTEM

WHERE YOUR WATER COMES FROM

Your water comes from seven groundwater sources (six wells and one spring). The majority of the distribution system is served by the six wells, which range in depth from 224 to 285 feet. Water is pumped from the well site on 260th Avenue SE to two storage tanks on SE 152nd Street. A majority of the homes receive their water by gravity from these storage tanks. For homes in close proximity to the tanks, booster pumps re-pump the water from the tanks to those homes, providing increased service pressure. Although the wells themselves are not chlorinated, the two storage tanks for the wells can receive surplus water from the storage tank for the chlorinated Tiger Mountain spring source during periods of low demand. Therefore, very low levels of chlorine may be detected in the wellfield-supplied area of the system at times.

The homes along Tiger Mountain Road that are served by this water system receive their water by gravity flow from the storage tank on SE 163rd Place. This tank is filled by gravity flow from the Tiger Mountain spring source only. Chlorine is added to the spring source for disinfection purposes due to its shallow depth and hydraulic connectivity to surface water.

SOURCE WATER PROTECTION INFORMATION.

Drinking water comes from groundwater (wells and springs) and surface water (rivers, lakes, streams). Protecting these drinking water sources is key to sustaining safe drinking water supplies for this and future generations.

What you can do to protect source water:

- Ensure that your septic system is properly maintained.
- Use chemical fertilizers and pesticides sparingly, if at all.
- Don't dump any hazardous waste on the ground. This includes: motor oil, pesticides, paint or paint cans, mothballs, flea collars, household cleaners, medicines, etc.

Check the SWAP information for your water system:

The Washington State Department of Health Office of Drinking Water has compiled Source Water Assessment Program (SWAP) data for all community water systems in Washington. A source water assessment includes:

- A delineation (definition) of the source water protection area,
- An inventory of potential sources of contamination, and
- A susceptibility determination (how susceptible the source is to contamination).

An interactive map with data for your water system is available at:
fortress.wa.gov/doh/swap/

CROSS-CONNECTION CONTROL

To ensure that the high-quality water we deliver is not compromised in the distribution system, Washington Water has a robust cross-connection control program in place. Cross-connection control is critical to ensuring that activities on customers' properties do not affect the public water supply. Our cross-connection control specialists ensure that all of the existing backflow prevention assemblies are tested annually, assess all connections, and enforce and manage the installation of new commercial and residential assemblies.

Backflow can occur when certain pressure conditions exist either in our distribution system or within the customer's plumbing, so our customers are our first line of defense. A minor home improvement project — without the proper protections — can create a potentially hazardous situation, so careful adherence to plumbing codes and standards will ensure the community's water supply remains safe. Please be sure to utilize the advice or services of a qualified plumbing professional.

Many water-use activities involve substances that, if allowed to enter the distribution system, would be aesthetically displeasing or could even present health concerns. Some common cross-connections are:

- Garden hoses connected to a hose bib without a simple hose-type vacuum breaker (available at a home improvement store)
- Improperly installed toilet tank fill valves that do not have the required air gap between the valve or refill tube
- Landscape irrigation systems that do not have the proper backflow prevention assembly installed on the supply line

The list of materials that could potentially contaminate the water system is vast. According to the EPA, a wide variety of substances have contaminated drinking water systems throughout the country as a result of poor cross-connection control. Examples include:

- Antifreeze from a heating system
- Lawn chemicals from a garden hose or sprinkler head
- Blue water from a toilet tank
- Carbonated water from a soda dispenser

Customers must ensure that all plumbing is in conformance with local plumbing codes. Additionally, state law requires certain types of facilities to install and maintain backflow prevention assemblies at the water meter. Washington Water's cross-connection control staff will determine whether you need to install a backflow prevention assembly based on water uses at your location.

POSSIBLE CONTAMINANTS

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 at (800) 426-4791.

Common sources of drinking water — both tap and bottled water — include rivers, lakes, streams, ponds, and reservoirs (surface water), and wells and springs (groundwater). As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. Water can also 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, parasites, 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, urban stormwater runoff, and residential uses.

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

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

In order to ensure that tap water is safe to drink, the Washington State Department of Health (DOH) and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Washington State Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

VULNERABLE POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as those with cancer undergoing chemotherapy, those 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 at (800) 426-4791.

KEY DEFINITIONS

ACTION LEVEL (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

LEAD AND COPPER 90TH PERCENTILE VALUE: Out of every 10 homes sampled, 9 were at or below this level. This must be less than or equal to the AL or additional steps must be taken.

MAXIMUM CONTAINMENT LEVEL (MCL): The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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.

MMHOS/CM: A measure of specific conductance.

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.

N/A: Not applicable.

NOT DETECTED (ND): The result is less than the SDRL.

NEPHELOMETRIC TURBIDITY UNIT (NTU): A measure of water clarity.

PPB: Parts per billion (µg/L, micrograms per liter)

PPM: Parts per million (mg/L, milligrams per liter)

STATE DETECTION REPORTING LIMIT (SDRL): The minimum reportable detection of an analyte as established by DOH. If the test result is less than the SDRL, the contaminant is considered to be not detected.

SECONDARY MAXIMUM CONTAMINANT LEVEL (SMCL): These standards are developed as guidelines to protect the aesthetic qualities of drinking water and are not health based.

Your water is tested for more than 150 contaminants for which state and federal standards have been set.

Tables 1 & 2 list all primary contaminants that were detected at or above the state detection reporting limit (SDRL), along with their respective MCLs. Primary MCLs (primary standards) protect public health by limiting the levels of these contaminants in drinking water.

Table 3 lists secondary contaminants of interest to many consumers, as well as any unregulated contaminant detections. Secondary contaminants have no known health effects but can affect the aesthetic properties of water (taste, odor, and appearance). Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help EPA determine their occurrence in drinking water and potential need for future regulation.

SOURCE CODES

The source codes indicate major sources of contaminants in drinking water.

AM	Water additive used to control microbes
BD	Byproduct of drinking water disinfection
CH	Corrosion of household plumbing systems
EN	Erosion of natural deposits
LN	Leaching from natural deposits
LX	Leaching from septic tanks
NAT	Substances that form natural deposits
NE	Naturally present in the environment
NOM	Naturally occurring organic materials
RF	Runoff from fertilizer use
RGE	Runoff from glass and electronics production wastes
RLN	Runoff/leaching from natural deposits
RO	Runoff from orchards
RS	Soil runoff
SEA	Seawater influence
SEW	Sewage
WI	Industrial wastes

Equipment in water-testing laboratories can detect constituents as small as 1 part per trillion. That is equivalent to 1 inch over 15 million miles

2021 WATER QUALITY

Table 1: Primary Contaminants

Inorganic Chemicals	Year Tested	Units	MCL	MCLG	Spring (S03)	Wellfields S09 & S11	Violation?	Source
Nitrate	2021	ppm	10	10	2.1	1.4	No	EN, LX, RF, SEW
Arsenic	2020	ppb	10	0	ND	ND–1	No	EN, RGE, RO
Disinfectant (an additive)	**Year Tested**	**Units**	**MRDL**	**MRDLG**	**Highest Running Average**	**Range**	**Violation?**	**Source**
Free Chlorine Residual[1]	2020	ppm	4	4	0.68	<0.02–1.03	No	AM
Disinfection Byproducts	**Year Tested**	**Units**	**MCL**	**MCLG**	**Your Water**		**Violation?**	**Source**
Total Trihalomethanes (TTHM)	2020	ppb	80	N/A	3.3		No	BD
Haloacetic Acids (HAA5)	2020	ppb	60	N/A	ND		No	BD
Microbiological	**Year Tested**	**MCL**	**MCLG**		**Level 1 Assessments — Required and Completed**		**Violation?**	**Source**
Total Coliform Bacteria[2]	2021	TT	N/A		1		No	NE

Table 2: Lead and Copper[3]

Primary Contaminants	Year Tested	Units	AL	90th Percentile	Samples > AL	Violation?	Source
Copper	2021	ppm	1.3	0.41	0 of 12	No	CH, EN
Lead	2021	ppb	15	2	0 of 12	No	CH, EN

1 This is average chlorine residual in the spring-supplied zone. Chlorine is added at the spring source only, due to potential influence by surface water. The wells are not chlorinated; however, the two storage tanks for the wells can receive surplus chlorinated water from the spring water storage tank during periods of low demand. Therefore, a trace of chlorine may be detected in the wellfield supplied zone on occasion. In 2020, chlorine concentration measured in the wellfield supplied zone during routine monthly coliform sampling was <0.02–0.05 ppm.

2 Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. In October of 2021 there was a coliform positive in the water system. A repeat sample at the same location and a sample at a storage tank were also total coliform positive. The tank was immediately taken out of service and a Level 1 assessment was conducted. A crack was found in the storage tank (reservoir #1 roof) through which rain water seeped and caused the positive coliform samples. The reservoir is currently under repair.

3 Samples are collected at customer kitchen or bathroom taps. Residences considered to be at highest risk for corrosion are selected for sampling (i.e., those with lead and copper in internal plumbing, based on specific EPA tiering criteria and available home construction details from county web sites). The number of homes sampled is based on population served by the water system. This testing is done every three years.

2021 WATER QUALITY

(Continued)

Table 3: Secondary and Unregulated Contaminants

Secondary Contaminants	Year Tested	Units	SMCL	Spring (S03)	Wellfields S09 & S11	Violation?	Source
Iron	2020	ppm	0.3	ND	ND	No	LN, WI
Manganese	2020	ppm	0.05	ND	ND	No	LN
Chloride	2020	ppm	250	3.1	2.6–3.4	No	RLN, SEA
Sulfate	2020	ppm	250	4.7	4.3–4.5	No	RLN, WI
Sodium[1]	2020	ppm	N/A	12.8	6.3–7.0	No	EN, SEA
Hardness[2]	2020	ppm	N/A	107	69–74	No	EN
Conductivity	2020	µmhos/cm	700	233	153–163	No	NAT, SEA
Turbidity	2020	NTU	N/A	ND	0.2–0.3	No	RS
Color	2020	color units	15	ND	ND	No	NOM
Unregulated Contaminants	**Year Tested**	**Units**	**SMCL**	**Spring (S03)**	**Wellfields (S09 & S11)**	**Violation?**	**Source**
Lead[3]	2020	ppb	N/A	ND	ND	No	CH, EN
Copper	2020	ppm	N/A	ND	ND	No	CH, EN

1 The EPA recommends 20 ppm sodium as a level of concern for consumers who must restrict their dietary intake.

2 When reading the hardness value, 0–75 ppm is considered “soft” water, 75–150 ppm is “moderately hard,” 150–300 ppm is “hard,” and > 300 ppm is “very hard.” To convert to grains per gallon of hardness, divide total hardness by 17.1.

3 Lead and copper are regulated at customer taps (see Table 2 for those results), not at the source, which is what these results represent. This is because lead and copper in drinking water do not typically come from the water source. They come from the plumbing that serves, or is inside, the customer’s home, from corrosion of lead and copper-containing plumbing or fixtures, or the lead solder that connects copper pipes.

REVISED TOTAL COLIFORM RULE (RTCR)

This year's report reflects changes in drinking water regulatory requirements that took effect in 2016. Effective April 1, 2016, the Revised Total Coliform Rule (RTCR) replaced the Total Coliform Rule that had been in place for public water systems since 1989. The purpose of the revised rule remains the same as the original rule, to protect public health by ensuring the integrity of the drinking water distribution system and by monitoring for the presence of microorganisms (i.e. total coliform and E. coli bacteria).

Under the RTCR, the presence of total coliform bacteria (E. coli-absent) is no longer considered a direct health threat. The maximum contaminant level (MCL) for total coliform has been eliminated. The presence of total coliform bacteria does, however, indicate that a pathway exists, or may exist, for contamination into the distribution system. The U.S. EPA anticipates even greater public health protection under the revised rule because it requires water systems to identify and fix problems that may directly or indirectly contribute to microbial contamination. It formalizes the process, requiring a qualified person to conduct a Level 1 Assessment (see definitions at right) when the system has greater than one routine coliform-positive sample in a calendar month. Any sanitary defects that are identified during the assessment must be corrected. Examples of ways that coliform can enter the system are: failure to disinfect properly after maintenance or repairs, main breaks, holes/gaps in storage tank joints and screens, loss of system pressure, cross-connections, biofilm accumulation in the distribution system, inadequate disinfectant residual (chlorinated systems), or sampling protocol errors.

The assessor records his or her findings and corrective actions onto an assessment form. The completed form must be submitted to the Washington State Department of Health (DOH) within 30 days of the treatment technique trigger (TTT), the new RTCR term for greater than one routine coliform-positive sample in a calendar month. A second TTT in a rolling 12-month period results in a more comprehensive Level 2 Assessment. A third TTT will likely result in DOH requiring permanent continuous chlorination (if the system is not already chlorinated).

Level 1 Assessment: a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system

Level 2 Assessment: a more detailed study of the water system to identify potential problems and determine (if possible) why total bacteria have been found in the water system more than once in a 12-month period, or why an E. coli MCL violation has occurred (if applicable)

For more information on the RTCR from DOH, visit: **www.doh.wa.gov/Portals/1/Documents/Pubs/331-556.pdf**.

ABOUT LEAD

Washington Water is compliant with health and safety codes mandating use of lead-free materials in water system replacements, repairs, and new installations. We have no known lead service lines in our systems. We test and treat (if necessary) water sources to ensure that the water delivered to customer meters meets water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards, but what about your home's plumbing? In Washington state, lead in drinking water comes primarily from materials and components used for in-home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures). Therefore, the Lead and Copper Rule is a critical part of our water quality monitoring program, and we follow it completely. This rule requires us to test water *inside* a representative number of homes that have plumbing most likely to contain lead and/or lead solder. This test, along with other water quality testing, tells us if the water is corrosive enough to cause lead from home plumbing to leach into the water. If the Action Level (the concentration of a contaminant which, when exceeded, triggers action which a water system must follow before it becomes a health concern) is exceeded, either at a customer's home or system-wide, we work with the customer to investigate the issue. If the problem is system-wide, we will implement corrosion control treatment at the source before the lead levels create a health issue.

Elevated levels of lead, if present, can cause serious health problems, especially for pregnant women and children. If your home's plumbing contains lead piping or pipe fittings, lead solder, or brass fixtures that may contain lead, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two 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 by a certified lab. 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 **www.epa.gov/safewater/lead**.

Results of our lead monitoring program, conducted in accordance with the Lead and Copper Rule, can be found in Water Quality Tables 2 and 3.

ABOUT MONITORING WAIVERS

(Reduced Monitoring)

ORGANIC CHEMICALS

Drinking water sources are sampled and tested a minimum of every six to nine years for an array of organic chemicals including:

- Volatile organic chemicals (VOCs): Human-made chemicals that are used and produced in the manufacture of paints, pharmaceuticals, and refrigerants. Typical VOCs are components of petroleum fuels, paint thinners, and dry cleaning agents.
- Synthetic organic chemicals (SOCs): Human-made chemicals that are used as herbicides, pesticides ,and in the manufacture of plastics.

Sampling frequencies for these groups of organic chemicals can vary depending on the county in which your water system is located, whether the source has been granted a monitoring waiver, and whether there have been past detections of any of these organic contaminants.

Monitoring waivers are granted by the DOH and are based on a source's susceptibility rating (risk of contamination), water quality history, and information gathered from across the state.

If there were detections of organic contaminants obtained during the most recent round of compliance monitoring (2017–2021 for VOCs; 2015–2021 for SOCs), they are shown in the water quality data tables. If there are none reported in the tables, there were none detected.

RADIOACTIVE CONTAMINANTS

Drinking water sources are sampled and tested a minimum of every six years for radioactive contaminants (radium 228 and gross alpha). These contaminants can be naturally occurring or the result of oil and gas production and mining activities.

If there were any detections obtained during the most recent round of compliance monitoring (2021), they are shown in the water quality data tables. If there are none reported in the tables, there were none detected.

WATER-USE EFFICIENCY

Water is a precious, limited resource. In the Pacific Northwest, drinking water for our growing population competes with other uses that include agriculture, industry, recreation, and maintaining an adequate stream flow for fish.

Washington Water strives to be a leader in the water industry, and we encourage our customers to be good stewards of our water resources. We monitor the amount of water we withdraw from aquifers in Washington, and track water losses along with water sold to our customers to ensure compliance.

Washington Water also continues to invest diligently in our infrastructure to reduce the amount of water lost to pipeline leaks and are updating our assessment of the impacts of climate change on water supply and demand. Using water wisely will ensure that we have enough water in dry years and for generations to come.

Water-use efficiency goals are established in accordance with WAC 246-290-830(6)(b).

DEMAND GOAL

Washington Water's company-wide water demand goal is an annual customer consumption of less than 117,300 gallons (or 0.36 acre feet) per year, per equivalent residential unit. Washington Water monitors demand and encourages conservation through a variety of resources. Washington Water's Customer Service Department alerts customers with unusually high consumption, and provides 13 months of consumption history on billing statements to all customers. See **www.wawater.com/conservation** for more information about how you can make a difference.

SUPPLY GOAL

To control use of our groundwater sources, Washington Water established a supply goal to withdraw a maximum of 130,340 gallons (or 0.40 acre feet) per year, per equivalent residential unit. This goal is a measure of operational efficiency and adequate maintenance of pumping, treatment, and distribution systems. The difference between the supply and demand goals allows for a maximum of 10% total distribution system leakage use company-wide. Washington Water gauges and records monthly source production, and identifies treatment backwash and system flushing volumes to regularly assess supply-side conservation efficiencies. Washington Water also annually evaluates our systems' water main repair history and distribution system water losses to develop capital improvement projects for water main replacements. See **www.wawater.com/construction** for current and recently completed main replacement projects.

COMPANY-WIDE 2021 WATER USE RESULTS

- Total production: 2.141 billion gallons
- Total accounted usage: 1.883 billion gallons
- Total distribution system leakage: 12.0%

Thanks for taking the time to learn more about your water quality!

IMPORTANT CONTACT INFORMATION

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Quality. Service. Value.®

THANK YOU.

OUR WATER QUALITY COMMITMENT:

YOU CAN COUNT ON WASHINGTON WATER EMPLOYEES TO…

- Provide you with the highest quality water possible
- Sample, test, and treat (if needed) your water on a regular basis
- Work diligently to meet every water quality standard on every system, every day
- Maintain the water distribution system reliability
- Provide you with the highest level of customer service possible