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## Drinking Water Quality Report for Kapowsin Water System

Pierce County  
Water System ID #37750

# 2021

In this report, you will find information about:

### YOUR WATER

Your Water System  
Source Water Protection  
Cross-Connection Control

### TEST RESULTS

Possible Contaminants  
Key Table Definitions  
Lead Information  
Water Quality Table  
Washington Water's  
Southwood System Water  
Quality Table

### WHERE DOES MY WATER COME FROM?

The water source for this system is a water collection system that gathers water from a series of natural surface water features located over 1 mile northwest of the Kapowsin System. The water is then gravity fed into a storage tank and eventually pumped through a filtration system. As the receiver of record, Pierce County continues to maintain the current system and evaluate other options to ensure a clean, safe and reliable water system.

### OTHER SOURCE RESULTS:

Due to the extreme heat event in June 2021, water was trucked from the Southwood Water System in Graham (part of Washington Water) in order to keep up with the system demand. The last page of this report contains water quality monitoring information provided by Washington Water for the Southwood Water System.

### HOW IS MY WATER TREATED?

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. Disinfection involves the addition of chlorine or other disinfectants to kill dangerous bacteria and 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.

*The Kapowsin System is currently in receivership by Pierce County. Day-to-day operation of the water system is being conducted by Valley Water District. If you have any questions about the information in the report or any concern regarding water quality and the services we deliver every day, you may contact Valley Water District at 253-841-9698 or Pierce County at 253-798-3086.*

## Water Quality Report Information



**Valley Water District** is 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.

**Valley Water District** vigilantly safeguards and routinely monitors your drinking water. We are providing this report as a snapshot of water quality monitoring for the calendar year of the report (unless otherwise noted). 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.

### How Can I Get Involved?

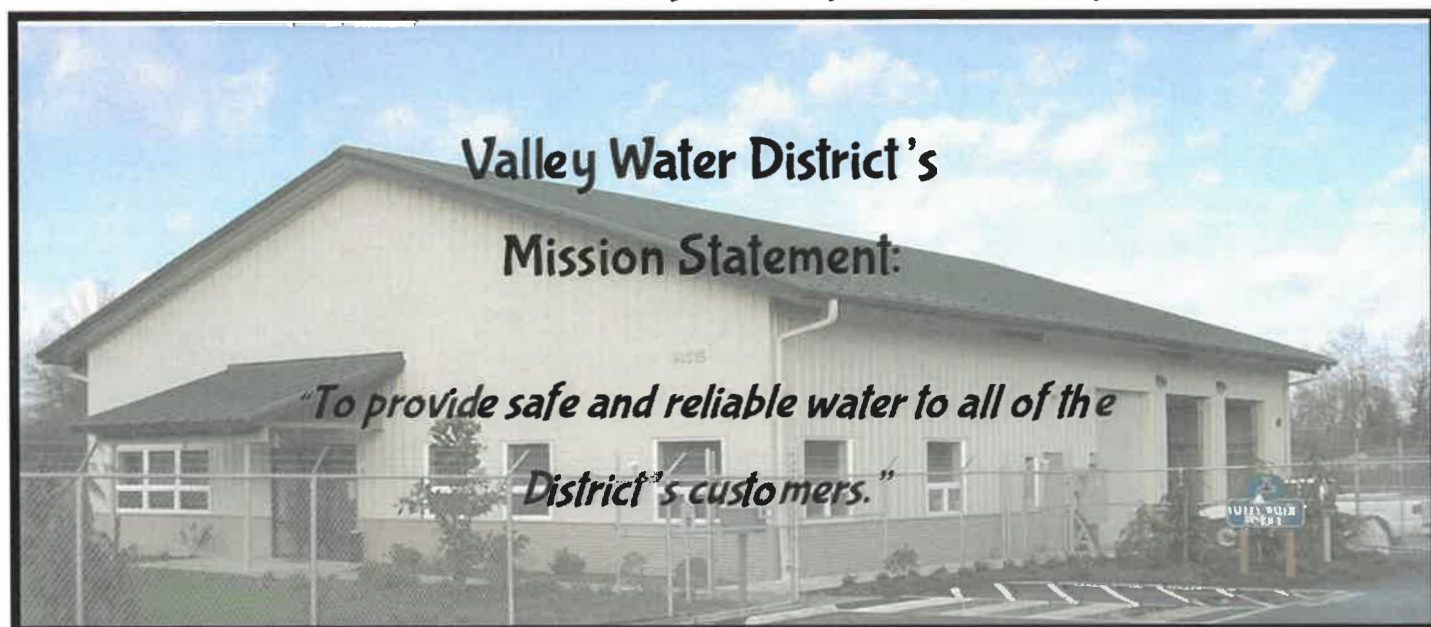
We want our valued customers to be informed about their water utility. If you would like to learn more, please attend any regularly scheduled Board Meeting held at the District Office on the first and third Tuesday of each month, at 7:00pm.

### Questions?

If you have any 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](mailto:service@valleywaterdistrict.com)

**Visit [www.wateruseitwisely.com](http://www.wateruseitwisely.com) for great water saving tips!**



## Possible Contaminants

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, naturally occurring minerals and, in some cases, radioactive materials dissolve in the water.

Water can also pick up substances resulting from the presence of animals or human activity.

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 EPA's Safe Drinking Water Hotline (1-800-426-4791).

Contaminants that may be present in source water include:

**Microbial contaminants**, such as viruses, parasites, and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife.

**Inorganic contaminants**, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.

**Pesticides and herbicides**, which may come from various sources such as agriculture, urban stormwater runoff, and residential uses.

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

**Radioactive Contaminants**, which can occur naturally or result from oil and gas production and mining activities.

*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.*

## VULNERABLE POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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.

## 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 or down the drain. This includes motor oil, pesticides, paint, household cleaners, medicines, etc.

## Check the SWAP information for your water system:

The WA State Department of Health Office of Drinking Water has compiled Source Water Assessment Program (SWAP) data for all community water systems. An interactive map with data for your water system is available at: <https://fortress.wa.gov/doh/swap/index.html>

## Cross-Connection Control Survey

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.

Valley Water 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.

Do you have one of these at your home or business?

- Lawn irrigation system
- Pool or hot tub
- Decorative pond or fountain
- Watering trough
- Fire sprinkler system
- Additional source(s) of water on the property



If you do, Washington State law may require that you have a "Backflow Prevention Assembly". The purpose of this device is to provide "cross connection control" - preventing contaminated water from flowing back into your drinking water - a serious health hazard.

However, even the best Backflow Prevention Assembly can fail because of freezing, debris, improper installation and unapproved plumbing connections. For this reason, the state's Department of Health requires these devices to be tested annually by a certified backflow assembly tester, with a copy of the test record sent to Valley Water District.

### Customers with a BACKFLOW ASSEMBLY:

#### Consider "Opting In" to our TESTING PROGRAM!

In 2018, the District created a program that allows customers with backflow devices that are required to have annual testing done to "OPT IN" and have the District coordinate with a contractor to perform the test at a significantly reduced rate of \$28.00 per device (most testers charge \$40-\$90 per device). It's not too late to opt in if you haven't yet, you can find the Backflow Testing Agreement on the District website at [www.valleywaterdistrict.com](http://www.valleywaterdistrict.com) under FORMS.



If you are already opted in...no need to worry about future testing. Every year between May and September, the District will automatically have the contractor, Randy Horne with Aqua Backflow Testing, perform the testing for each property that has opted in.

## KEY TABLE DEFINITIONS

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

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available 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.

**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.

**Minimum Reporting Level (MRL):** Also known as the Method Reporting Limit: The smallest amount of a substance that can be reliably quantitated in sample.

**NA:** Not Applicable

**Nephelometric Turbidity Unit (NTU):** a standard to measure water clarity.

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

**PPB =** Parts per billion

**PPM =** Parts per million

**µmhos/cm =** The basic unit of measurement of conductivity.

**mg/L =** milligrams per liter

**Secondary Maximum Contaminant Level (SMCL):** These standards are developed as guidelines to protect the aesthetic qualities of drinking water and are not health based.

**State Detection Reporting Limit (SDRL):** The minimum reportable detection of an analyte as established by DOH.

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

**Variations and Exemptions:** State or EPA permission not to meet an MCL, an action level, or a treatment technique under certain conditions.

### Information About 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 online at <http://www.epa.gov/safewater/lead>.

## About Monitoring Waivers

### 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) and synthetic organic chemicals (SOCs), such as herbicides and pesticides. VOCs are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.

Sampling frequencies for these groups of organic chemicals can vary depending on where the 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 across the state.

If there were detections or organic contaminants obtained during the most recent round of compliance monitoring, they are shown in the water quality data tables.

### 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, they are shown in the water quality data tables.



## Water Quality Data Table Introduction

**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** (if applicable) lists secondary contaminants of interest to many consumers, as well as any unregulated contaminant detections. Secondary contaminants can mainly 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.

## Water Quality Testing Results for 2021 Kapowsin Water System

**Table 1: PRIMARY CONTAMINANTS:**

Contaminants	Unit	MCLG	MCL	Your Water	Range		Sample Date	Violation?	Typical Source
					Low	High			
<b>Disinfectants &amp; Disinfection By-Products</b>									
Haloacetic Acids	ppb	NA	60	2.47	NA	NA	2021	No	By-product of drinking water disinfection.
Trihalomethanes, Total	ppb	NA	80	4.62	NA	NA	2021	No	By-product of drinking water disinfection.
<b>Inorganic Contaminants</b>									
Asbestos	MFL	7	7	0.117	NA	NA	2019	No	Decay of asbestos cement water mains; erosion of natural deposits.
Nitrate [measured as Nitrogen]	ppm	10	10	3.65	NA	NA	2021	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [measured as Nitrogen]	ppm	1	1	<.10	NA	NA	2020	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Nitrate/Nitrate - N	ppm	10	10	3.85	NA	NA	2020	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.

**Table 2: LEAD AND COPPER TESTING (2019):**

Samples are collected at customer kitchen or bathroom taps in 2 homes. The number of homes sampled is based on population served by the water system. This testing is done every three years and the most recent sample date is from 2019.

Contaminants	90% of taps sampled must be below AL	90% of taps sampled were at or below this level	MCLG	# of Samples Exceeding AL	Violation?	Typical Source
Copper - action level at consumer taps (ppm)	1.3 AL	1.46	1.3	2 of 2	Yes	Corrosion of household plumbing systems; erosion of natural deposits.
Lead - action level at consumer taps (ppb)	15 AL	1	0	0 of 2	No	Corrosion of household plumbing systems; erosion of natural deposits.

**Violations and Exceedances: Copper - action level at consumer taps**

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Lead and Copper samples are required to be collected every 3 years. The most recent round of samples was gathered in October 2019. The results of the samples indicated a slightly elevated level of copper. Pierce County is working closely with DOH to find a long term solution which may include treatment or possibly an alternate water source. The best long term solution is to seek an alternate source of water, however, the preliminary study results indicate the cost of a new source of water could be in excess of \$5,000,000. At this time Pierce County is evaluating other options to resolve the copper exceedance and is seeking an extension to the June 2022 deadline to select an engineered method to reduce copper.

Abbreviations are explained in the "Key Table Definitions" on the previous page of this report.

SEE NEXT PAGE FOR KAPOWSIN Table 3: Secondary Contaminants

SEE LAST PAGE FOR SOUTHWOOD WATER QUALITY RESULTS (Provided by Washington Water)

## 2021 Water Quality Report Kapowsin

**Table 3: SECONDARY CONTAMINANTS:** The samples below were taken in 2020 and are taken mainly to monitor the aesthetic qualities of your drinking water, such as color, taste, and odor.

Analytes	Results	MCL	EPA Regulated Secondary	State Regulated	Typical Source
Sodium *	8ppm	NA	No	Yes	In drinking water, sodium can occur naturally or be the result of road salt applications, water treatment chemicals or ion-exchange water softening units.
Hardness **	64ppm	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 (µmhos/cm)	160.1	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.

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

\*\*Hardness: When reading hardness value, 0-75 ppm is considered "soft" water, 75-150 ppm "moderately hard", 150-300 ppm is "hard",



2021 Southwood Water System Water Quality Report provided by Washington Water Service

Table 1: Primary Contaminants						
Inorganic Chemicals	Year Tested	Units	MCL	MCLG	Southwood Wells	
Nitrate*	2021	ppm	10	10	ND - 5.7	
Arsenic*	2014 - 2021	ppb	10	0	ND - 4.4	
Fluoride*	2013 - 2021	ppm	4	4	ND - 0.30	
Disinfectant (an additive)	Year Tested	Units	MRDL	MRDLG	Highest Running Average	Range
Free Chlorine Residual*	2021	ppm	4	4	0.69	0.03–1.20
Disinfection Byproducts	Year Tested	Units	MCL	MCLG	Highest Running Average	Range
Total Trihalomethanes (TTHM)	2021	ppb	80	N/A	2	ND - 4.4
Haloacetic Acids (HAA5)	2021	ppb	60	N/A	0.4	ND - 2.0
<p>*Nitrate can vary seasonally and can be influenced by land use and surface activity upgradient of the aquifer and within the source's sanitary control area. One source exceeded 1/2 MCL in 2020 (5.7 mg/L). All others were less than 1/2 MCL.</p> <p>*Most recent testing done, in accordance with the regulations. Your drinking water source was granted a 9-year monitoring waiver for most inorganic chemicals (IOC) by the DOH, based on water quality history. With a waiver, one IOC sample (28 inorganic tests) is required every 9 years, rather than every 3 years. DOH uses the monitoring waivers allowed by EPA because they save water systems money without compromising public health. Some individual inorganics like arsenic, iron, or manganese may be still be required every 3 years as a condition of the waiver. Nitrate is never waived (tested annually).</p> <p>*Three of Washington Water's 28 wells have very low naturally occurring fluoride. Tacoma Water fluoridates most of its sources.</p> <p>*Compliance with the MRDL is based on the highest running annual average (RAA), not any single residual result.</p>						
Table 2: Lead and Copper*						
Primary Contaminants	Year Tested	Units	AL	90th Percentile	Samples > AL	
Copper	2020	ppm	1.3	0.46	0 of 33	
Lead	2020	ppb	15	3	0 of 33	
<p>*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.</p>						
Table 3: Secondary and Unregulated Contaminants						
Secondary Contaminants	Year Tested*	Units	SMCL	Southwood Wells		
Iron*	2021	ppm	0.3	ND - 0.5		
Manganese*	2021	ppm	0.05	ND - 0.09		
Chloride	2021	ppm	250	ND - 8		
Sulfate	2021	ppm	250	ND - 7.6		
Sodium*	2021	ppm	N/A	5.8 - 26.7		
Hardness*	2021	ppm	N/A	41 - 133		
Conductivity	2021	µmhos/cm	700	88 - 249		
Turbidity	2021	NTU	N/A	ND - 1.4		
Color	2021	color units	15	ND		
Unregulated Contaminants	Year Tested	Units	SMCL	Your Water		
Lead*	2021	ppb	N/A	ND		
Copper	2021	ppm	N/A	ND		
<p>*SMCLs are guidelines only, set by EPA to control the adverse effects that minerals like iron and manganese can cause (taste, odor, staining of sinks and fixtures).</p> <p>*The EPA recommends 20 ppm sodium as a level of concern for consumers who must restrict their dietary intake.</p> <p>*When reading the hardness value, 0–75 ppm is considered "soft" water, 75–150 ppm is "moderately hard," 150–300 ppm is "hard," and &gt;300 ppm is "very hard". To convert to grains per gallon of hardness, divide total hardness by 17.1.</p> <p>*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.</p>						