



Jefferson County
Public Utility District

2024 Water Use Efficiency & Annual Water Quality Report

PWSID #AB292N

Quilcene Water System

System Report

Did you know all of Quilcene's water comes from a single well? Our main source is 165-foot-deep and draws clean water from underground sand and gravel layers.

Last year, we made a big upgrade by installing a new 105,000-gallon water tank. This not only helps ensure reliable service—it also provides enough pressure and volume for commercial fire protection.

We're also planning for the future. The PUD has applied for additional water rights so we can add another water source and support more connections in the Quilcene area.



Jose Escalera
PUD Water Superintendent



Quilcene water system pump house and storage tank.

Utility Meetings

Jefferson PUD is customer-owned. If you wish to attend a board meeting, the PUD board provides both in-person and hybrid options for meetings every first and third Tuesday of each month, and the second Tuesday in December. In-person attendance is in our 310 Four Corners Road conference room. For details, visit: jeffpud.org for more information on how to attend. To learn more about how the PUD manages your water system, please visit: jeffpud.org/water-quality-and-safety

Health Effects of Contaminates

Nitrates: As a precaution, we notify local doctors and health care providers if nitrate levels in the water exceed normal levels. Infants under six months old are especially at risk. Drinking water with nitrates above the maximum contaminant level (MCL) can cause serious illness or even death. Symptoms include shortness of breath and "blue baby" syndrome. Nitrate levels can rise suddenly due to rainfall or agricultural activity. If you care for an infant, consult your health care provider for guidance.

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

Arsenic: Your drinking water currently meets the EPA's standard for arsenic. However, arsenic is a mineral that can cause cancer at high levels and may also lead to skin damage and circulatory issues. The EPA continues to study the health effects of long-term exposure to arsenic.

Copper: Copper is an essential nutrient, but high levels in drinking water can be harmful. Short-term exposure above the action level may cause stomach upset. Long-term exposure may lead to liver or kidney damage. People with Wilson's Disease should consult their doctor about copper in their water.

Lead: Infants and children who drink water containing lead in excess of the action level could

experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink water with excess lead over many years could develop kidney problems or high blood pressure.

Manganese: Manganese is known to occur naturally in well water due to the type of rock a well may be drilled into. Concentrations above the national guidelines may contribute to problems with taste, odor and color of the water coming out of your tap.

Chloride, Sodium and Salt Water Intrusion: Chloride and sodium levels rise when a well begins to pump from an aquifer mixing with sea water.

Turbidity: (cloudiness in water) does not pose a direct health

risk, but it can reduce the effectiveness of disinfection and support microbial growth. High turbidity may signal the presence of harmful organisms such as bacteria, viruses, and parasites, which can cause nausea, cramps, diarrhea, and headaches.



Reason for Reporting Contaminants

The table in this report shows the drinking water contaminants we detected during the calendar year. Their presence does not necessarily mean the water poses a health risk.

Unless otherwise noted, all data is from testing conducted during the report year. Some contaminants are monitored less frequently, as their levels typically remain stable over time per EPA or state guidelines.

2024 Water Quality Summary Report - Quilcene - System ID #: AB292N

Contaminant	Source	Violation?	Results/Unit	MCLG	MCL	Sampling	Typical Source
Microbial							
Total Coliform Bacteria	All	No	No Detect	Absence	Presence	Once per month	Naturally present in the environment.
Inorganic Contaminants							
Nitrate (mg/L)	SO1	No	No Detect	10	10	9/25/24	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits.
Lead & Copper (taken at customer's tap)							
Lead (ppb)	SO1	No	2/5 Homes had ND	0	15	9/22/22	Corrosion of plumbing and pipes. 90th percentile was 1.7 ppb, none above action level.
Copper (mg/L)	SO1	No	0.031	1300	1300	9/22/22	Corrosion of plumbing and pipes. 5 homes tested ND.
Volatile Organic Compounds							
VOCs	SO1	No	No Detect	Varied	Varied	10/7/21	Varies; includes petroleum-gasoline-based compounds.
Synthetic Organic Contaminates							
Herbicides	SO1	No	No Detect	Varied	Varied	10/7/21	Agricultural and horticultural runoff.
Radionuclides							
Gross Alpha	SO1	No	No Detect	0	15pCi/L	5/29/20	Erosion of natural deposits.
Radium 228	SO1	No	No Detect	0	5pCi/L	5/29/20	Erosion of natural deposits.
Contaminant	Source	Violation?	Results/Unit	MCLG	MCL* (ppt)	Sampling	Typical Source
Per and Polyfluoroalkyl Substances (PFAS)							
Per and Polyfluoroalkyl Substances (25 total)	SO1	No	No Detect	0	Variable	6/27/23	Wastewater discharge, runoff from landfills, fire extinguishing foam, electronics, textiles, food, packaging, etc.

Terms and Abrevitions for Water Table

Action Level (AL): The concentration of a contaminant that, if exceeded, requires a water system to take specific treatment or corrective actions.

Lead and Copper 90th Percentile: Indicates that 90% of homes tested had lead or copper levels at or below this value.

Maximum Contaminant Level (MCL): The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as possible, based on the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant below which there is no known or expected risk to health. MCLGs include a margin of safety.

Maximum Residual Disinfectant Level (MRDL):The highest amount of a disinfectant (like chlorine) allowed in drinking water. Disinfectants are used to control microbes.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant below which there is no known or expected health risk. MRDLGs do not account for the benefits of using disinfectants.

N/A (Not Applicable): Indicates the term or value does not apply in a given context.

Nephelometric Turbidity Unit (NTU): A measure of water

clarity. Turbidity above 5 NTU is usually noticeable to the average person.

Non-Detects (ND): Lab analysis did not find the contaminant in the water sample.

Parts per Billion (ppb) / Micrograms per Liter (µg/L): One part contaminant per billion parts of water—equivalent to 1 teaspoon in a 4-acre lake that is 1-foot deep, or 1 teaspoon in 1.32 billion gallons.

Parts per Million (ppm) / Milligrams per Liter (mg/L): One part contaminant per million parts of water—equivalent to 1 teaspoon in 1,320 gallons of water.

Secondary Maximum Contaminant Level (SMCL): Guidelines set to protect the look, taste, and smell of drinking water. These are not based on health concerns.

State Reporting Level (SRL): The minimum level of a contaminant that must be reported to state regulatory agencies.

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

< (Less Than): Indicates the amount of a substance is below the detection limit or a regulatory threshold.

Please take a moment to complete the brief online questionnaire by visiting: jeffpud.org/water-use-questionnaire. Your feedback helps us identify areas that could pose a higher risk of contamination and helps us protect our shared water supply and ensure we’re meeting safety standards.

Important Information About Drinking Water Quality

Drinking water—including bottled water—may contain small amounts of some contaminants. This is normal and does not necessarily mean the water poses a health risk. For more information about contaminants and their potential health effects, you can contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Certain individuals may be more vulnerable to contaminants in drinking water than the general population. This includes people with weakened immune systems, such as those undergoing chemotherapy, individuals who have had organ transplants, people with HIV/AIDS or other immune disorders, some elderly individuals, and infants. These people should consult their healthcare providers for advice on drinking water safety.

The EPA and CDC offer guidelines to help reduce

the risk of infection from microbial contaminants like *Cryptosporidium*. These guidelines are also available through the Safe Drinking Water Hotline.

To protect public health, the EPA sets Maximum Contaminant Levels (MCLs) for regulated substances. These limits are very strict. To put this in perspective, a person would have to drink 2 liters of water at the MCL every day for a lifetime to have only a one-in-a-million chance of experiencing a health effect.

Drinking water sources—whether tap or bottled—include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water moves across land or through the ground, it can pick up naturally occurring minerals, radioactive materials, and substances resulting from animal or human activity.

Quilcene Water Use Efficiency Report

Water use efficiency helps safeguard public health and ensure reliable water supplies. With increasing pressure from drought and climate impacts, population growth, and limited water rights, long-term water disruptions are a real concern.

Definitions

Authorized Consumption (AC): Volume of water used by consumers as shown through meter readings, fire-fighting, system flushing, tank cleaning and street cleaning.

Average Daily Demand (ADD): Average volume of water a typical single family home uses each day.

Distribution System Leakage (DSL): Water lost from

Our Water Use Efficiency (WUE) program takes a proactive approach by supporting long-term water supply reliability and public health, promoting responsible water stewardship, and improving the efficiency of our water systems.

the system through leaking pipes, illegal water use, volume difference of total water produced and authorized consumption (TP-AC). Percent DSL= $[(TP-AC)/TP] \times 100\%$

Total Water Produced (TP): Volume of water pumped from a well, diverted from a surface water or purchased from another system.

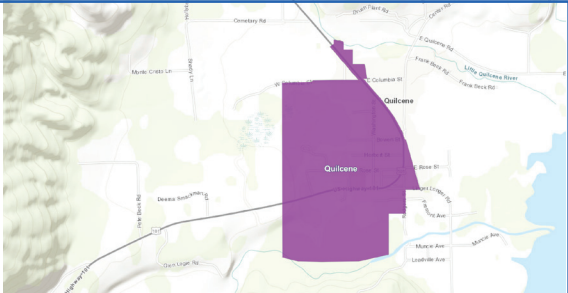
Quilcene System	
Water Produced	3,003,530 gallons
Water Consumed	1,912,078 gallons
Distribution System Leakage (DSL)	36.3%
3-Year Average DSL	18.0%
Gallons Per Day Per Customer Goal (GPD)	117
GPD per Customer	61
Total Water Saved per Customer	20,440 gallons
Total Water Saved by Utility	-892,863 gallons

Source Susceptibility Rating

This water source susceptibility rating refers to an assessment of how vulnerable a public water system's source (such as a well, spring, or surface water intake) is to contamination.

Wellhead Assessment Rating	Wellhead Number
Moderate	S01

A copy of the source susceptibility report submitted to the WA State Dept of Health is available upon request.



State Waivers

Waivers mean no testing or modified testing frequency for a specified contaminant is required for a set period of time. The Washington State Department of Health reduced the monitoring requirements for SOC (pesticides) and Soil Fumigants because the source is not at risk of contamination. The PUD was found to meet all applicable standards.

Inorganic Contaminants: 1 sample every 9 years;

Synthetic Organic Contaminants (herbicides): 1 sample every 9 years;

Volatile Organic Contaminants: 1 sample every 6 years;

Dioxin, Diquat, Endothal, Glyphosphate, Insecticides: complete waivers;

Asbestos: no samples through 2025.

Per-and Polyfluoroalkyl Substances (PFAS): no samples through 2025.

Unregulated Contaminants Statement

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.

Secondary Contaminants Statement

Secondary contaminant standards are developed to protect the aesthetic (taste, color and odor) qualities of drinking water and are not health based. Secondary contaminants include iron, manganese, silver, chloride, sulfate and zinc. Exceeding the MCL for any of these secondary contaminants does not mean the water system is in violation of the state or federal standard.

Tap Water & Bottle Water Safety

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

Washington State Office of Drinking Water – Lead Statement

In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing and service lines. Jefferson PUD is responsible for providing high quality water, but cannot control the variety of materials used in plumbing components. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children. To help reduce potential exposure to lead: for any drinking water tap that has not been used for 6 hours or more, flush water for thirty (30) seconds to two (2) minutes through the tap until the water is noticeably colder before using for drinking or cooking. You can use the flushed water for watering plants, washing dishes or general cleaning. Only use water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water is available from EPA's Safe Drinking Water Hotline at 1-800-426-4791 or online at <http://www.epa.gov/safewater/lead>.

Contaminants that May Be Present in Water

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

Inorganic contaminants, such as salts and metals, which can be occur naturally or result from urban storm water 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 storm water runoff and residential uses.

Radioactive contaminants which can occur naturally or result from oil and gas production and mining activities.

Organic chemical contaminants, including synthetic and volatile chemicals, which are by-products of industrial processes and petroleum production. Also from gas stations, urban storm water runoff and septic systems.



Hydrogeologist, Cheyenne Stice, measures Quilcene well recharge.

Quilcene Water – Sounding What Lies Below

Pump tests provide critical feedback on the groundwater resources underfoot. Data collected helps utility and state water resource teams better manage your water.

Water moves through aquifers at varying speeds until it discharges into the saltwater of the Puget Sound and the Strait of Juan de Fuca. PUD wells capture this water for use. Aquifer data from the pump test help managers provide evidence for how many homes a source can serve and ensure that all other water right holders can get their state allotted rights. In the case of Quilcene, that includes the state instream flow rights to protect the Big Quilcene River.

The pump test will run for 24 hours straight, pulling 40 gallons per minute with Stice taking measurements three times during that time.

Water pumped during testing goes directly into the new 105,000-gallon concrete tank beside the pump house. PUD staff lowered the tank level to account for the extra water produced during the pump test to avoid waste.

It's amazing how much water flows beneath our feet 24/7/365. Not every well across the county can handle this pumping rate, with some private wells pulling water at rates so low they require supplemental storage. Well location matters when you are a peninsula on a peninsula, like many of the PUD's systems.