

2023 Consumer Confidence Report Bywater Bay Water System (ID# 02043P)

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Environmental Protection Agency (EPA) Drinking Water Hotline	----	1-800-426-4791	-----

The Bywater Bay water system is owned, operated, and managed by PUD No.1 of Jefferson County. Your District Commissioner is Dan Toepper. If you wish to attend a board meeting, the PUD board currently meets remotely via Zoom and at its conference room at 310 Four Corners Road every first and third Tuesday and second Tuesday in December. For details, go to jeffpud.org for more information on how to attend.

Your water comes from three groundwater wells. Sources 1 is 295 feet deep, Source 02 is 323 feet deep, and Source 03 is 400 feet deep. Source 1 is located about 2 miles west of Stark Road and 750 feet north of State Route 104 surrounded by vacant Olympic Property Group designated forest land. It is screened in a sand and gravel aquifer. Source 2 is located at the end of Alpine Court and is also screened in a sand and gravel aquifer. Source 3, also known as the Reynolds well, is located off Teal Lake Road and accesses a bedrock aquifer. For Source 1 and 2, we remove the iron and manganese from the water to reduce staining and chlorinate it to facilitate the removal process as well as protect our customers against microbial contaminants. Source 3 has produced high chlorides periodically and has been offline, to be evaluated for reduced use or possible replacement.

Source Number (Well ID#)	Susceptibility Rating
SO1 (AAB869)	Low
SO2 (AAB870)	Low
SO3 (ABP999)	High

Health Effects

Below are the water quality testing results for the Bywater Bay water sources for calendar year 2022. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as person 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/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 (800-426-4791). Some health effects linked to prolonged exposure to unhealthful levels of contaminants are in the tables below.

Lead in Your Drinking Water

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. The PUD 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 the 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>.

Arsenic in Your Drinking Water:

Your drinking water currently meets EPA's revised drinking water standard for arsenic. However, it does contain low

levels of arsenic. In 2022, arsenic concentrations of 8 ppb in SO1, 5 ppb in SO2 and 6.5 ppb in SO3 were detected. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory diseases are due to factors other than exposure to arsenic. EPA’s standard balances the current understanding of arsenic’s health effects against the costs of removing arsenic from drinking water.

PFAS Testing:

Bywater Bay was sampled for per and polyfluoroalkyl substances (PFAS) otherwise known as “forever chemicals) in late 2022. However, demand for specialized high precision chemical analysis has in part delayed the lab results. While we don’t want to prejudge results, other similar rural systems we have tested have shown undetectable amounts of PFAS or concentrations, if present, less than detectable levels of 2 parts per trillion (ppt).

<p>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 can dissolve naturally occurring minerals and, in some cases, radioactive materials, and can pick up substances resulting from the presence of animals or from human activity.</p> <p>Contaminants that may be present in source water include:</p> <ul style="list-style-type: none"> • Microbial contaminants, such as viruses 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 storm water runoff, industrial or domestic wastewater discharge, oil and gas production, mining, or farming. 	<ul style="list-style-type: none"> • Pesticides and herbicides, which 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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems. • Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. <p>In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in the water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for human health.</p>
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Definitions:	
<p>Maximum Contaminant 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 technology.</p> <p>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.</p> <p>Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.</p> <p>Treatment technique (TT): A required process intended to reduce the level of a contaminant in drinking water if MCL is exceeded.</p>	<p>ND: none detected</p> <p>pCi/l: Pico curies per liter, measure of radioactivity.</p> <p>ppm: parts per million or milligrams per liter (mg/L).</p> <p>ppb: parts per billion or micrograms per liter (µg/L).</p> <p>Presence/Absence: Indicates positive/negative test for bacteria.</p> <p>SO: Source number listed with WA Dept of Health.</p> <p>NP: Not present.</p> <p>n/a: Not applicable.</p>

Testing Type	Last Testing Date in Last 5 years (Source #)
Microorganisms (Total Coliform Bacteria)	Monthly (Distribution)
Nitrate	Annual (All Sources)
Arsenic	2022 (SO1, SO2 & SO3)
Chloride	2021 (All sources)
Lead & Copper	2022 (Distribution)
Inorganic Compounds	2022 (SO3)
Volatile Organic Compounds	2019 (SO1), 2021 (SO2 & SO3)
Disinfectant Byproducts	2020 (Distribution)
Radionuclides	2017 (SO2), 2020 (SO1), 2021 (SO3)
Herbicide, Insecticide and/or Pesticide	2018, 2019, 2021 (Various, See Below)
PFAS	2023 (Results pending)

Primary Regulated Contaminants						
Microbiological (Distribution)	MCLG	MCL	Your Water Results	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the MCL
Total Coliform Bacteria	Absence	Presence	Absence	Once per month	N	Not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present
Inorganic Compounds (Primary Contaminants)	MCLG	MCL	Your Water Results	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the MCL
Nitrate (mg/L) (SO1, SO2, SO3)	10	10	ND (SO1) ND (SO2) ND (SO3)	4/18/2022	N	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Arsenic (ppb)	Zero	10	8 (SO1) 5 (SO2) 6.5 (SO3)	4/18/2022	N	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer

Lead and Copper (mg/L) (Distribution)	AL	No. of Homes Sampled	Results at Homes	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the MCL
Lead (ppb)	15	10	6 homes were ND, 4 homes ranged from 1 -13 µg/L	2/11/2022	N	Infants and children: Delays in physical or mental development; children could show slight deficits in attention span and learning abilities Adults: Kidney problems; high blood pressure
Copper (ppm)	1.3	10	2 homes were ND, 8 homes ranged from 0.002 – 0.11 mg/L	2/11/2022	N	Short term exposure: Gastrointestinal distress Long term exposure: Liver or kidney damage. People with Wilson's Disease should consult their personal doctor if the amount of copper in their water exceeds the action level
Radionuclide (Source 1 & 3)	MCLG	MCL	Your Water Results	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the MCL
Gross Alpha (pCi/L) (SO1)	0	15	ND	4/21/2020	N	Increased risk of cancer
Radium 228 (pCi/L) (SO1)	0	5	ND	4/21/2020	N	Increased risk of cancer
Gross Alpha (pCi/L) (SO3)	0	15	ND	4/22/2021	N	Increased risk of cancer
Radium 228 (pCi/L) (SO3)	0	5	ND	4/22/2021	N	Increased risk of cancer
Synthetic Organic Compounds (µg/L)	MCLG	MCL	Your Water Results (ppm)	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the MCL
Herbicides & Pesticides (SO3)	Various	Various	ND	10/6/2021	N	Various, typically liver and kidney problems, increased risk of cancer

Volatile Organic Compounds (µg/L)	MCLG	MCL	Your Water Results	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the MCL
Toluene (ppb) (SO3)	1,000	1,000	0.54 ^	4/22/2021	N	Nervous system, kidney, or liver problems
Disinfectant Byproducts µg/L (Distribution)	MCLG	MCL	Your Water Results (4205 Paradise Bay Road)	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the MCL
Haloacetic Acids (HAA5) (ppb)	Zero	60	4.7	8/5/2020	N	Byproduct of chlorination Increased risk of cancer
Total Trihalomethanes (TTHM) (ppb) (SO2)	Zero	80	1.5	4/22/2021	N	Byproduct of chlorination Liver, kidney or central nervous system problems; increased risk of cancer

Secondary Unregulated Contaminants						
Inorganic Compounds)	MCLG	Secondary Standard	Your Water Results	Sample Date	Violation (Y/N)	Potential Health Effects from Long-Term Exposure Above the Secondary Standard
Chloride (mg/L) (SO3)	NA	250 mg/L	ND	4/22/2021	NA	Cardiovascular disease, gastrointestinal problems
Chloride (mg/L) (SO3)	NA	250 mg/L	384 *	7/1/2021	NA	Cardiovascular disease, gastrointestinal problems
Chloride (mg/L) (SO1, SO2, SO3)	NA	250 mg/L	ND	8/25/2021	NA	Cardiovascular disease, gastrointestinal problems

All PUD water system water quality data for sources and distribution can be found at the WA Department of Health Sentry Internet website at <https://fortress.wa.gov/doh/eh/portal/odw/si/>. Search "Bywater Bay".

Notes:

* Regarding the chloride in SO3, samples were taken before the well was put into use April 2021. When sampled again in July and the high chlorides were detected, the well was taken offline. A sample taken in late August the same year detected no chloride. The PUD is working on a pump schedule for this well to address its limitations.

^ Toluene detected in SO3; two follow-up tests performed 7/1/2021 and 10/6/2021 did not detect toluene again. The initial presence of toluene detected was likely from residual cleaner on the pump when it was installed.