



**FAIRVIEW WATER DISTRICT
A PORTION OF PORT ANGELES COMPOSITE
WATER QUALITY REPORT FOR 2019
(DOH #432960)**

Dear Water Customer:

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). We want to keep you informed about the excellent water and services you have been receiving over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. *Informed customers are our best allies in maintaining safe drinking water!*

How can I get involved?

We encourage public interest and participation in our community's decisions affecting drinking water. Regular meetings with the District's Board of Commissioners are held every other Monday at our Main Office (104 Hooker Rd. Sequim WA) at 1:30 p.m. The public is welcome. You may also learn more about PUD #1 of Clallam County by contacting our website at www.clallampud.net, or by calling 360-452-9771 or toll free at 1-800-542-7859.

Where does my water come from and how is it treated?

This water system is primarily supplied surface water from the Morse Creek Treatment Plant (S01). Your drinking water is treated with advanced membrane-filtration technology and disinfection. Water passes through 0.1 micron membrane filters that remove any particles. These particles can include sediment and natural materials as well as viruses, bacteria and other disease-causing organisms.

During the treatment process aluminum sulfate is added to aid in the filtration process. Citric acid and sodium hydroxide are added to adjust the pH level of the water which aids in filtration and makes the water less corrosive on pipe and plumbing fixtures. These additives are carefully monitored and the water is continually tested to make sure it is safe to drink. Finally, chlorine is added to provide disinfection to the water throughout the distribution system.

The lower Fairview and Bluffs area (below 410-foot elevation) may be supplied water service from the Morse Creek Treatment Plant or from the Bluffs Well (S02), Bobcat Hollow Well (S07) or Old Olympic Highway Well (S08). These wells may be used as a back-up source during the winter months when turbidity is high in Morse Creek and for peak demand periods during summer months. Recent construction during the summer of 2015 also allows the District to supply water to the Upper Fairview service area if Morse Creek flows drop below 25 cubic feet per second and withdrawals from the Morse Creek Treatment Plant must cease.

Finished water is pumped to a 300,000-gallon reservoir and a 200,000-gallon reservoir. From each of these reservoirs, potable water and fire flow is available based on system demand. Water quality testing and monitoring of this water system(s) is completed daily by certified District personnel.

Monitoring results

Chlorine Residual: Chlorine is used as a disinfectant in the water treatment process, and should be detectable in at least 95% of the samples taken each month. Chlorine residual was detectable in over 95% of samples taken each month.

Total Coliform Bacteria: Zero Coliform Bacteria were detected in the monthly samples collected. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

Hardness: Hardness is a natural characteristic of water caused by dissolved calcium and magnesium, which can interfere with the sudsing action of soap. The US Geological Society classifications show 0-60 mg/L as soft, while anything greater than 200 mg/L is considered very hard. Samples taken for the Bluffs Well showed 140 mg/L or 8.1 grains/gallon, the Old Olympic Well 147.9 mg/L or 8.6 grains/gallon, Bobcat Hollow Well 157.2 mg/L or 9.2 grains/gallon and the Morse Creek Treatment plant 48.8 mg/L or 2.9 grains/gallon. An average of these source samples would be 123.48 mg/L or 7.2 grains/gallon.

Fluoride: The District does not add fluoride to this water system. Fluoride is a natural substance found in varying degrees in almost all water supplies.

Bilateral Compliance Agreement

In 2009, Clallam County PUD and the DOH Office of Drinking Water entered into a Bilateral Compliance Agreement (BCA) over seasonal water shortages in the upper Fairview portion of the Port Angeles Composite Water System. All projects associated with the BCA have been completed and the District has received notice from the Office of Drinking water that the BCA, Docket #2015-BCA-0024, has been satisfied and is now closed.

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.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In 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	33.22	29.6	38	2019	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	43.16	22.9	49.8	2019	No	By-product of drinking water disinfection
Inorganic Contaminants								
Arsenic (ppb)	0	10	1	NA	1	2019	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	.009	.009	.009	2019	No	Erosion of natural deposits

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Chromium (ppb)	100	100	1.5	NA	1.5	2019	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	4	4	.13	NA	.13	2019	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	10	10	.32	ND	.32	2019	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Microbiological Contaminants								
Turbidity (NTU)	NA	TT	.02	NA	NA	2019	No	Soil runoff
	100% of the samples were below the TT value of .3. A value less than 95% constitutes a TT violation. The highest single measurement was .02. Any measurement in excess of 1 is a violation unless otherwise approved by the state.							
Contaminants	MCLG	AL	90 th Percentile (10 Samples)	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source	
Inorganic Contaminants								
Copper - action level at consumer taps (ppm)	1.3	1.3	.052	2017	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	
Lead - action level at consumer taps (ppb)	0	15	1	2017	0	No	Corrosion of household plumbing systems; Erosion of natural deposits	

Secondary Regulated Water Quality Data Table (These standards are developed to protect the aesthetic qualities of drinking water and are not health based.)

Contaminant (Units)	Sample Date	SMCL	Highest Level Detected	Range	Violation	Typical Sources
Chloride (ppm) Bluffs Bobcat Hollow Old Olympic	2019 2019 2015	250	12.3 14 8.2	8.2 – 12.3	No	Erosion of natural deposits
Iron (ppm) Bobcat Hollow Old Olympic	2019 2017	.3	ND .10	ND-.10	No	Erosion of natural deposits
Manganese (ppm) Old Olympic	2019	.05	.053	ND - .053	No	Erosion of natural deposits
Sulfate (ppm) Bluffs Bobcat Hollow Old Olympic	2017 2019 2015	250	9.9 7.7 8.2	7.7-9.9	No	Erosion of natural deposits
Nickel (ppm) Bluffs	2017	.1	.002	.002 - .002	No	Erosion of natural deposits
Sodium (ppm) Bluffs Bobcat Hollow Old Olympic	2015 2019	NA	12.4 14.2 12.8	NA	No	Erosion of natural deposits; seawater
Hardness (ppm) Morse Creek Bluffs Old Olympic Bobcat Hollow	2016 2019 2016 2019	NA	48.8 140 147.9 157.2	48.8 – 157.2	No	Weathering of various rocks and soil

Contaminant (Units)	Sample Date	SMCL	Highest Level Detected	Range	Violation	Typical Sources
Electrical Conductivity (uS/cm) Bluffs Bobcat Hollow Old Olympic	2019 2019 2015	700	343 387 337	337 – 387	No	Measure ability of material or dissolved solids to convey an electric current
Hydrogen Ion (pH) Bluffs	2019	NA	7.48	NA	No	Erosion of natural deposits
Total Dissolved Solids (ppm) Bluffs Bobcat Hollow	2017 2019	500	210 214	210-214	No	Erosion of natural deposits

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (measure of radioactivity)
pH	pH: measure of acidity/alkalinity
uS/cm	uS/cm: Microsiemens per centimeter
NTU	Nephelometric Turbidity Units
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.
Important Drinking Water Definitions	
Term	Definition
MCLG	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.
MCL	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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variations and Exemptions	Variations and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	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.
MRDL	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.
MNR	MNR: Monitored Not Regulated
SMCL	SMCL: Secondary Maximum Contaminant Level

Why are there contaminants in my drinking water?

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

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. 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 (1-800-426-4791).

Partners in Conservation

Water is essential to every dimension of life, yet less than 1 percent of the Earth's water supply is fit and available for human consumption. As demand for water continues to increase, every drop of water is becoming more important than ever before.

The DOH has adopted a rule that establishes water use efficiency (WUE) requirements for all municipal water suppliers. Water use efficiency will help us conserve water for the environment and future generations. It will also enhance public health by improving water system efficiency and reliability.

A few primary elements of this rule include improving operational efficiency; evaluating and reporting water production and usage; and reducing water leaks both on the distribution side and the customer side of the water system. The table below lists production amounts vs. purchased/authorized usage and the percentage of the unaccounted-for or probable system leakage. The goal is to reduce unaccounted-for water to 10% or less of the total water produced.

Distribution System Leakage Summary for Port Angeles Composite (in millions of gallons: 1 cubic foot = 7.48 gallons)	
Total Water Produced – Annual Volume	235.17
Total Water Purchased and Authorized Usage – Annual Volume	235.17
Distribution Unaccounted-for or System Leakage – Percent	9.98

Together we can keep the percentage to 10% or less, and save water and money in the process! Here are some tips to work towards this goal *and* to be more water efficient:

- If you see an odd wet spot in a normally dry area, call the PUD.
- Someone other than the Fire Dept. or PUD using a fire hydrant, call the PUD.
- Run your washing machine and dishwasher only when they are full.
- Turn off the tap when brushing your teeth, washing, shaving, or cleaning fruits and vegetables.
- Check every faucet inside and outside your home for leaks; a slow drip can waste 15 to 20 gallons a day. Fix it and you could save up to 6,000 gallons a year.
- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.

- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Write down the numbers across the face of the meter. Then check the water meter after 30 minutes. If the numbers increased at all, you have a leak.
- Ask your local nursery about landscaping with native plants.
- For deep root and drought tolerance, water your plants deeply, but less often.
- Water wasted is water lost. For more information, go to these web-sites: www.wateruseitwisely.com
www.h2ouse.org
www.epa.gov/watersense

Variance and Exemptions

The Port Angeles Composite water system has received waivers for reduced monitoring either at certain sources or in the distribution system of the following contaminants:

Complete Inorganics (IOC)

Volatile Organics (VOC)

Herbicides

Pesticides

Soil Fumigants

Previous background test results indicated that these substances were either not detected or below MCL in this water source. The EPA and/or DOH grant a variance or exemption only upon finding that the variance or exemption will not result in an unreasonable risk to health.

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. The 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. Always use cold water for cooking, drinking and especially 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, 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 Disinfection Byproducts

Haloacetic Acids (HAA)- Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

TTHMs [Total Trihalomethanes]- Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Additional Information for Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

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

Source water assessment and its availability

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.

The DOH has completed a source water assessment for this system. All surface waters in Washington, as with Morse Creek, are given a susceptibility rating of high, regardless of whether contaminants have been detected or whether there are any sources of contaminants in the watershed or runoff areas to the river or creek.

The susceptibility rating for wells largely depends on the amount or depth of the confining layer over the well. More information can be found on the DOH website: <https://fortress.wa.gov/doh/swap/>

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 or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.

For more information please contact:

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