City of Pasco

Water Quality Report 2019

PWS ID# WA0664003

This report contains important information about your drinking water. You can access this report in English or Spanish on the City of Pasco's website, or pick up a copy of either at Customer Service in City Hall.

Este informe contiene informaciÓn importante acerca de su agua potable. Usted puede acceder a este informe en ingles o español en el sitio de web de la Ciudad, o recoger una copia de cualquiera de los dos en el Departamento de AtenciÓn al Cliente en el Alcalde Municipal.

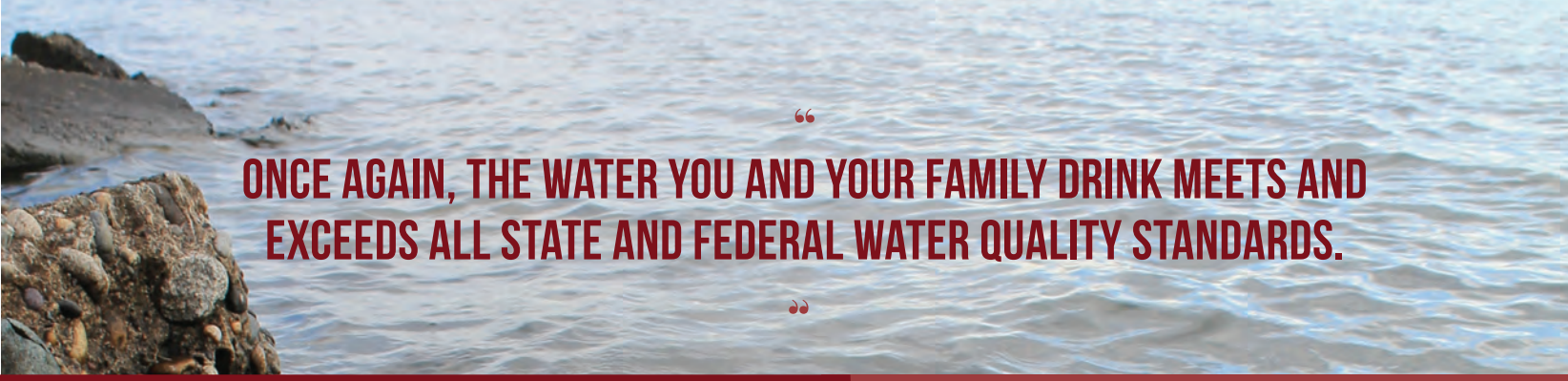
City of Pasco provides high quality water for you!

Once again we are proud to present our annual water quality report. This edition covers all testing completed from January through December 2019. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

For more information, or for any questions relating to your drinking water, please call Derek Wiitala, Public Works Division Manager, at (509) 545-3463.

Community Participation

Your input on water quality is always welcome. The City Council meets every Monday (except for the 5th Monday of the month) at 7:00 p.m. in Council Chambers at City Hall (525 N. 3rd Avenue, Pasco). Please feel free to participate in these meetings, or watch them live on PSC-TV Channel 12 on Charter Cable in Pasco, or online at www.pasco-wa.gov/psctv.



“ONCE AGAIN, THE WATER YOU AND YOUR FAMILY DRINK MEETS AND EXCEEDS ALL STATE AND FEDERAL WATER QUALITY STANDARDS.”

Taking care of our precious resources today helps ensure a livable city for the future.

The City of Pasco continues to experience a steady growth in residential, commercial, and industrial development. Yet, thanks to your continued conservation efforts, our overall water demand and production has remained at a fairly consistent level over the last several years.

Our Butterfield and West Pasco Water Treatment Plants enable the City to meet current and future water demand. Current treatment capacity is 35 MGD, with the ability to treat up to 48 MGD when the West Pasco plant is expanded to its maximum capacity in the future. Current daily peak flows run between 4.4 MGD in the winter to more than 25 MGD during the summer. Annually, the City of Pasco withdraws approximately 4.8 billion gallons of water from the Columbia River.

The City of Pasco, along with most water systems in Washington, has embarked on a mandatory pro-active water conservation program over the last several years.

Some of our methods and goals for this ongoing program include:

- Leak reduction in the system
- Providing water conservation devices to the public
- Water conservation education
- Per Capita reduction in usage

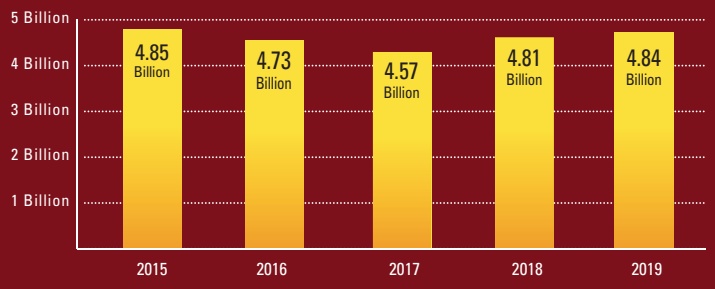
You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water.

Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get the most for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- 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. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Average water usage per person in a household, (without any leaks) is about 100 gallons every day.

Pasco Water Usage 2015 - 2019



Why provide a water quality report?

A source water assessment has been conducted for your water source, the Columbia River. The purpose of the assessment was to determine the susceptibility of the Columbia River to potential contaminant sources and establish a relative susceptibility rating of high, moderate, or low.

The assessment reported a high susceptibility rating for the Columbia River. Please understand that this susceptibility rating does not imply poor water quality; rather, it signifies the system’s potential to becoming contaminated.

The source water assessment for the City of Pasco can be accessed on the internet through the Washington State Department of Health, Drinking Water Division, Web site at https://fortress.wa.gov/doh/swap/index.html

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. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, wildlife, and domestic pets.
- 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.
- 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.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Environmental Protection Agency regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Where does our water come from? And how is it treated?

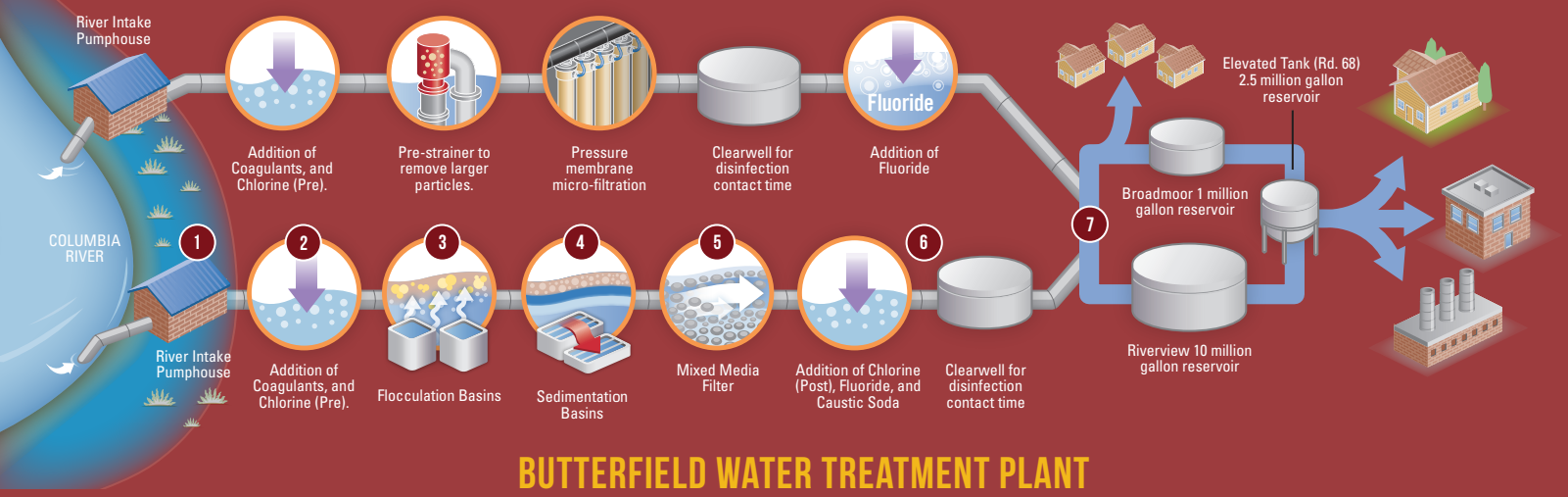
The Columbia River supplies all of the City of Pasco's domestic water supply.

Our water is treated through 2 distinctive water treatment plants (WTP) of differing technologies. The Butterfield WTP is known as a "conventional" plant and has been in existence for many years. The Butterfield plant has gone through several upgrades over the years to improve efficiency and to keep up with ever-changing and improving technology. The treatment process at Butterfield is depicted in the graphic below. It is located near the Columbia River in the vicinity of the Cable Bridge.

The West Pasco WTP is known as a "Pressure Membrane Direct Micro-Filtration" Plant. It went online in April of 2011. Unlike the Butterfield WTP, water is forced through a filter of fibers encased in a vertical column (a filter) capable of filtering out particles (and microbes) down to 0.1 microns in size. There are 116 of these filters per rack. Currently the plant has 2 racks with the capability of treating 6 MGD of high quality drinking water. The West Pasco plant's treatment process is depicted below. It is located at the far west end of Pasco in the vicinity of the I-182 Bridge.

Together, the 2 plants treated a total of 4.84 billion gallons of water in 2019: that's an average of 403 million gallons of water a month, or 13.3 million gallons of water a day.

WEST PASCO WATER TREATMENT PLANT



BUTTERFIELD WATER TREATMENT PLANT

1. Water is pumped from the Columbia River to the WTP. As the water enters the plant, Potassium Permanganate is added to oxidize the organics in the raw water. This helps to control taste and odors, and to enhance the disinfection process.

2. Coagulants are added to attract small particles together to form larger particles (floc), which are more readily removed during sedimentation and filtration processes. Dosages of the coagulant are varied according to the purity of the untreated water.

   Chlorine is also added at this point to kill disease-causing organisms. The chemicals are rapidly mixed into the untreated water, as it flows to a series of basins.

3. The coagulant continues to mix in the water and create floc as the water makes its way through the flocculation basins and into the sedimentation basins.

4. The larger floc particles, and other existing solids, settle out as the water slowly makes its way through the sedimentation basins on its way to the mixed media filters.

5. The water then flows through mixed media filters (silica, sand and coal), which filter out the remaining unsettled particulate matter.

6. Filtered water enters the clear well tank which provides contact time for the post-chlorinated water. This allows for disinfection of any bacterial contamination in the water and provides a chlorine residual for the distribution system. Fluoride (Hydrofluosilicic Acid) is added in accordance with Department of Health Regulations. Caustic Soda is added for ph adjustment and corrosion control. Chlorine levels are set in accordance with Department of Health regulations.

   The entire process is continually monitored and tested in order to ensure that the process and the water meets or exceeds state and federal regulations. After the clear well tank, the water is of excellent quality and is ready for distribution and use.

7. The water is then pumped to the City's distribution and storage system. The water is distributed throughout Pasco for residential, business, and industrial use via more than 200 miles of pipeline.

SAMPLING RESULTS

DURING THE PAST YEAR we have taken hundreds of water samples in order to determine the presence of contaminants. The table below shows those contaminants detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

REGULATED SUBSTANCES

Substances (Unit of Measure)	Year Sampled	MCL	MCLG	CONCENTRATION IN SAMPLE			Violation	Typical Source
				Highest Result	Sample Range	Running Average		
Total Coliform Bacteria	2019	Presence in more than 5% of monthly samples	0	No presence detected in any routine sample	No presence in any of 1,005 routine samples	NA	No	Naturally present in the environment
Chlorine (ppm)	2019	MRDL = 4	MRDLG = 4	1.00	.1 - 1.00	.7	No	Water additive used to control microbes
Fluoride (ppm)	2019	4	4	.96	.19 - .96	.68	No	Erosion of natural deposits; Hydrofluosilicic Acid, a water additive which promotes dental health.
Nitrate (ppm)	2019	10	10	1.0	Butterfield WTP: 1.0 West Pasco WTP: <0.5		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TOCs (ppm)	2019	TT	NA	1.04	.67 - 1.04	.84	No	Naturally present in the environment
TURBIDITY[1]								
Butterfield WTP (NTU)	2019	TT	95% of samples < 0.3 NTU	.08	.02 - .08	.03 100% < .3 NTU	No No	Soil runoff
West Pasco WTP (NTU)	2019	TT		.062	.009 - .062	.013 100% < .3 NTU	No No	
DISINFECTION BY-PRODUCTS (Stage 2 Rule as of Dec. 2013)								
HAAs (ppb)	2019	60	NA	36.2	11.2 - 36.2	25.7 [2]	No	By-product of drinking water disinfection
TTHMs (ppb)	2019	80	NA	54.2	12.3 - 54.2	35.3 [2]	No	By-product of drinking water disinfection

LEAD AND COPPER (TAP WATER SAMPLES WERE COLLECTED FROM 32 HOMES IN THE SERVICE AREA)

Substance (Unit of Measure)	Year Sampled	Action Level	MCLG [MRDLG]	Amount Detected (90th%tile)	Homes Above Action Level	Violation	Typical Source
Copper (ppm)	2017	1.3	1.3	0.281	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb) [3]	2017	15	0	2	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

1 Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, turbidity is measured continuously from a sample stream of of our finished water. All measurements exceeded water quality standards.

2 Stage 2 Rule requires sampling at multiple sites with conformance determined by site-specific results or "Local Running Annual Average" (LRAA)

3 Lead was not detected in 14 out of 32 homes sampled.

TABLE DEFINITIONS

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

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.

MRDLG (Maximum Residual Disinfectant 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 contamination.

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 (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.

NA: Not applicable

ND: Not detected

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

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

WTP Water Treatment Plant

TOC Total organic carbon

HAA Haloacetic Acids

TTHM Total Trihalomethanes

LRAA Local Running Annual Average

MESSAGE FROM THE EPA

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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.

All 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 Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

FACTS ABOUT LEAD IN YOUR DRINKING WATER

Lead is a toxic heavy metal that is found in the earth's crust. Lead does not usually naturally occur in drinking water, but it can be present in household plumbing or water service lines and contaminate drinking water through corrosion of plumbing materials.

Measures taken during the last 30 years have greatly reduced exposures to lead in tap water. These measures include actions taken under the requirements of the 1986 and 1996 amendments to the Safe Drinking Water Act and the U.S. Environmental Protection Agency's (EPA's) Lead and Copper Rule.

Even so, lead still can be found in some metal water taps or water pipes connecting a house to the main water line in the street. But lead found in drinking water usually comes from the corrosion of older fixtures or from the solder that connects pipes in household plumbing. When water sits in these pipes for several hours, lead can leach into the water supply. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. 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 drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and other steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/lead.

The amount of lead corroded from metal plumbing generally increases as water acidity increases. Generally, acidic water with a pH below 7 is considered more corrosive than water with a pH higher than 7. The City of Pasco adjusts and maintains the pH in the treated water to what is considered a little higher than a neutral level, (a pH of 7.4 - 7.5). This helps to reduce corrosion throughout the water system.

Over the past 25 years, the City of Pasco has approached the lead issue with a proactive philosophy. A lead and copper monitoring program was implemented around 1990 in conformance with all EPA and Department of Health (DOH) regulatory requirements. The most recent results of lead and copper monitoring can be found in the table elsewhere in this report.

Over this time period, the City of Pasco has systematically replaced any suspected pipe or service lines containing lead materials. That effort continues today during any repairs, retrofits, or waterline replacements. All materials used in new water service or pipe installations are lead free.

The City of Pasco continues to work with the Washington State Dept. of Health to ensure optimal results during these programs, and to reach our ultimate goal of a completely lead-free water system.

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