

City of Brownsville

2015 Annual Drinking Water Quality Report

OUR MISSION

The City of Brownsville is committed to providing clean, safe, quality water for everyone living and visiting our community. Our efforts include protecting and preserving our water resources, as well as enhancing our treatment processes to provide you, the consumer, with quality drinking water each time you turn on your tap.

INTRODUCTION

Thank you for taking time to review this consumer confidence report provided to you by the City of Brownsville. This report contains important information regarding the quality of Brownsville's drinking water. Congress passed the Safe Drinking Water Act in 1974 and gave the U.S. Environmental Protection Agency (EPA) the job of making rules, National Primary Drinking Water Regulations (NPDWR), to ensure drinking water in the U. S. is safe. In 1996, Congress passed amendments requiring drinking water systems to provide consumers with important information regarding their drinking water. This information includes where Brownsville's water comes from, what is in the water, and how it compares with Federal standards. We hope you find this report useful with regards to your drinking water.

WHERE DOES OUR WATER COME FROM?

Brownsville's water sources are a well field and an infiltration gallery located in the southwest corner of Pioneer Park adjacent to the Calapooia River. Due of the close proximity of the river, the City's water sources are classified as "groundwater under the direct influence of surface water", which means that our source water comes from beneath the surface of the ground, but has significant or rapid shifts in water characteristics, such as pH, temperature and turbidity (clarity). The infiltration gallery is located under the Calapooia River and serves as the primary water source during the spring, summer and fall months of the year. The other water source, the well field, serves as our water source during the winter months when the river water is muddy and undesirable for treatment. The wells located in the well field, while still very close to the river, are classified as a ground water source, which means the source is located beneath the surface of the ground, and the water characteristics are relatively stable with only subtle fluctuations in pH, temperature, and turbidity. The City has a source water assessment report from the Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA), which provides additional information such as the delineation of water sources (watershed), potential sources of contamination and other perils within our watershed area. Copies of this report are available for review at City Hall and the Public Works Department.

INFORMATION ABOUT SOURCE WATER

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, 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 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.

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 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.

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. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

WHAT IF I HAVE QUESTIONS ABOUT OUR WATER?

This report shows our water quality and what it means. If you have any questions regarding our water, please contact our Public Works Department at (541) 466-3381, Monday through Friday, from 7:00am – 4:00pm. If there is no answer, please leave a message and we will get back to you as soon as possible. You may also attend the regular City Council meetings on the fourth Tuesday of each month at 7:00pm at Brownsville City Hall. If there is an emergency, please call Karl Frink, Public Works Superintendent at (541) 409-3700.

The City of Brownsville routinely monitors for constituents in your drinking water according to Federal and State law. Some of the constituents include total coliform, arsenic, disinfection by-products (trihalomethanes and haloacetic acids), lead and copper and arsenic. This report shows the results of the City's monitoring for the period of January 1, 2015 to December 31, 2015. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals and radioactive substances. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amount of some constituents. *It is important to remember the presence of these constituents does not necessarily pose 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 1-800-426-4791. For more information regarding the EPA's Safe Drinking Water Act, please visit the EPA's website at www.epa.gov/safewater/sdwa/index.html.

TERMS AND ABBREVIATIONS

In this report, you may find some unfamiliar terms and abbreviations. To help you better understand these terms we have provided the following definitions:

- **Non Detects (ND)** – laboratory analysis indicated the constituent is not present.
- **Part per million (ppm) or Milligrams per liter (mg/l)** – one part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter** – one part per billion corresponds to one minute in 2000 years or a single penny in \$10,000,000.
- **Parts per trillion (ppt) or Nanograms per liter (nanograms/l)** - one part per trillion corresponds to one minute in 2,000,000 years or one penny in \$10,000,000,000.
- **Parts per quadrillion (ppq) or Picograms per liter (picograms/l)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- **Picocuries per liter (pCi.LO)** – Picocuries per liter is a measure of the radioactivity in water.
- **Millirems per year (mrem/yr)** – Measure of radiation absorbed by the body.
- **Million Fibers per Liter (MFL)** – Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
- **Nephelometric Turbidity Unit (NTU)** – Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Variations & Exemptions (V&E)** – State of EPA permission not to meet an MCL or a treatment technique under certain conditions.
- **Action Level** – The level of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Treatment Technique (TT)** – a required process intended to reduce the level of a contaminant in drinking water.
- **Maximum Contaminant Level (MCL)** – The “Maximum Allowed” (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
- **Maximum Contaminant Level Goal (MCLG)** – The “Goal” (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for margin of safety.
- **Total Coliform:** The Total Coliform Rules require water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulations, we have increased the average amount of chlorine in the distribution system.
- **Nitrates:** As a precaution, we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.
- **Lead:** Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

Copper: 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.

PLEASE NOTE

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 microbiological contaminants are available from the Safe Drinking Water Hotline. (1-800-426-4791)

SUMMARY OF TEST RESULTS

Microbiological Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCL G	MCL	Likely Source of Contamination
Total Coliform Bacteria	N	ND	0	Presence of Coliform in any monthly sample.	Naturally present in the environment.
Fecal Coliform	N	ND	0	A routine sample and repeat samples are total coliform positive, and one is also fecal of E.coli positive.	Human and animal fecal waste.
Turbidity (NTU)	N	0.118 NTU	N/A	TT (NTU) 95% <1 NTU All < 5 NTU	Soil run off.
	N	100%		TT= percentage of samples <1 NTU	

Disinfection By-Products

Contaminant Description	Violation (Y/N)	Level Detected	MCL G	MCL	Likely Source of Contamination
Haloacetic Acids (HAA5's) (ppb)	N	15.3 ppb	N/A	60 ppb	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM's) (ppb)	N	10.1 ppb	N/A	80 ppb	Byproduct of drinking water chlorination.

Inorganic Contaminants

Contaminant Description	Violation (Y/N)	Level Detected	MCL G	MCL	Likely Source of Contamination
Arsenic	N	ND	0	10 ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes.
Nitrates	N	ND	10	10 ppm	Runoff from fertilizer; leaching from septic tanks, sewage; erosion of natural deposits.
Lead	N	3.8 ppb	0	15.5 ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	N	225 ppb	1.3	1350 ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Asbestos	N	ND	7	7 MFL	Decay of asbestos cement water mains; erosion of natural deposits.

IMPORTANT THINGS TO KNOW ABOUT WATER

Inadequately treated water may contain disease causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The City of Brownsville built a new slow sand filter water treatment plant to provide adequate treatment and remedies for making our water safe. This new water plant went on line in 1998. We added soda ash to the treatment process of our water to adjust the pH of the water. Adjusting the pH of the water helps prevent the leaching of lead in the plumbing of your home. By making these improvements to our water system, we successfully completed two rounds of lead sampling during the year 1999. That success reduced our sampling requirement for lead from twice yearly to once every three years. We also passed the Phase II & V testing requirements. We successfully passed our lead and copper sampling in 2015 and will sample again in 2018 per the OHA drinking water requirements.

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 City of Brownsville 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 or at www.epa.gov/safewater/lead.

SOURCE WATER ASSESSMENT REPORT

The 1996 Amendments to the Safe Drinking Water Act require that all states conduct Source Water Assessments for public water systems within their boundaries. The assessments consist of (1) identification of the Drinking Water Protection Area, i.e., the area at the surface that is directly above that part of the aquifer that supplies groundwater to our well(s), (2) identification of potential sources of pollution within the Drinking Water Protection Area, and (3) determining the susceptibility or relative risk to the well water from those sources. The purpose of the assessment is to provide water systems with the information they need to develop a strategy to protect their drinking water resource if they choose. The respective Drinking Water Programs of the Department of Human Services and Environmental Quality have completed the assessment for our system. A copy of the report is on file at the Public Works Department and City Hall.

The aquifer(s) supplying water to our well(s): Willamette (sand and gravel). For additional information regarding the Willamette aquifer, please visit www.wrd.state.or.us/OWRD/GW/studies.shtml.

CROSS CONNECTION & BACKFLOW PREVENTION

This past year the City of Brownsville has been very active with its' Cross Connection Control Program. The Program has been updated and new regulations and requirements have been implemented. This is a Federal and State required program to help protect our water system from potential cross-connection problems and the life threatening conditions when back siphoning or back pressure can be present. Many people don't understand the need for this program; however, there are many deaths across the nation each year where these programs are not in place. The City requires that all backflow devices be tested annually as required in the regulations. The City also provides a backflow device testing program to have any device tested annually at a reduced rate to our residents. Please call our Public Works Department at (541) 466-3381 if you have any questions concerning this program. We can also be reached by email at: public-works@ci.brownsville.or.us

PLEASE REMEMBER!

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 is dangerous or poses a health risk. While industry marketing campaigns promote the notion that bottled water is best, please remember, at this time, bottled water is not required to meet the same high quality standards as municipal water. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water hotline at 1-800-426-4791, or on the web at <http://water.epa.gov/drink/>.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one in a million chance of having the described health effect.

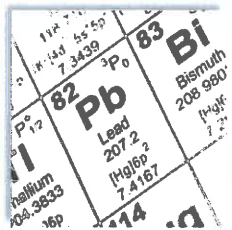
In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements to the City's water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Income from water rates is used only to operate and maintain the water system and is required by law to be self-supporting.

IN CLOSING...

The City of Brownsville continually works to meet and exceed all drinking water standards and requirements, and to provide top quality water to every tap. It is important that each of us help us protect our water sources to keep our water safe today, tomorrow and for generations to come. Thank you for taking the time to review this report. The City of Brownsville takes pride in serving our community and providing the quality customer service you deserve. Our website is (<http://www.ci.brownsville.or.us>) is updated regularly and new information is available. The updates include information such as City Council meeting minutes, local activities, newsletters, contact information, municipal codes, meeting information, job openings, and more. Please feel free to visit our website any time for additional information.

OREGON HEALTH AUTHORITY WEBSITE

<http://publichealth.oregon.gov/HealthyEnvironments/DrinkingWater>



Headline News- Flint, Michigan

You may have seen in the news all of the commotion about Flint, Michigan and their water crisis regarding high concentrations of lead in their municipal drinking water supply. Without going into a great deal of detail, basically what happened is the City of Flint elected to change their water supply source from Lake Huron (City of Detroit) to their own water supply from the Flint River. The water in the Flint River is highly corrosive from pollution, contamination or natural cause, and basically was eating away at City of Flint's old water system that has lead water pipes within its system. The highly corrosive water caused two major problems; the highly corrosive water ate away at the iron pipes in the system, causing the water to turn brown and the taste of the water undesirable to drink. The second and most important factor, the highly corrosive water also ate away at the lead piping commonly found in old water systems, causing high concentrations of lead to be present in the drinking water. I am sure there are other contributing factors to the poor water quality in Flint, but to summarize, the water in the Flint River was unsuitable for use as a drinking water supply source, and inadequate water treatment processes to remove contaminants and properly treat the corrosive nature of the water to make it safe for human consumption. The Flint River itself did not contain lead, it was the water distribution system owned by the City of Flint, and older homes that contain plumbing materials that contain lead (and copper).

How Does This Apply To Brownsville?

The City of Brownsville's water distribution system contains no lead piping, and very little use of copper piping. In other words, the source of lead and copper, when detected, is not coming from the City's water distribution system. The primary source of any lead and copper is found in homes that were built between 1970 and 1986. The reason is the type of plumbing materials used during those years. Most pre-1970 homes were plumbed using galvanized iron pipe, which switched to copper pipe with lead sweated joints in 1970. In 1986, the use of lead-based solder was prohibited, and other plumbing fixtures that contained lead were significantly reduced to less than 8% by weight. There are many homes that exist in Brownsville that were built within that time range and still have the original plumbing that contains lead.

What, if Anything, Is The City Doing To Treat This?

The City, by law, must have an active corrosion control program, or treatment technique, and must maintain compliance at all times. The Oregon Health Authority's Drinking Water Program requires us to maintain a minimum pH of 7.2. You may remember the pH (power of Hydrogen) scale from your school science days, where a pH of 0 to 6.99 is acid (acidity) and a pH of 7.0 to 14.0 is basic (alkalinity). In short, this means we must keep our drinking water alkaline at all times, which minimizes corrosion of lead and copper within our water system, including all plumbing in any businesses or homes connected to our water system. We control the pH of the water by utilizing Sodium Carbonate, or commonly known as soda ash, which is very alkali, and raises the pH of the water to the desired pH level, based on how much soda ash is added to the water being treated. This amount is determined by a number of factors, including the acidity and flow rate of the water being treated. Our treatment plant is continuously monitored by a SCADA system (Supervisory Control and Data Acquisition) and city staff. We have alarm notification systems that notify us of when the system is nearing non-compliance so staff can make adjustments as needed. City staff is required to monitor and collect this data daily, 365 days a year. The City is currently required to test for lead and copper every three years, from ten residences built between 1970 and 1986. The outcome of those samples determines whether our treatment techniques are working or not. The City built the water treatment facility in 1998, and has maintained compliance since 1999.

Do We Have Lead And Copper In Our System?

The City of Brownsville's water is very safe from lead and copper. Lead and copper are most often found together, as lead solder was used to seal copper joints. The City's water distribution system contains very small amounts of low-lead products (such as low-lead water meters), no lead based pipe and very little copper piping. The water distribution system's mainlines consist of PVC, ductile iron, steel, or AC (Asbestos Cement) pipe. The service lines are galvanized iron, PVC, or PE (polyethylene) pipe. The copper used in the distribution system is used on control valves, typically ¼ inch tubing used to balance pressures.

Is Our Water Safe?

The Oregon Health Authority has Maximum Contaminant Levels (MCL) that determines if your water is safe to drink. The MCLs are the allowable presence of contaminants in drinking water that pose no adverse health effect. The MCL in Oregon for lead is 15.5 ppb (parts per billion), and for copper the MCL is 1350 ppb. In September, 2015 the City collected ten water samples from residences whose homes were built from 1970 to 1986. The sample results showed our highest lead result at 3.8 ppb and copper result at 225 ppb, both well below the mandated MCL action levels set by the Oregon Health Authority. These results are not reflective of the entire water system, only the sites at which the sample was collected. The results are reflective of the City's corrosion control program, and shows that the treatment techniques currently used are successful at keeping the drinking water safe.

PUBLIC WORKS CONTACT INFORMATION

Karl Frink, Public Works Superintendent

Office: (541)466-3381

Mobile/ Emergency: (541)409-3700 Fax: (541)466-5118

Email: publicworks@ci.brownsville.or.us