

**LANDLORDS**

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# EMANUEL HEIGHTS

## Public Water System #26916 Y – Brewster, Washington 2017 Consumer Confidence Report

This annual report is designed for consumers of drinking water within the Emanuel Heights Water System (EHWS), and provides information about the quality, source, and potential health effects of contaminants in our local and source water systems. This report conforms to the Federal regulation, contained within the Safe Drinking Water Act, which requires that this information be provided annually. This report contains a summary of the water quality test results from the EHWS source water and distribution system. The data contained in this report was collected during or prior to 2016.

**Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.**

### DEFINITIONS

The following definitions may be used in this report:

**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.)

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

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

**mg/L** – milligrams per liter (This unit is equivalent to measurements in parts per million.)

**ug/L** – micrograms per liter (This unit is equivalent to measurements in parts per billion.)

**pCi/L** – picoCuries per liter (A measurement of radioactivity.)

### SOURCE WATER

The source water for EHWS is supplied by a single well drilled 153 feet into an underground source of water, or aquifer. The well is identified by the Washington State Department of Health (DOH) as Source 1 (SO1). SO1 is located on the west side of Valley Road inside the water system pump house. EHWS restricts any activity that could potentially contaminate this source. The water pumped from SO1 is pumped through a distribution line up to the Emanuel Heights development.

Source water tests are mandated by DOH to monitor the quality of the EHWS source water. This provides information on the quality of the water that is being pumped from the aquifer. Further information about the EHWS source water can be found in the source water assessment, on file with the DOH and Alpine Environmental. The assessment evaluates the potential risk of contamination that may be posed by activities or conditions in the area. For a copy of this information, contact Alpine Environmental at the numbers listed at the end of this report.

## SOURCE WATER TESTING SUMMARY

The following tests were performed on the EHWS source water in or prior to 2016. These samples were collected from a sampling tap at the well, and represent the water served from the source.

Substance Analyzed	Date Collected	Detected Level	MCL	MCLG	Unit of Measure	Passed
<b>Inorganic Chemicals (IOC) – primary contaminants with health effects</b>						
Nitrate	6/1/16	<b>4.88</b>	10	10	mg/L	Yes
Nitrite	9/15/10	No Detect	1	1	mg/L	Yes
Arsenic	9/15/10	<b>4.62</b>	10	0	ug/L	Yes
Barium	9/15/10	<b>0.12</b>	2	2	mg/L	Yes
Cadmium	9/15/10	No Detect	5	5	ug/L	Yes
Chromium	9/15/10	<b>1.23</b>	100	100	ug/L	Yes
Mercury	9/15/10	No Detect	2	2	ug/L	Yes
Selenium	9/15/10	<b>1.76</b>	50	50	ug/L	Yes
Beryllium	9/15/10	No Detect	4	4	ug/L	Yes
Nickel	9/15/10	No Detect	100	100	ug/L	Yes
Antimony	9/15/10	No Detect	6	6	ug/L	Yes
Thallium	9/15/10	No Detect	2	0.5	ug/L	Yes
Cyanide	9/15/10	No Detect	200	200	ug/L	Yes
Fluoride	9/15/10	<b>0.50</b>	4	4	mg/L	Yes
<b>Inorganic Chemicals (IOC) – secondary contaminants with taste, odor, color effects</b>						
Iron	9/15/10	No Detect	300	N/A	ug/L	Yes
Manganese	9/15/10	No Detect	50	N/A	ug/L	Yes
Silver	9/15/10	No Detect	100	N/A	ug/L	Yes
Chloride	9/15/10	<b>6.45</b>	250	N/A	mg/L	Yes
Sulfate	9/15/10	<b>21.5</b>	250	N/A	mg/L	Yes
Zinc	9/15/10	<b>0.01</b>	5	N/A	mg/L	Yes
Hardness	9/15/10	<b>232</b>	N/A	N/A	mg/L	Yes
<b>Volatile Organic Chemicals (VOC) – includes petroleum products and other chemicals</b>						
All VOCs (62 contaminants tested)	7/28/15	No Detect	Varies	Varies	--	Yes
<b>Synthetic Organic Chemicals (SOC) – includes pesticides and herbicides</b>						
Herbicides (16 tested)	7/16/14	No Detect	Varies	Varies	--	Yes

Pesticides (59 tested)	4/20/10	No Detect	Varies	Varies	--	Yes
<b>Radioactivity</b>						
Radium	8/21/12	<b>0.63</b>	5	0	pCi/L	Yes
Gross alpha particles	8/21/12	<b>0.89</b>	15	0	pCi/L	Yes

**WHAT DOES “NO DETECT” MEAN?**

Many of the contaminants listed in the results tables show an analytical result of “No Detect.” This does not mean that the contaminant was not present in the water, but that the concentration, if any, was undetectable with the analytical methods used.

**DELIVERED WATER**

EHWS is required to test for contaminants throughout the distribution system. Samples are to be collected from at least three residences throughout the system to best represent the conditions existing in the system.

At least one water sample per month is analyzed for the presence of coliform bacteria. In 2016, coliform bacteria were **detected** in three of the 32 samples collected from the system. The three

positive samples were unofficial and did not constitute a violation. Immediate chlorination of the system eliminated the presence of bacteria.

Lead and copper testing is required every three years, with samples collected from homes throughout the system after the water has stood in the pipes for at least six hours. The table below summarizes the most recent lead and copper sampling results.

Substance Analyzed	Dates Collected	Contaminant Level	AL	MCLG	Unit of Measure	Passed
Lead (lot 6)	7/29/16	No Detect	15	0	ug/L	Yes
Lead (lot 7)	7/29/16	<b>1.0</b>	15	0	ug/L	Yes
Lead (lot 17)	7/29/16	<b>5.0</b>	15	0	ug/L	Yes
Lead (lot 18)	7/29/16	No Detect	15	0	ug/L	Yes
Lead (lot 21)	7/29/16	No Detect	15	0	ug/L	Yes
Copper (lot 6)	7/29/16	<b>0.100</b>	1.3	1.3	mg/L	Yes
Copper (lot 7)	7/29/16	<b>0.151</b>	1.3	1.3	mg/L	Yes
Copper (lot 17)	7/29/16	<b>0.210</b>	1.3	1.3	mg/L	Yes
Copper (lot 18)	7/29/16	<b>0.041</b>	1.3	1.3	mg/L	Yes
Copper (lot 21)	7/29/16	<b>0.020</b>	1.3	1.3	mg/L	Yes

Some contaminants can have serious health implications if they are ingested in high quantities or over long periods of time. The table below provides information on those contaminants with potential health effects that were detected in your drinking water during or prior to 2016. While these contaminants were detected, they were at levels below the allowable limits set by the state, and therefore should not pose a health risk to most individuals. Your doctor can provide more information about any special concerns you may have regarding your drinking water and its effects on your health.

Contaminant	Known or likely source	Potential health effects
Arsenic	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Barium	Erosion of natural deposits; discharge from metal refineries; discharge of drilling wastes	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Copper	Erosion of natural deposits	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.
Chromium	Discharge from steel and pulp mills; erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Fluoride	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive which promotes strong teeth	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
Gross alpha particles	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Nitrate	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	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.
Radium	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Selenium	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

### WATER USE EFFICIENCY

EHWS has established a goal to reduce water consumption by 20 percent over five years, beginning in 2013. However, without service meters, it is difficult to measure any success toward reaching this goal.

Quick identification and repair of leaks will go a long way toward reducing consumption. Other actions that you can take include shutting off water if it isn't needed, installing low-flow fixtures, and ensuring that outdoor watering is conducted during cool weather using low-flow nozzles.

## **WATER SYSTEM IMPROVEMENTS**

The Carlton Complex wildfire had a significant impact on the EHWS infrastructure. The system lost pressure due to the associated power outage, leaving the water system and the homes that it served vulnerable to the spread of the fire.

The steel water tank located on the hillside at the northwest corner of the development had been supported by heavy timbers. These timbers burned away, leaving the tank only partially supported by earth. Because of the damage to the tank, it has been disconnected from the system. As a result, the well pump is operating 24 hours a day to keep water in the system.

Also burned in the fire were several of the service connections to individual homes. Phase 1 of the repairs has been completed, which included the replacement of these damaged service connections. Progress is being made toward the implementation of Phase 2, in which the existing well pump will be replaced with a variable speed pump, allowing the pressure in the system to be maintained with much more efficient use of electricity. The old water tank on the hill will be removed and will not be replaced.

The Federal Emergency Management Agency (FEMA) is providing relief

funds to assist with the repairs to the water system.

## **BOIL WATER ADVISORIES**

Recommendations to boil water were issued on three occasions during 2016. These advisories were precautionary due to pressure losses in the system. One advisory in March followed a shutdown of the system for construction. Advisories were issued in July and September following equipment failure and a power outage, respectively.

These advisories are issued because when a water system loses pressure, there is the possibility for contaminated water to be drawn back into the system through leaks or cross-connections. The coliform detections that occurred in 2016 confirmed that contamination had occurred after these pressure loss events and chlorination of the system was required to disinfect the water lines. Because of these actions, EHWS was able to stay in compliance with drinking water requirements.

## **COMMUNITY INVOLVEMENT**

Your involvement in the management of the EHWS is important to its long-term function, especially at this critical time of restoring and improving the system. To participate or provide input, contact Tyler Freeman, President, at (509) 209-0883 or Douglas Hale at (509) 322-0581.

This Consumer Confidence Report has been prepared by Alpine Environmental of Tonasket, Washington, serving north central Washington water systems since 2003. As your contract water operator, Alpine Environmental is proud to be providing you with the highest quality of service and oversight available. If you have any questions or comments regarding the information presented in this report, please call Alpine Environmental at (509) 826-1653 or (509) 322-0581.

## A MESSAGE FROM THE EPA

Throughout Washington State, 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. At the same time, this water can also pick up substances resulting from the presence of animals or from human activity.

All sources of 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 Environmental Protection Agency (EPA) Safe Drinking Water Hotline at 1-800-426-4791.

Contaminants that may be present in source water, and that are routinely tested for, 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 may 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 agricultural and residential uses.

**RADIOACTIVE CONTAMINANTS**, which are naturally-occurring.

**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.

In order to ensure that our water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in the water provided by your water system. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Washington State allows some contaminants to be monitored less than once per year because the concentration of these contaminants is not expected to vary significantly from year to year.

### **Additional Information**

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. The EPA and the Center for Disease Control (CDC) provides guidelines on appropriate methods to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants, and this information is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.

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. Emanuel Heights Water System 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 thirty seconds to two minutes before using drinking 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>.

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.