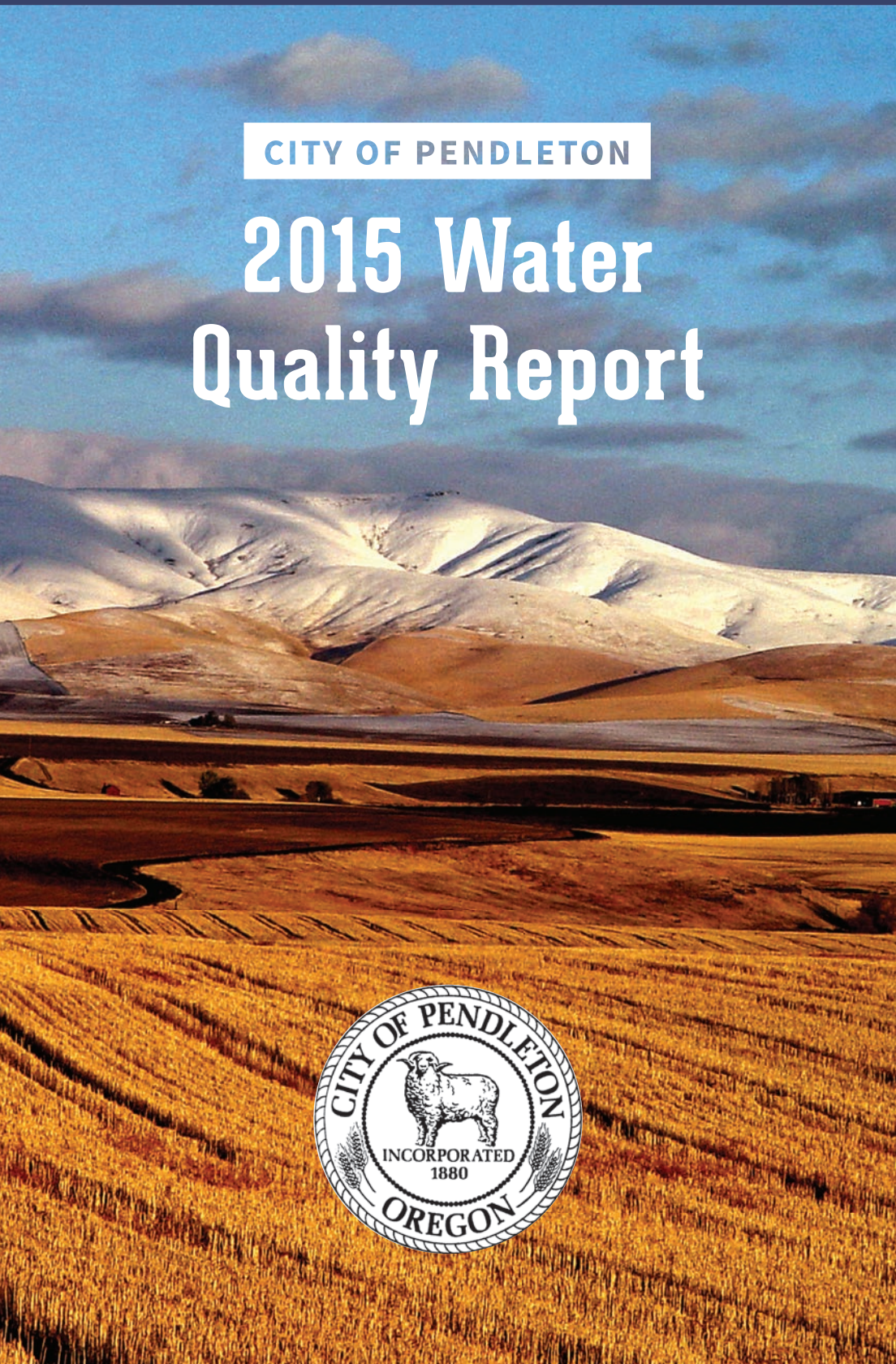
CITY OF PENDLETON

2015 Water Quality Report



The City of Pendleton Works Hard to Provide High Quality Water Services to You!

The City understands the importance of having safe and reliable water services. Our crews work tirelessly to ensure you don't have to worry about your water systems including drinking water, wastewater, stormwater and flood control levee.

Did you know The City's public works division operates and maintains:

107 miles of waterlines

87 miles of sewer lines

40 miles of storm drain pipes

6 miles of open drainage

4 miles of flood control levee system

The completed master plan is available online at http://pendleton.or.us/public-works/ (under Documents & More Information at the bottom of the page) so you can see how the City is planning for the future of our community and how to best to meet the water system needs and maintain reliable services for you.

FUN FACT: DID YOU KNOW? The City provides education tours sharing careers in science, engineering and water services in partnership with the Umatilla Basin Watershed Council for high schools and middle schools throughout the basin.

The City of Pendleton is not in a drought thanks to our innovative ASR program. *(learn more on page 3)*

As stewards of the most precious resource, water, we all need to continue to do our part to conserve water. It will help with the livability and vitality of our community, plus it can save you money!

Water between 6 p.m. and 10 a.m.

Install water saving shower heads and toilets

Adjust watering frequency according to the weather and season

Do not use toilets as a wastebasket

Check and repair leaking pipes, hoses, sprinklers and toilets

Use a broom to clean driveways and sidewalks

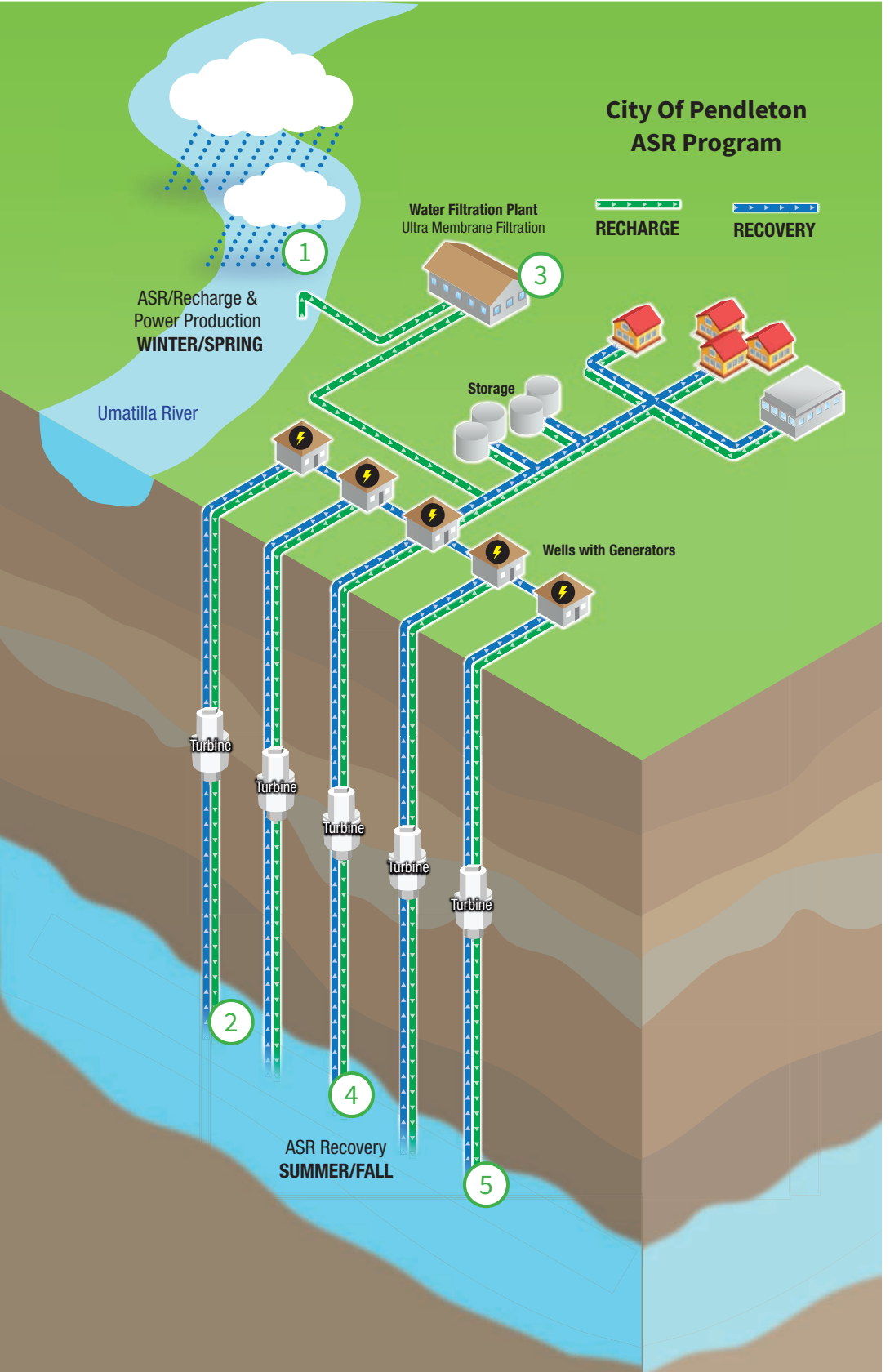
Stop by Pendleton City Hall and receive FREE water conservation tools, while supplies last!

LOW FLOW Shower Head

LOW FLOW Hose Nozzles

(Photos may or may not be representative of actual products.)

Both can be picked up at the finance customer service desk, 3rd floor of City Hall. *(while supplies last)*


City Of Pendleton
ASR Program
RECHARGE
RECOVERY
Water Filtration Plant
Ultra Membrane Filtration
1
3
ASR/Recharge &
Power Production
WINTER/SPRING
Umatilla River
Storage
Wells with Generators
Turbine
Turbine
Turbine
Turbine
Turbine
2
4
5
ASR Recovery
SUMMER/FALL

Water Filtration Plant (WFP)

The City's state-of-the-art Water Filtration Plant turned twelve years old June, 2015. This facility not only allows the City to meet current and future drinking water standards, but it also allows us to store high quality water in the underground aquifer through Aquifer Storage and Recovery (ASR). During the winter and spring months each ASR well injects water into the aquifer for storage, which allows us to generate electricity.

The City currently has five ASR wells . Through the Energy Recovery Technology (ERT), excess water is stored in the underground aquifer and power is generated while doing so. Initial estimates indicate the ERT will produce approximately 550 megawatt hours (MWh) of power annually. During 2015, approximately $25,000 in electricity credits were produced.

Aquifer Storage & Recovery (ASR)

1. **Source water is pumped from the river (Recharge phase) WFP in winter/spring when the Umatilla River flows above 250 cfs.**

2. **Source water is pumped from the aquifer (Recovery Phase) in summer/fall when the Umatilla River flow is below 250 cfs.**

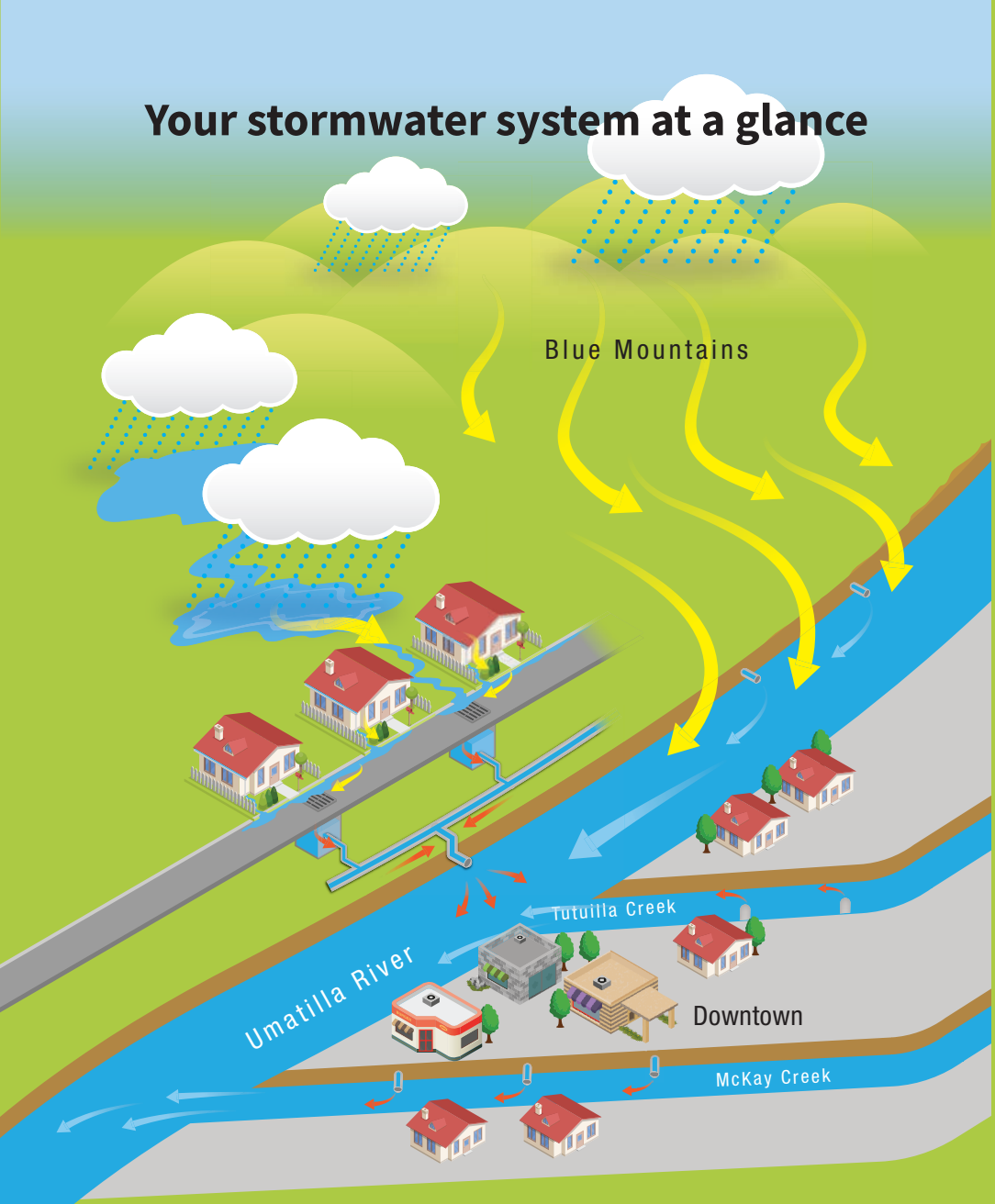
3. **After ultra membrane filtration at the Water Filtration Plant, source water is pumped into the city storage and distribution system. About 1.4 billion gallons of filtered water are sent through the city water system each year.**

4. **In winter/spring, excess filtered water is pumped into the aquifer, which generates electricity. The city received about $25,000 in electrical credits in 2015 which helps to offset the annual $500,000 electrical bill for the water system.**

5. **The city averages about 800 million gallons of water each year that are deposited and stored in the aquifer. The city has left about 8.7 billion gallons of native groundwater in the aquifer since the ASR program began.**

Did you Know that ASR has made the City's water supply one of the most drought resistant and sustainable water supplies in the state of Oregon?

Your stormwater system at a glance



Stormwater is untreated water that comes from rain and water runoff from land and properties, including over-watering. The water picks up pollutants along the way including fertilizer, oils, debris, pet waste etc, and flows into the storm drains.

Stormwater travels through sections of the 40 miles of storm drain pipes the City manages before running directly into the Umatilla River or the Patawa, Tutuilla or McKay Creeks.

Tips for keeping our stormwater system clean.

1

Pick up and dispose of pet waste properly.

2

Make sure all sprinklers are watering only lawn and garden, not concrete or asphalt.

3

Do not hose off driveway; use a broom to clean sidewalks, garages and driveways.

4

Rake up leaves and yard debris and dispose of properly. Do not hose leaves or any yard debris or garbage down a storm drain.

5

Use kitty litter to soak up oil or paint spills. Sweep up when done, do not use hose for clean up.

THIS IS NOT A TRASH CAN.™

Flushable wipes clog sewer pipes.
Flushable wipes do not dissolve; even if you flush just one, wipes collect in pipelines, pumps and valves causing clogs.

Keeping our community safe and clean from sewage spills and keeping maintenance costs down are important to your utility cost. You can help by remembering this simple phrase: 'Think Before You Flush'. Put trash where it belongs…in the trash.

THINK BEFORE YOU FLUSH™

We are pleased to report that our drinking water is safe and meets federal and state requirements. This report shows the City's water quality as delivered to you in 2015.

There are two sources of drinking water for the City. The first source consists of 7 deep basalt wells located throughout the city and another deep basalt well located 6 miles east of the city near Mission. The second source is the Umatilla River. Beginning in December, 2003, the City began withdrawing water from the Umatilla River and filtering it through the high tech membrane ultra-filtration process at the Water Filtration Plant.

HEALTH INFORMATION

The Water Department routinely monitors for constituents in your drinking water according to federal and state laws. Chlorine is added to the water for disinfection purposes and to assist with meeting federal and state requirements. The tables included in this report show the results of our monitoring for the period of January 1st to December 31st, 2015, or, in some cases, the results of the most recent sampling completed in accordance with state and federal regulations. 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 (EPA's) Safe Drinking Water Hotline (800-426-4791).

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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

UNREGULATED CONTAMINANT MONITORING

The Safe Drinking Water Act (SDWA) as amended in 1996 requires the EPA to establish criteria for a program to monitor unregulated contaminants in drinking water and to identify no more than 30 contaminants to be monitored every five years. The name of this EPA program is Unregulated Contaminant Monitoring Rule (UCMR). The EPA's purpose for monitoring selected unregulated contaminants is to gain nation-wide data to evaluate. The EPA will then decide whether or not to regulate these selected contaminants in the future for the protection of public health. Pendleton was randomly chosen to participate in the UCMR program. There have been three UCMR cycles to date. From the 3rd UCMR cycle which ended in 2014, the EPA has identified Strontium as one unregulated contaminant that will be regulated in the future. No MCL has been determined yet for Strontium. The 4th UCMR sampling cycle will likely commence sometime in 2016.

The items listed in Table 1. below were the only UCMR contaminants detected in Pendleton's water during the last monitoring period in 2014. Levels are listed in parts per billion (ppb). The maximum level that was detected in a sample is reflected in Table 3. below. Nine other UCMR monitored contaminants were not detected.

Table 1. **RESULTS OF MONITORING FOR UNREGULATED CONTAMINANTS (UCMR)**

Chlorate	135 ppb	Perfluorononanoic Acid	.0182 ppb
Hexavalent Chromium	0.14 ppb	Perfluorooctylsulfonic Acid	.0364 ppb
Total Molybdenum	1.9 ppb	Perfluorooctanoic Acid	.0182 ppb
Total Strontium	195 ppb	Perfluoroheptanoic Acid	.0090 ppb
Total Vanadium	32.4 ppb	Perfluorohexylsulfonic Acid	.0273 ppb
		Perfluorobutanesulfonic Acid	.0818 ppb

WANT MORE INFORMATION? We want our valued customers to be informed about their water quality. If you have any questions about this report or the City of Pendleton Water Division, please contact the Regulatory Specialist at 541-966-0249. For information on water quality and water conservation measures that can save you money, visit the City's website at www.pendleton.or.us and, using the SEARCH feature, type in "Water Conservation."

MICROBIOLOGICAL CONTAMINANTS

Microbiological testing of water helps protect the public from diseases. Chlorine is added to drinking water as a disinfectant to destroy or inactivate bacteria, viruses, and protozoa. City of Pendleton drinking water is routinely sampled for both total coliform Bacteria and E. Coli Bacteria. Total coliform bacteria are naturally present in the environment, and their presence is an indicator that other, potentially harmful bacteria may be present. The presence of E. Coli bacteria indicates that water may be contaminated with human or animal wastes. There were 249 routine microbiological samples taken throughout the distribution system in 2015. No total coliform bacteria or E. Coli bacteria were detected in 2015.

LEAD

In 2014, the city conducted OHA-DWP mandated lead sampling at 32 residences within city limits. The MCL for Lead is .015 ppm. Twenty out of 32 residences had no detections of lead. Of the 12 residences that had lead detections, only one exceeded the MCL action level. The overall reportable 90th percentile sampling results were at .0043 ppm. All results are posted on the OHA Drinking Water Program website under the City of Pendleton Water System. The next mandated lead and copper sampling is scheduled for the summer of 2017.

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. 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 (800-426-4791) or at http://www.epa.gov/safewater/lead.

EXPLANATION OF EXPECTED CONTAMINANTS

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 City of Pendleton source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from septic systems, livestock, or wild animals.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm-water runoff, industrial or domestic wastewater discharges, mining or farming activities.
- Pesticides and herbicides, which may come from a variety of sources such as farming, home or business use, or urban storm-water runoff.
- 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 occur naturally.

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. Maximum Contaminant Levels (MCLs) 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 (approximately 2 quarts) 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. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

DEFINITIONS

In this report you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions:

Not Available (NA) - some values are not available at this time.

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present at the detection level.

Parts 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 (µg/l) - one part per billion corresponds to one minute in 2,000 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 a single penny in $10,000,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

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.

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

Maximum Contaminant Level (MCL) - The MCL is 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.

Maximum Contaminant Level Goal (MCLG) - The MCLG is 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.

Maximum Residual Disinfectant Level (MRDL) - the highest level of disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG) - the level of a drinking water disinfectant below which there is no known or expected risk to health.

RESULTS OF MONITORING FOR REGULATED CONTAMINANTS

PWS ID# 4100613

NOTE: The contaminants listed in the Table 2 and 3 below are the only regulated contaminants detected in Pendleton's water during the most recent monitoring period. Monitoring was completed in 2009, 2011, 2012, 2013, 2014 and 2015. Not listed in Table 2 were 21 volatile organic compounds, 29 synthetic organic compounds, and 11 inorganic compounds, for which we tested for but were not detected.

Table 2.

Parameter	Highest for Compliance	Range of Level Detected		MCL (highest safe level allowed)	MCLG (ideal goal)	Complies? (Is it OK?)	Potential Sources of Contaminant
		Minimum	Maximum				
Turbidity	1.04 NTU	.25 NTU	1.04 NTU	5.0 NTU	NA	YES	Soil runoff, algae
Inorganics:							
Barium	0.015 ppm	.009 ppm	0.015ppm	2 ppm	2 ppm	YES	Erosion of natural deposits
Fluoride	0.38 ppm	ND	0.38 ppm	4 ppm	4 ppm	YES	Erosion of natural deposits
Nitrate	1.22 ppm	.01 ppm	1.22 ppm	10 ppm	10 ppm	YES	Erosion of natural deposits; animal waste; fertilizer; sewage; septic tanks
Nitrite	.01 ppm	ND	.01 ppm	1 ppm	1 ppm	YES	Erosion of natural deposits; fertilizer
Disinfection Byproducts:							
Total Trihalo-Methanes (TTHMs)	47.6 ppb	6.9 ppb	47.6 ppb	80 ppb	0	YES	By-product of drinking water chlorination
Halo Acetic Acids (HAAs)	37.0 ppb	ND	37.0 ppb	60 ppb	0	YES	By-product of drinking water chlorination
Radionuclides:							
Gross Alpha	ND	ND	ND	15 pCi/L	0	YES	Erosion of natural deposits
Combined Radium 226/228	ND	ND	ND	5 pCi/L	0	YES	Erosion of natural deposits
Combined Uranium	7 ppb	ND	ND	30 ppb	0	YES	Erosion of natural deposits
Disinfection Residuals:		Minimum	Maximum	MRDL	MRDLG	Complies? (Is it OK?)	Potential Sources of Contaminant
Chlorine Residual @ First User		0.24 ppm	1.04 ppm	4.0 ppm	4 ppm	YES	Water additive to control microbes

Table 3. **RESULTS of MONITORING FOR LEAD & COPPER at RESIDENTIAL WATER TAPS**

Parameter	90th Percentile Values	No. of Sites Exceeding Action Level	Action Level (AL)	MCLG	Complies? (Is it OK?)	Potential Sources of Contaminant
Lead	4.50 ppb	1	15 ppb	0	YES	Corrosion of household plumbing; erosion of natural deposits
Copper	0.136 ppm	0	1.3 ppm	1	YES	

City of Pendleton
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WANT MORE INFORMATION?

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A compilation of the City of Pendleton's historical water sampling data can be found at **yourwater.oregon.gov**. Just enter water system OR4100613.

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