CITY OF PENDLETON

2013 Water Quality Report

City of Pendleton Water Department is pleased to provide you with this summary of 2013 drinking water quality information. We want to keep you informed about the water and services we have delivered to you over the past year. Our goal is and always has been, to provide you a safe and dependable supply of drinking water. 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.

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 2013.

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, 2013, 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).

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

NOTE: The contaminants listed in the Table 1. and 2. 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. Not listed in the Table 1. were 21 volatile organic compounds, 29 synthetic organic compounds, and 9 inorganic compounds, for which we tested for but were not detected.

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	0.83 NTU	0.05 NTU	0.83 NTU	5.0 NTU	NA	YES	Soil runoff, algae
Inorganics:							
Arsenic	1.47 ppb	ND	1.47 ppb	10 ppb	0	YES	Erosion of natural deposits
Barium	0.05 ppm	0.01 ppm	0.05 ppm	2 ppm	2 ppm	YES	Erosion of natural deposits
Fluoride	0.81 ppm	ND	0.81 ppm	4 ppm	4 ppm	YES	Erosion of natural deposits
Nitrate	3.31 ppm	ND	3.31 ppm	10 ppm	10 ppm	YES	Erosion of natural deposits; animal waste; fertilizer; sewage; septic tanks
Selenium	3.63 ppb	ND	3.63 ppb	50 ppb	50 ppb	YES	Erosion of natural deposits
Disinfection Byproducts:							
Total TrihaloMethanes (TTHMs)	32.5 ppb	3.0 ppb	32.5 ppb	80 ppb	0	YES	By-product of drinking water chlorination
Halo Acetic Acids (HAAs)	36.3 ppb	ND	36.3 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	1.88 ppb	ND	1.88 ppb	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		0.05 ppm	0.23 ppm	4.0 ppm	4 ppm	YES	Water additive to control microbes

Table 1.

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 *	2.14 ppb	1	15 ppb	0	YES	Corrosion of household plumbing; erosion of natural deposits
Copper *	0.14 ppm	0	1.3 ppm	1	YES	

*Results from 2011 sampling. Next Lead and Copper sampling will be in 3rd Quarter 2014.

Table 2.

CREATING A LASTING IMPRESSION

Reaching out to you, our customers

The City continues to move forward with several important projects related to the Water Filtration Plant and Resource Recovery Facility that serve you, our customers.

WATER FILTRATION PLANT

It's hard to believe, but the City's Water Filtration Plant turned ten years old June, 2013. 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), which in turn, allows us to make power at the ASR wells.

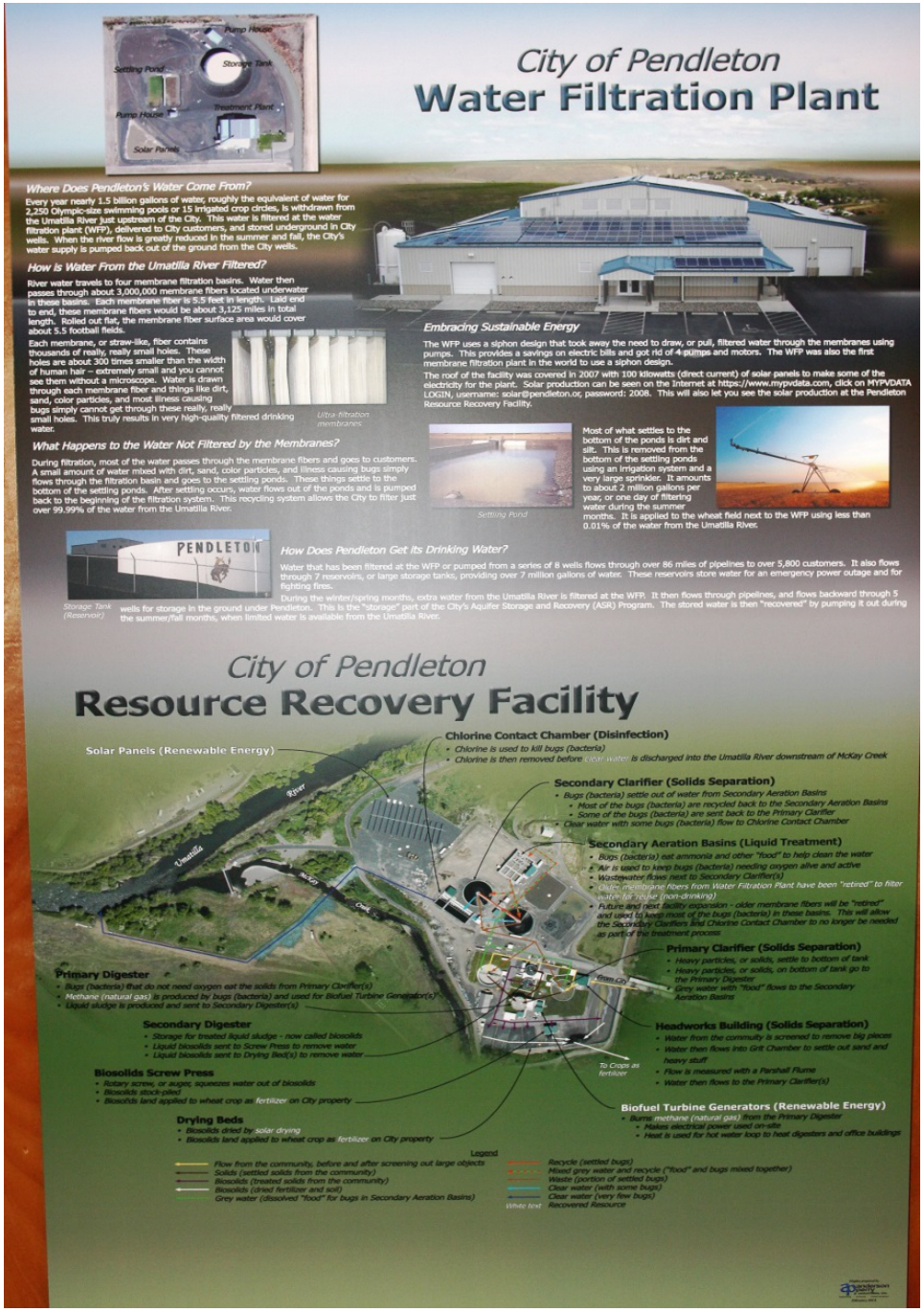
The City currently has five ASR wells which allow us to store excess water in the underground aquifer and generate power while doing so through the Energy Recovery Technology (ERT) Project. Initial estimates indicate the ERT will produce approximately 550 megawatt hours (MWh) of power annually. Approximately $50,000 in electricity credits were produced during 2013. The facility is located on Goad Road southeast of Pendleton.

RESOURCE RECOVERY FACILITY UPGRADE

The City recently completed $19 Million in upgrades at the Resource Recovery Facility. The plant was last upgraded in the 1970s, so not only was much of the equipment outdated, but new water quality standards required a higher level of treatment.

The plant is now a state-of-the-art facility, featuring secondary treatment utilizing the modified Ludzack-Ettinger (MLE) method, membranes from the water treatment plant, a membrane bioreactor, a biofuels generator, a sludge dewatering press, and de-chlorination facilities. The facility is located on SW 28th Drive.

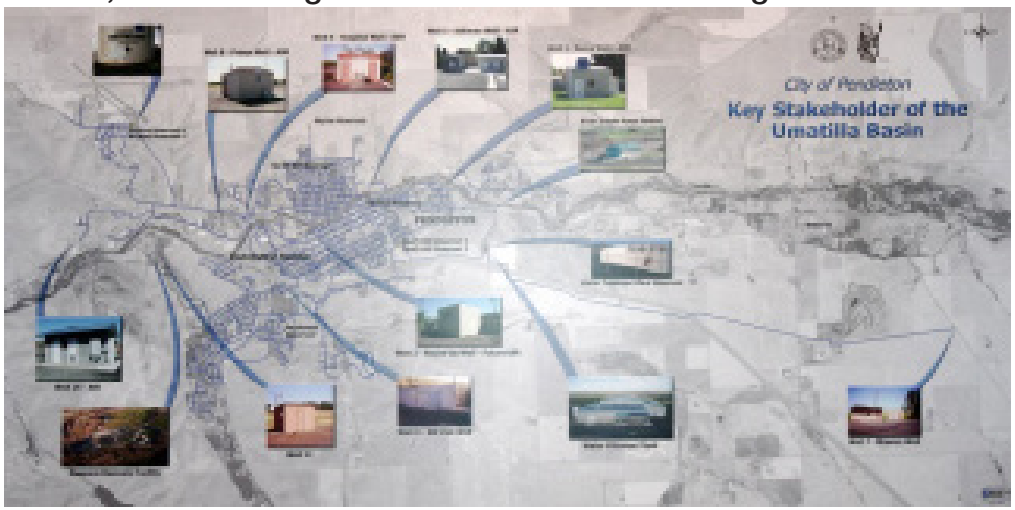
NOTE: PLEASE DO NOT FLUSH DISPOSABLE WIPES OR DIAPERS. THEY PLUG SEWER LINES AND RESULT IN COSTLY REPAIRS!

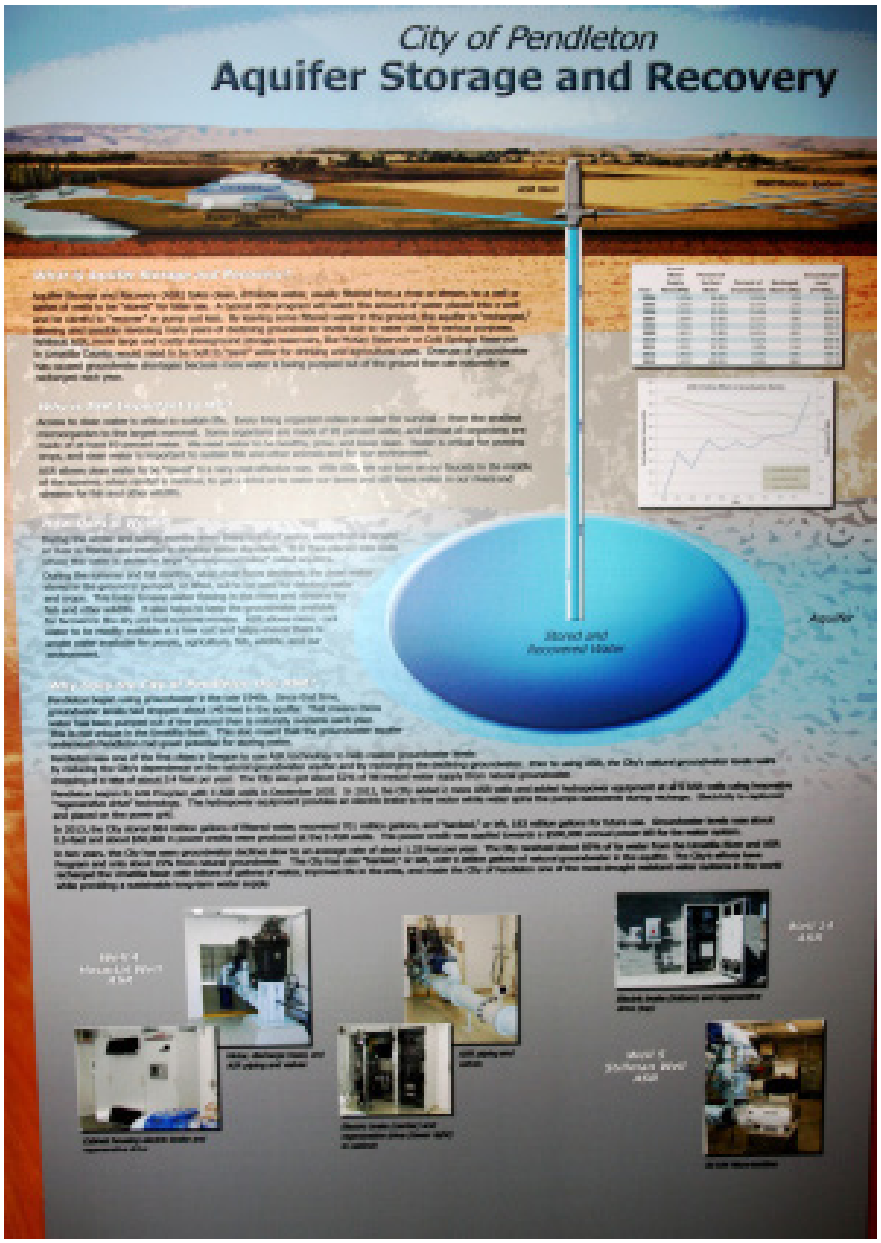


COMMUNITY OUTREACH

The City developed a very comprehensive water system display which will be showcased in the spring of 2014 at the Umatilla County Historical Museum, 108 SW Frazer Ave., in Pendleton.

Also, working with the Umatilla Basin Watershed Council (UBWC), the City has made available tours of our water and resource recovery facilities for schools throughout the basin. In prior years, grant funding obtained by UBWC and implemented through their Adventure Days Program by an Oregon RARE member, students from Umatilla High School, Nixyaawii High School, Helix High School, and Echo High School have taken advantage of these tours. Sunridge Middle School students and the Civil Engineering Technology program at BMCC have also toured the facilities. These educational tours have allowed the City to show off the facilities as well as encourage students to learn about careers in science, engineering, drinking water and environmental waste recovery technologies.





ADDITIONAL WATER QUALITY & SUPPLY INFORMATION

AQUIFER STORAGE AND RECOVERY (ASR)

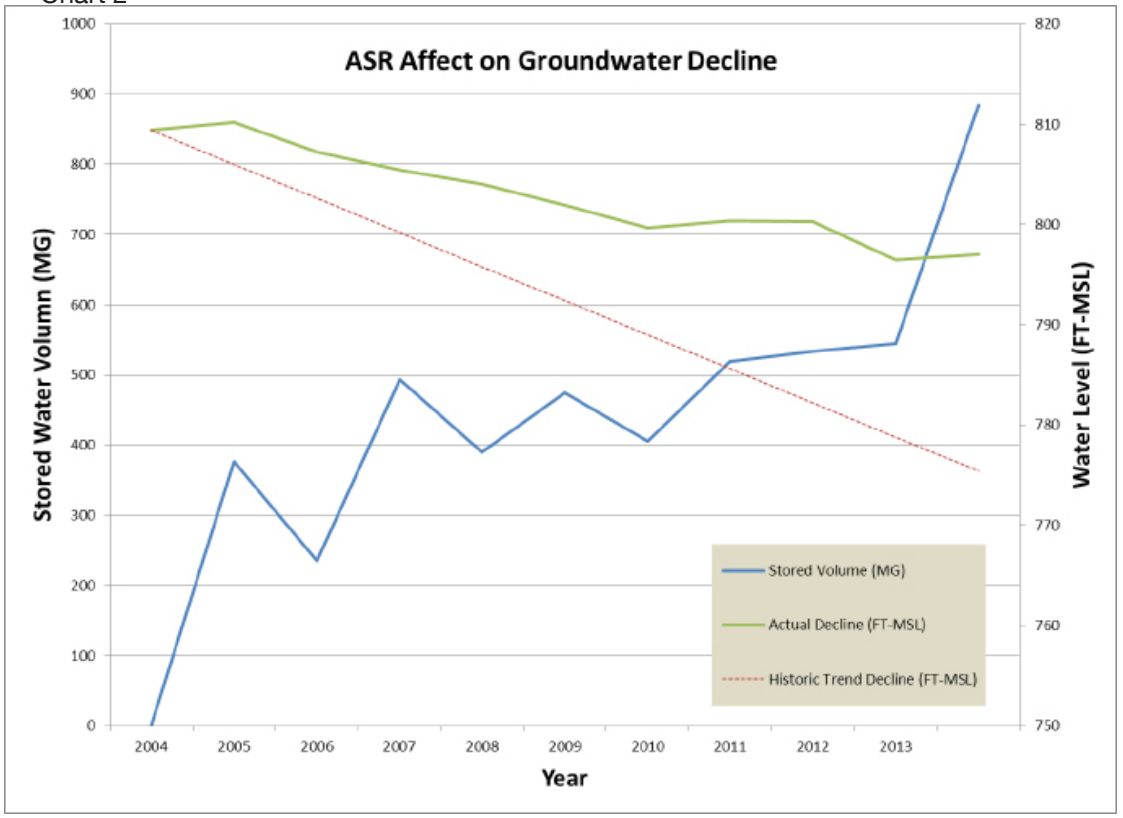
The City produces high quality membrane-filtered water in it's water filtration plant and continually stores this water in the basalt aquifer system beneath the city. That water is stored during the winter months when there is adequate water in the Umatilla River. The stored water is recovered during the summer months when demand is high. The process is referred to as Aquifer Storage and Recovery (ASR). Five ASR wells are now in operation.

In 2013, the City had its banner ASR program year. This was the year for the greatest amount of natural groundwater to be left in the aquifer based on historic trends for its water supply before the investment in ASR. This year the City stored 884 million gallons of filtered water from the Umatilla River in the aquifer. The City recovered 701 million gallons of the stored ASR water and provided it to its customers. The remaining 183 million gallons of stored ASR water was "banked," or left in the aquifer for future use. Since 2003, the City has been able to slow the trend of reducing declines in the groundwater aquifer and now relies primarily on surface water. In fact, the City has "banked" or not used over seven billion gallons of native groundwater since the Aquifer Storage and Recovery project began. During 2013, the groundwater levels actually rose about 0.5 feet. The ten years of this ASR project have demonstrated aquifer recharge, storage and recovery as a viable method for Pendleton to store and recover treated water and assist with reducing native groundwater declines. Chart 1. depicts the last ten years of overall city water supply needed, water sources, water usage, and water levels. Chart 2. illustrates Pendleton's ASR program effect on groundwater decline. It is less than half of what it would have been without ASR.

Chart 1

Year	Annual City Water Supply Needed (MG)	Percent of Surface Water Used	Percent of Ground Water Used	Recharged Water (MG)	Ground Water Level (FT-MSL)
2004	1,556	86.8%	13.2%	376	810.2
2005	1,563	58.5%	41.5%	235	807.2
2006	1,535	85.0%	15.0%	493	805.4
2007	1,644	67.9%	32.1%	390	804.0
2008	1,584	87.9%	12.1%	474	801.9
2009	1,613	75.8%	24.2%	405	799.7
2010	1,357	93.9%	6.1%	519	800.4
2011	1,321	97.0%	3.0%	534	800.3
2012	1,430	90.3%	9.7%	545	796.5
2013	1,530	100.0%	0.0%	884	797.0

Chart 2



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. As of this date, Pendleton has had extremely small detections of the following contaminants as listed in the table below. Once all the UCMR results collected from water systems across the United States are evaluated, the EPA will determine whether to set MCL's for these contaminant substances.

The items listed in Table 3. below were the only UCMR contaminants detected in Pendleton's water during the 2013 monitoring period. Levels are listed in parts per billion (ppb). The maximum level that was detected in a sample is reflected in the chart below. Nine other UCMR monitored contaminants were not detected.

RESULTS OF MONITORING FOR UNREGULATED CONTAMINANTS (UCMR)

Chlorate	323 ppb	Perfluorononanoic Acid	.0182 ppb
Hexavalent Chromium	0.21 ppb	Perfluorooctylsulfonic Acid	.0364 ppb
Total Molybdenum	1.9 ppb	Perfluorooctanoic Acid	.0182 ppb
Total Strontium	247 ppb	Perfluoroheptanoic Acid	.0090 ppb
Total Vanadium	32.4 ppb	Perfluorohexylsulfonic Acid	.0273 ppb
		Perfluorobutanesulfonic Acid	.0818 ppb

Table 3.

WATER FILTRATION PLANT

Water is withdrawn from the Umatilla River and treated at the City's membrane filtration Water Filtration Plant (WFP). The City's WFP produces high quality ultra-filtered drinking water for Pendleton. Prior to 2003, the City derived 62% of its water supply from native groundwater and about 38% from the City's old "Springs" source. Since Pendleton's ASR program began in 2003, the City has pulled approximately 85% of its water from the Umatilla River and ASR and only 15% from native groundwater. The WFP uses a state-of-the-art General Electric Zenon ZeeWeed 500C ultra-filtration membrane system. This filtration system is approved and recognized by Oregon Health Authority Drinking Water Services as a premiere filtration system for Giardia and Cryptosporidium bacteria.

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 242 routine microbiological samples taken throughout the distribution system in 2013. **No total coliform bacteria or E. Coli bacteria were detected in 2013.**

LEAD

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 potential for lead exposure is minimized 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.

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