

Issued June 2011

Based on 2010
Water Quality Data

the water

we drink

Annual Water Quality Report for:
Medford Water Commission

and the cities of:

**Central Point • Eagle Point • Jacksonville
Medford • Phoenix • Talent**

This report contains important information about your water supply.



About This Report

Each of us uses water in numerous ways every day. The quality of our water is very important to the health of local communities. Federal and state standards therefore provide stringent guidelines to help assure that tap water is safe to drink. Your local water providers are pleased to report that the quality of our water continues to be excellent, easily surpassing all health regulations.

This publication is being provided by the Medford Water Commission, along with the cities of Central Point, Eagle Point, Jacksonville, Phoenix and Talent, each of whom distribute water provided by the Commission. This report includes water quality testing results for the year 2010, along with information explaining what the results mean.

Drinking water regulations require that certain water quality information be distributed each year. Some of the specific language is also required. We support our customers' right to know the results of tests conducted on our water. We also realize, however, that this can be somewhat technical. Although much of the content of this report must follow strict reporting guidelines, we attempt to provide the information in a clear and useful format. If you wish to have further explanations, please refer to the back cover of this report for local contacts and other sources of information.

We appreciate the opportunity to serve you and hope that you will find this information to be helpful.

Additional Test Results

In an effort to simplify this document and meet EPA guidelines, tables in this report do not include information on many substances we test for. The vast majority of regulated contaminants tested for are not detected in our water, and most of those undetected substances are not shown in this report. If

you wish to review additional test results, a complete water quality analysis can be viewed on the Commission's website. Much of the test data is also listed on the website for the Oregon Drinking Water Program. Both of these web addresses are shown on the back.

To assist the Environmental Protection Agency (EPA) in assessing possible future regulations for additional contaminants, the Commission occasionally conducts testing for a number of substances that are not regulated. None of these unregulated contaminants were found within our water. Results from these tests are also available upon request.

Additionally, some parameters that we test for may not themselves constitute a health concern, and therefore are not listed in the tables herein. Examples include the pH and hardness of the water.

From Source To Tap

The majority of water used within our water system comes from the Big Butte Springs. This group of springs is located on the lower slopes of Mt. McLoughlin near Butte Falls. The spring water is directed into pipelines while still below ground, and is considered a groundwater supply. Disinfection with chlorine is the only treatment needed for this exceptional water supply.

The Big Butte Springs provide sufficient water to more than meet the needs of our communities in the winter. However, with water use often more than three times higher during the summer, we rely on water from the Rogue River to meet these increased demands.

Although the quality of the Rogue River water is also very good, like most surface water, it requires a full treatment process. After being drawn from the river, the Rogue water is treated with ozonation and a full filtration process, along with chlorination.

Following treatment, water is transported in large pipes to the communities' distribution systems. Within the distribution systems, pipelines vary in size, with some serving as main lines and others serving small neighborhoods. Rather than being independent lines like the branches of a tree, pipes are typically interconnected in a grid-like system. The grid or looped design provides more uniform pressure, lessens the need for large areas to be without water when one section of pipe has to be shut down, and helps assure that water keeps moving and remains fresh. Water in pipelines can flow either downhill under the force of gravity or uphill with pumping.

Our Watersheds

While many cities receive their water from local wells or rivers that flow through town, our local communities do not have reliable aquifers beneath them, nor large rivers flowing by. However, actions taken decades ago enable us to utilize water generated in the large upper Rogue watershed. With snow melt and reservoirs in this watershed, we are also able to receive water throughout the summer. This is very important in our region, which receives very little rain during the summer when water usage soars.

The upper Rogue watershed is largely undeveloped, with the portion in the Big Butte Springs watershed being particularly pristine. Consequently, we don't face many of the water quality challenges associated with urban watersheds. Nonetheless, the Medford Water Commission is actively involved in activities aimed at preserving the quality of our water supplies, and has developed a Source Water Assessment Plan for the Rogue River watershed and a Wellhead Protection Plan for the Big Butte Springs watershed. These reports are available for review at the Commission's office. ■



We are fortunate that in most parts of our country, the water available for citizens to drink is of very high quality. Nonetheless, from time to time, stories in the media raise questions in this regard. While such news serves a useful function, at times it can be both alarming and confusing to readers, who naturally wonder how they might be affected. Following is information offered both for general clarification as well to address some specific water quality issues that have been in the news the last few months.

As is explained in other portions of this report, all water picks up elements that it comes in contact with. While sometimes this includes new man-made compounds, many are naturally occurring constituents that are not new to water supplies, but have come to light due to the improved ability to detect smaller and smaller quantities of substances. While anything found in water is considered a contaminant, it is important to recognize that detecting a substance, particularly at minuscule levels, does not necessarily mean that it poses a health risk.

There are thousands of potential minerals and compounds that can find their way into water supplies, and regulating all would not only be nearly impossible, but could add costs that far outweigh potential benefits. To better assure that attention and resources are properly

directed, the U. S. Environmental Protection Agency (EPA) has a defined process for prioritizing constituents to be evaluated, as well as protocols for evaluating them for health impacts, identification of effective treatment processes, and certification of laboratories and reliable detection methods. Unfortunately, this process can take years from beginning to end. While that can cause frustration, to regulate substances without full knowledge of health impacts and effective reasonable treatment technologies also has the potential to substantially increase the amount people pay for their water without the assurance that it is warranted.

A recent example where a report was released to the media that raised water quality concerns in advance of regulation involved the finding that a form of chromium known as hexavalent chromium or chromium-6 had been found in drinking water across the nation. While in some cases, chromium-6 occurs as an industrial by-product, it is also an element that is formed naturally. Currently all forms of chromium are regulated collectively under a “total chromium” standard, for which the maximum allowed is 0.1 parts of chromium per million parts of water (ppm). The hexavalent form of chromium is under review by EPA for possible further regulation, with the risk assessment expected to be completed this summer. California has meanwhile suggested regulation as low as 0.00006 parts per million, much lower than the current total chromium standard. Unfortunately, this proposal being released prior to completion of the EPA’s assessment raises more questions than answers as to what constitutes a safe level.

Though not yet required, some utilities have now begun to test for chromium-6, and the Medford Water Commission has initiated actions to do so as well. It is noted that chromium-6 has been found

in some Oregon water supplies in amounts that are well below the current regulation, but higher than the much more stringent standard being suggested by California. Inasmuch as the rocks of the high Cascades are known to contain chromium, it being detected at small levels is not surprising. At this point, the EPA has not yet made a determination about safe levels of this substance, nor what effective treatment methods may be. However, it serves as an example of the challenges and concerns that can occur as new drinking water regulations are developed and information is released, sometimes without full context.

A second recent water quality topic in the news that raised questions involved the finding of very small quantities of radiation in water at some locations in the United States following the nuclear power plant event in Japan. Through RadNet, the EPA’s radiation surveillance program already in place, monitoring of water, air and milk showed that levels of radiation from this event were extremely small, and did not constitute a threat to public health. In fact, the small amounts of radiation coming to Oregon from the events in Japan were found to be well below the typical levels seen every day from natural sources such as minerals and sunlight. Therefore, while it is helpful to receive such information, it is also beneficial to understand it in context.

The most important component of our job as water suppliers is to assure that the water we provide is safe to drink. Remember too that we are also our own customers, as are our families and friends. And while increased knowledge and improved detection abilities will continue to result in new water quality concerns arising, it is important to recognize that the standards in place today are higher than ever before. ■



H E A L T H

C O N C E R N S

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).

throughout the area covered by this report. Coliform bacteria are seldom found in our water. Of the samples tested in 2010, only two taken in Central Point tested positive for coliform bacteria, but further testing confirmed that it was not a harmful variety.

Although not regulated, the Medford Water Commission also conducts occasional testing for *Cryptosporidium*, a microscopic parasite that can cause severe intestinal illness. We have occasionally found a small number of *Cryptosporidium* oocysts in the untreated Rogue River water, but none in our treated water. No testing for *Cryptosporidium* was conducted in 2010.

over a lifetime. Bottled water is subject to comparable standards established by the Food and Drug Administration.

The EPA also specifies testing schedules, which range from continual monitoring of those parameters that can change quickly to monitoring every few years for some substances that tend to be very consistent over time. Testing for most contaminants is done at least annually. Although we directly monitor certain water quality parameters, the majority of our water quality analyses are conducted at an independent certified laboratory.

Of the approximately 150 substances we test for, most have never been found in our water. Those that we do detect are found at levels far below health standards, and are identified on the following pages. A more comprehensive report of test results is available upon request or can be viewed and printed from the Medford Water Commission website by selecting "annual analysis" on the home page. ■

Checking for Contaminants

Hundreds of tests are run on our drinking water each year to ensure that no substances are present at harmful levels. The Environmental Protection Agency establishes drinking water standards based on the potential for immediate risk of illness, or to exposure to specific contaminants



About Microbes

Microscopic organisms have more potential to show up suddenly and cause immediate illness than most contaminants. Therefore, water samples are taken throughout the water distribution system on a regular basis to check for bacteria. Initial samples are tested for coliform bacteria, which are good indicators of whether other bacteria might be present. Most coliforms do not pose a health threat, but if they are found in a sample, the water is further analyzed for harmful fecal coliforms or *E. coli*.

Microbial sampling is conducted by the Medford Water Commission, as well as by each of the cities served by the Commission. During the year 2010, 1664 samples were collected from 104 sampling points



U N D E R S T A N D I N G

T H E R E S U L T S

This report shows test results for constituents found within our water. Except where identified otherwise, results shown are from tests conducted during 2010. Any substances found were at very low levels and are well below standards set by the EPA for healthy drinking water.

Although some of the data may appear complex, we hope that the conclusion is clear: that the water you receive meets the highest standards. In fact, with increasing knowledge about various contaminants and enhanced treatment techniques, the water we drink is better than ever.

Explanations below are provided to help you better understand the significance of these test results.

Disinfection By-Products

Disinfection of water plays an extremely important role in preventing disease epidemics. Disinfection is achieved through chemical reactions that inactivate harmful microbes. However, by-products can form from these reactions, some of which can be harmful if they occur at sufficient levels over a long time. Total trihalomethanes and haloacetic acids are compounds that are formed from reactions between chlorine and organic material.

...Continued from page 4

Various measures are taken to keep these by-products to a minimum while insuring that disinfection is achieved.

Bromate is a by-product that can occur with ozonation. However, none was found in our samples tested in 2010.

Chlorine Residual

Although there are different methods by which water can be disinfected, only chlorine will remain in the water to provide protection all the way to customers' taps. For this reason, even when other primary disinfection methods are employed, some chlorine is often utilized. In association with the routine collection of water samples throughout the distribution system, samples are evaluated to confirm that there is some chlorine remaining and that the residuals are not above health standards. Our water is effectively disinfected with far less chlorine than the maximum residual allowed, so our residual levels are well below the allowed amount.

Radioactive Contaminants

As they deteriorate, certain minerals give off radiant energy in various forms. This can be released from the ground, and from water that has been exposed to these substances.

Standards for radon, a carcinogenic gas, are currently under review. While most radon found in indoor air comes through the ground, some can be released from water.

Turbidity

Turbidity is a measure of how clear water is, read in Nephelometric Turbidity Units (NTUs). High turbidity does not necessarily indicate that water is unhealthy, but it can interfere with disinfection. While turbidity measurement is not required of our springs water, it is continuously monitored for our own review. ■



K E Y T E R M I N O L O G Y

AL Action Level

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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.

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.

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 contaminants.

ND Non Detect

Not detected at an established minimum reporting level.

ppm/ppb Parts per Million/Parts per Billion

A part per million (ppm) means that one part of a particular substance is present for every million parts of water; this compares with one penny in \$10,000. Similarly, parts per billion (ppb) indicate the amount of a substance in a billion parts of water; this compares with one penny in \$10 million.

TT Treatment Technique

A required process intended to reduce the level of a contaminant in drinking water.



REGULATED SUBSTANCES DETECTED

Radioactive Contaminants Analyses

SUBSTANCE	MCL (maximum allowed)	MCLG (ideal goal)	AVERAGE AMOUNT DETECTED	RANGE	COMPLIES?	TYPICAL SOURCE
Gross Alpha (2008 results)	15 pCi/L	0 pCi/L	Rogue River: 1.2pCi/L ±0.7 Big Butte Springs: 1.5pCi/L ±0.8	N/A	YES	Erosion of natural deposit
Radium-226/228 (2008 results)	5 pCi/L	0 pCi/L	Rogue River: ND@0.7 ±0.7 Big Butte Springs: 0.8pCi/L ±0.7	N/A	YES	Erosion of natural deposits
Uranium (2008 results)	30 µg/L	0 µg/L	Rogue River: ND@1µg/L Big Butte Springs: ND@1µg/L	N/A	YES	Erosion of natural deposits
Radon-222 (2006 results)	Not regulated	Not regulated	Rogue River: N/A Big Butte Springs: 161pCi/L	N/A N/A	YES	Naturally occurring

Primary Contaminants Analysis

Asbestos (2009 results)	7MFL	7MFL	Phoenix: 0.2MFL	N/A	YES	Decay of asbestos cement water mains
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Other Analyses

Turbidity	TT = 0.3 NTU	N/A	Rogue River: 0.029NTU	0.024 – 0.086 NTU	YES	Soil erosion and stream sediments
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Secondary Contaminants—Voluntary Guidelines

SUBSTANCE	MAXIMUM SUGGESTED	AVERAGE AMOUNT DETECTED	COMPLIES?	TYPICAL SOURCE
Aluminum	50 - 200 ppb	Rogue River: 11.7ppb Big Butte Springs: 65.6ppb	YES	Erosion of natural deposits
Chloride	250 ppm	Rogue River: 3.86ppm Big Butte Springs: 2.27ppm	YES	Erosion of natural deposits
Copper	1.0 ppm	Rogue River: ND@0.01ppm Big Butte Springs: 0.0374ppm	YES	Erosion of natural deposits
Sulfate	250 ppm	Rogue River: 0.782ppm Big Butte Springs: 1.09ppm	YES	Erosion of natural deposits
Sodium	20 ppm	Rogue River: 6.15ppm Big Butte Springs: 7.02ppm	YES	Erosion of natural deposits

LEAD AND

COPPER



Little to no lead and copper are typically found in our water at the sources. However, these metals can enter the drinking water supply through corrosion from household plumbing or the water distribution system, so supplemental testing is conducted at residences considered to be at greatest risk for high lead and copper levels. Our water does not tend to be prone to high lead and copper levels, but precautions are still worthwhile.

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. Medford Water Commission and each city are 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 drinking 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.



MORE SUBSTANCES DETECTED

Medford Water Commission and Cities' Disinfection and Disinfection By-Product Analyses

SUBSTANCE	MCL (maximum allowed)	MCLG (ideal goal)	AVERAGE AMOUNT DETECTED	RANGE	COMPLIES?	TYPICAL SOURCE
Total Trihalomethanes	80ppb	0ppb	M.W.C.: 16.87ppb Central Point: 10.0ppb Eagle Point: 9.3ppb Jacksonville: 19.0ppb Phoenix: 0.4ppb Talent: ND	0.86 – 31.2ppb 1.5 – 19.1ppb ND – 20.9ppb 19.0 – 19.0ppb ND – 0.7ppb ND	YES	By-products of chlorination used in the water treatment process
Haloacetic Acids	60ppb	0ppb	M.W.C.: 12.3ppb Central Point: 7.9ppb Eagle Point: 8.3ppb Jacksonville: 5.0ppb Phoenix: ND Talent: ND	ND – 20.5ppb 3.0 – 14.2ppb ND – 25.1ppb 5.0 – 5.0ppb ND ND	YES	By-products of chlorination used in the water treatment process
Chlorine	4.0ppm (MRDL)	4.0ppm (MRDLG)	M.W.C.: 0.52ppm Central Point: 0.35ppm Eagle Point: 0.45ppm Jacksonville: 0.45ppm Phoenix: 0.40ppm Talent: 0.39ppm	0.13 – 0.75ppm 0.03 – 0.65ppm 0.17 – 0.63ppm 0.20 – 0.83ppm 0.30 – 0.50ppm 0.28 – 0.51ppm	YES	Treatment additive for disinfection

Lead and Copper Sampling from Residential Water Taps

SUBSTANCE	ENTITY	ACTION LEVEL	MCLG (ideal goal)	AMOUNT DETECTED (90th percentile value)	DATE OF MOST RECENT TEST	COMPLIES?	TYPICAL SOURCE
Lead	M.W.C.	90% of homes tested must	0ppb	1.18ppb	2010	YES	Corrosion of household plumbing
	Central Point	have lead levels		3.1ppb	2008	No samples exceeded	
	Eagle Point	less than 15 ppb		4.8ppb	2010	action level	
	Jacksonville			2.8ppb	2010		
	Phoenix			1.8ppb	2009		
Copper	Talent			1.7ppb	2010		Corrosion of household plumbing
	M.W.C.	90% of homes tested must	1.3ppm	0.855ppm	2010	YES	
	Central Point	have copper		0.329ppm	2008	No samples exceeded	
	Eagle Point	levels less than		0.306ppm	2010	action level	
	Jacksonville	1.3 ppm		0.310ppm	2010		
Phoenix			0.677ppm	2009			
Talent				0.311ppm	2010		

INFORMATION

FROM THE EPA



As water travels over the land and through the ground, it dissolves naturally occurring minerals and may pick up substances resulting from human activity or the presence of animals. These substances are referred to as contaminants and may include microbial organisms, such as viruses and bacteria, inorganic substances such as minerals and salts, pesticides and herbicides, organic chemicals such as petroleum products and radioactive substances.

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's Safe Drinking Water Hotline (800-426-4791).



W A T E R C O N N E C T I O N S

Medford Water Commission

Robert Noelle, Water Quality Superintendent: 541-774-2434
Email: wtrcom@ci.medford.or.us
www.medfordwater.org

Board Meetings: 1st and 3rd Wednesday at 12:30 pm
Lausmann Annex, Room 151

City of Central Point

Max Woody, Public Works Operations Manager: 541-664-3321 (ext. 241)
Email: max.woody@centralpointoregon.gov

Council Meetings: 2nd and 4th Thursday at 7:00 pm
City Hall, 140 S. 3rd Street

City of Eagle Point

Gary Shipley, Public Works Supervisor: 541-826-4212 (ext. 136)
Email: garyshipley@cityofeaglepoint.org

Council Meetings: 2nd and 4th Tuesday at 7:00 pm
City Hall, 17 S. Buchanan Street

City of Jacksonville

Jeffrey Alvis, Public Works Director: 541-899-1231
Email: pwdirector@jacksonvilleor.us

Council Meetings: 1st and 3rd Tuesday at 7:00 pm
Old City Hall, 215 W. Main Street

City of Phoenix

Jeff Ballard, City Engineer: 541-535-5531
Email: jeff@pwmanagers.com

www.phoenixoregon.net

Council Meetings: 1st and 3rd Monday at 6:30 pm
Public Works Office, 1000 South 'B' Street

City of Talent

Lester Naught, Superintendent: 541-535-3828
Email: pubworksles@cityoftalent.org

www.cityoftalent.org

Council Meetings: 1st and 3rd Wednesday at 6:30 pm
Community Center, 206 E. Main Street

Jackson County Health Department, Environmental Health:

541-774-8206

Oregon Health Authority, Drinking Water Program:

1-971-673-0405

www.oregon.gov/DHS/ph/dwp

EPA Safe Drinking Water Hotline:

1-800-426-4791

www.epa.gov/safewater

Este documento contiene información muy importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.



Medford Water Commission
200 South Ivy Street - Room 177
Medford, Oregon 97501

Providing High Quality Drinking Water for Our Customers

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