

CITY OF KEIZER
2020

ANNUAL DRINKING
**Water Quality
Report**



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www.keizer.org

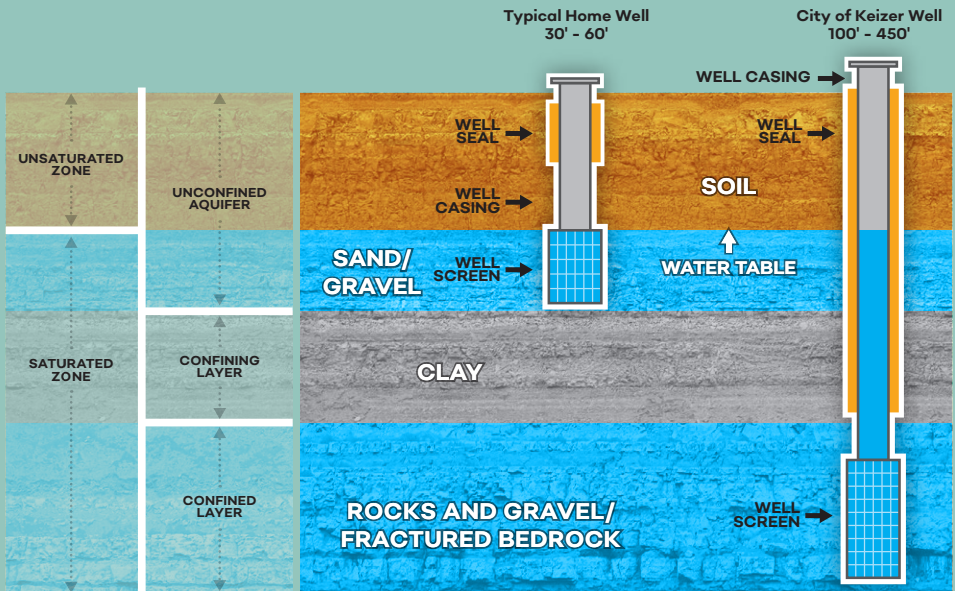
KEIZER Well Facts

Fluoride is added to your water at a rate of .70 parts per million which is the recommended level set by the American Dental Association and the Oregon Health Authority. An Iron/Manganese sequesterant is also added to the water to reduce staining. Hardness of the water is 107 parts per million or approximately 6 grains per gallon.

The water system is controlled by a computerized telemetry system which continually monitors the water pressure and activates or deactivates individual wells to maintain a system water pressure of 60-74 pounds per square inch. Keizer has three water storage facilities equaling 2.75 million gallons of storage.

The source of the City of Keizer's water is the Troutdale Aquifer.

(An aquifer is an underground geologic formation that can store water.) Keizer's aquifer is located beneath the entire city. 15 deep wells draw from this aquifer and distribute the water to your home through 125 miles of piping. Average winter use is 1.5-3 mgd and average summer use is 6.5-8 mgd.



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 Drinking Water Protection Area, and (3) determining the susceptibility or relative risk to the well water from those sources.

The purpose of this 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 Oregon Health Authority and Environmental Quality have completed the assessment for our system. A copy of the report (Source Water Assessment Report) is on file and available for viewing at Keizer City Hall.

Your water is clean and contaminant free. However, the following language is required in this report by the EPA:

Required Additional Health Information

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

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 EPA's Safe Drinking Water Hotline (1-800-426-4791).

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 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:

- A. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- B. Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- D. Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run-off, and septic systems.
- E. 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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in bottled water than is the general population. Immune-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* are available from the Safe Drinking Water Hotline (1-800-426-4791).

Information on Lead

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 Keizer 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, 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

2020 WATER QUALITY TESTING RESULTS

MICROORGANISMS

Substance	Date Tested	Unit	MCLG	EPA's MCL (Highest Level Allowed)
*1 Total Coliform	2020	TT	0	5%

INORGANIC CONTAMINANTS

Substance	Date Tested	Unit	MCLG	MCL
*2 Nitrate	2020	ppm	10	10
*3 Fluoride	2020	ppm	4	4
*4 Lead (every 3 years)	2020	ppb	0	AL=15
*5 Copper (every 3 years)	2020	ppm	1.3	AL=1.3
*6 Arsenic	2019	ppb	0	10

VOLATILE ORGANIC CONTAMINANTS

Well Name: Willamette

*7 Tetrachloroethylene	2020	ppb	0	5
*8 Trichloroethylene	2020	ppb	0	5

Well Name: Cherry Ave

*9 Toluene	2020	ppm	1	1
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RADIOACTIVE CONTAMINANTS

Well Name: Delta

*10 Gross Alpha	2019	pCi/L	0	15 pCi/L
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Well Name: City Hall

*11 Radium 226/228	2016	pCi/L	0	5 pCi/L
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Well Names: Reitz, Keizer Station, City Hall, Delta

*12 Uranium	2016	pCi/L	0	30 pCi/L
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Metals

Well Names: Chemawa, Willamette, City Hall, McNary

Substance	Date Tested	Unit	MCLG	MRL
*13 Manganese	2020	ppm	N/A	0.05

*1 Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present, or that a potential pathway exists through which contamination may enter the drinking water distribution system. In 2020 a total of 533 bacteria samples were collected from the distribution system and 1 tested positive for Total Coliform. The Oregon Health Authority, Drinking Water Section and the EPA require that repeat samples be taken immediately from the original site that tested positive as well as taps adjacent to that site. In addition, required testing is done at all water sources (wells in production) at the time the sample was collected (Triggered Source). All repeat samples along with all Triggered Source samples were negative.

*2 Nitrates are caused by runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. Of the 15 wells that served Keizer in 2020, 4 had detects ranging from 0.16 to 4.91 ppm. The MCL is 10 ppm.

*3 Fluoride is a water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories. The recommended dose of fluoride set by EPA is .70 ppm. (MCL=4ppm) Keizer uses Sodium Fluoride. Ranges found in Keizer's system were .2 ppm (natural) to 0.86 ppm (added)

*4,*5 Monitoring for levels of lead and copper leached from household plumbing by corrosive water supplies. Systems that exceed "action levels" must install corrosion control treatment systems. No samples tested exceeded the action levels. Lead and Copper are tested for every 3 years. The last test was done in 2020. This data is the most recent monitoring done in compliance with the regulations.

*6 Arsenic is produced from erosion of natural deposits; runoff from orchards, and runoff from glass and electronics production wastes. Arsenic was detected in 2 wells ranging from 2 to 4 ppb (MCL=10 ppb). This last test was done in

Detected Level	Source	Violation
0.000%	see below	No

Detected Level	Source	Violation
4.91	see below	No
0.86	see below	No
N/D	see below	No
0.077	see below	No
4	see below	No

1	see below	No
2	see below	No
N/D	see below	No

N/D	see below	No
1	see below	No
N/D		

Level Range	Source	Violation
N/D to 0.358	see below	No

2019. This is the most recent monitoring done in compliance with the regulations.

*7, *8 Tetrachloroethyne and Trichloroethylene are a manufactured chemical widely used as a cleaning agent in the dry cleaning industry and as a metal degreaser in the manufacturing industry. Testing for Volatile Organic Compounds (VOC's) are required by the State every 3 years. However, because of detections in 2002, the City has been voluntarily monitoring and reporting VOC's to the State on a monthly basis. All detects have been far below the MCL. The level at which a lab can detect Tetrachloroethylene and Trichloroethylene is 0.5 ppb. Willamette Well had detects of Trichloroethylene from 1.0 to 2.0 ppb (MCL=5 ppb) and Tetrachloroethylene from N/D to 1.0 ppb (MCL=5 ppb). Cherry Ave well had detects of Tetrachloroethylene only at levels of N/D to 1.0 ppb.

*9 Toluene is mainly used as a solvent and in the process of making chemicals. It can get into drinking water through discharge from industrial plants. No detects were found in 2020 monthly testing.

*10, *11,*12 Radioactive Contaminants come from erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation. Consuming water in excess of the MCL over many years may have an increased risk of getting cancer. Gross Alpha was detected in 1 well at a level of 3.4 pCi/L (MCL=15 pCi/L) The last test was done in 2019. Radium 226-228 was detected in 1 well at a level of 1 pCi/L (MCL=5 pCi/L). The last test was done in 2016. Uranium was not detected. The last test was done in 2016. This data is the most recent monitoring done in compliance with the regulations.

*13 Manganese is a naturally-occurring element that can be found ubiquitously in the air, soil, and water. Manganese is an essential nutrient for humans and animals. Adverse health effects can be caused by inadequate intake or over exposure.

Maximum Contaminant Level (MCL): 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 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.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement that a water system must follow.

Method Reporting Limit (MRL): Also known as the detection limit. The minimum limit at which a contaminant can be detected using a particular lab testing method.

Parts per million (ppm): One part per million is the equivalent of 1/2 of a dissolved aspirin tablet in a full bathtub of water (approx. 50 gallons).

Parts per billion (ppb): One part per billion is the equivalent of 1/2 of a dissolved aspirin in 1,000 bathtubs of water (approx. 50,000 gallons).

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

Picocuries per liter (pCi/L): Unit of measure used to express the results of radioactivity tests in air and water

FREQUENTLY ASKED QUESTIONS

? What is that yellow, black, or blue staining I get in my dishwasher, toilet, sinks, and laundry?

A Keizer gets its' water from deep wells. Well water has natural minerals which can cause staining. The yellow or orange color stain is mostly caused by iron whereas the blue or black stains are caused by manganese. These minerals are common in ground water.

? How do I get rid of these stains?

A In the dishwasher, we suggest running a cycle with a citrus base package of drink mix or a tableted form of detergent. Sometimes a second cycle is necessary but this should clear up the problem. In laundry, we suggest you minimize or eliminate the use of bleach. Bleach actually draws out the iron and suspends it in the water, making the staining worse. There are products on the market that are made for hard water stains.

? My water has this odor that smells like rotten eggs, or sulfur. What causes the smell and is it safe to drink?

A We have found that the majority of our odor complaints are due to various supply tubes that are located under sinks, behind toilets, and behind refrigerators. This line is typically clear and braided, opaque, or has stainless webbing. These supply pipes are being used in most new homes and remodels today. The minerals in our water seem to react with these types of tubes. When water sits for a period of time unused in these pipes, a sulfuric odor may present itself. After running water a short time, the odor goes away. Replacing the braided type hose with copper or chrome piping usually solves most odor problems. The water is still safe to drink even if there is an odor. If you have an odor in your hot water supply, you may want to replace the standard magnesium or aluminum anode rod with an aluminum/zinc alloy anode in your hot water heater. It is also recommended that you flush your hot water heater annually.

? Why is my city services bill so high? (City services bill includes: water, sewer, stormwater, police, and parks)

A Keep in mind that your bill is for a two month period. In addition approximately 50% of your bill is for sewer services. A unit of water is 748 gallons for which you pay only \$1.50!

? I have a well and I want to hook up to City water but I still want to use my well for irrigation, do I have to abandon my well? What are my options?

A The answer is no, you do not need to abandon your well. When you hook up to City water you must separate the well completely from your home drinking water line. You also must install a Reduced Pressure Backflow Assembly (RPBA) on your new water line going to the house. Make sure to read about thermal expansion when installing any device on a service line (see below). There are installation instructions available at City Hall.

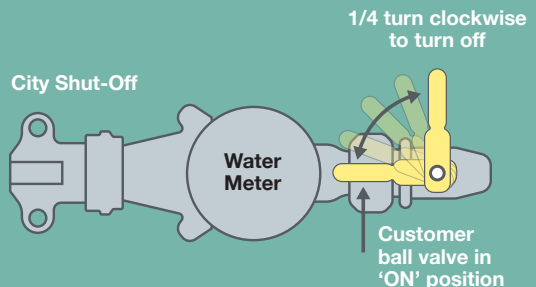
? What is thermal expansion?

A Water heaters are installed with a temperature and pressure T&P valve, which is designed to relieve excessive water temperature or pressure. Also aiding in the control of excessive heat and pressure is a condition known as thermal expansion, which allows extremely hot water to backflow into water main lines, mixing with the cold water and dissipating the heat. However, when a backflow prevention assembly is installed on a household water service line, the water cannot go back out into the water system. This leaves the T&P valve as the only release route for the overheated water.

If a water heater thermostat becomes defective, allowing the water temperature to increase to more than 212 degrees F., and the T&P valve fails, your domestic water can become “superheated”. Superheated water can cause water heaters to explode or can allow scalding steam to be released from faucets upon use. We recommend that you inspect your T&P valve periodically. Also, a licensed plumber can inspect, repair or replace your T&P valve to ensure your safety. Thermal expansion chambers and pressure-relief toilet ball cock assemblies can provide additional protection.

? How do I shut off my water if I need to?

A If you have an updated meter you should have a handle on your side of the meter. A quarter turn of this handle clockwise will shut off your water. (See illustration)





BACKFLOW DEVICES

? I got this letter in the mail that says something about having my backflow device tested and I have no idea what that is. I just moved into my house and no one told me about this, what is it and why do I have to test it every year?

A The backflow device is to prevent contamination of our drinking water. The state mandates that they are tested once a year as does our city ordinance. Typically they are installed for a sprinkler system. The device protects both the city water system and your domestic line as well.

? Is there anything I need to know when installing or retrofitting my irrigation system?

A Yes. You must provide some sort of backflow protection on your sprinkler system. The three most common preventors are a double check valve assembly (DCVA), a pressure vacuum breaker assembly (PVBA), and an atmospheric vacuum breaker (AVB). The DCVA and PVBA must be tested by a state certified backflow tester within 30 days of installation and annually thereafter with a copy of the report mailed to the City. The AVB is a non-testable device that must be freeze protected. You need to take out a permit with Marion County to install your sprinkler system. You may pick up a permit along with installation procedures at City Hall in the Community Development Department or at the Marion County office.



CALL BEFORE YOU DIG

If you plan on doing any type of digging at your home this year please call for utility locates at least 48 hours prior to starting your project. Utility companies will come and mark your property for free, giving you locations of their underground utilities.



Know what's **below**.
Call before you dig.

This can not only save you money and time, but could also save your life.

The number for the Oregon Utility Notification Center is 1-800-332-2344 or 811.

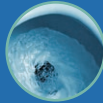


WATER CONSERVATION

Water is a valuable resource and we encourage wise use and conservation whenever possible. Below are a few ideas to not only save water, but save you money in the long run.



Broken or defective plumbing and irrigation systems should be repaired or replaced within a reasonable period.



Replace old toilets with high efficiency models. Water displacement will reduce the amount of water per flush.



Potable water should not be used to water outdoor landscapes in a manner that causes runoff onto non-irrigated areas, walkways, roadways, parking lots, or other hard surfaces.



Install water-saving shower heads or flow restrictors. Saves 500 – 800 gallons per month, or 20,000 gallons of water per year. Reducing shower time even one or two minutes can save up to 150 gallons per month.



When brushing teeth, washing hands, or shaving, do not leave water running. Turning the water off during these activities can save 25 – 300 gallons per month.



Run only full loads in the washing machine or dishwasher. Saves up to 1,000 gallons per month.

PUBLIC PARTICIPATION OPPORTUNITY

The City of Keizer Public Works Department invites all interested citizens to join them at:

City Council Meetings

The first and third Monday of each month, 7:00pm at Keizer City Hall, 930 Chemawa Rd. NE Keizer, OR 97303

The City of Keizer Source

Water Assessment is available for viewing at City Hall located at: 930 Chemawa Rd. NE Keizer, OR 97303

Normal Business Hours

M-F 8am-5pm (closed holidays)
City Hall, Utility Billing
503-390-8280

After Hours

Emergency Number
503-393-1068
Press 1 for Water
Press 2 for Street, Storm, or signal lights

Questions concerning this document?

Contact: **Patrick Taylor**, Water Division Manager
City of Keizer, P.O. Box 21000
Keizer, OR 97307-1000
503-856-3560
www.keizer.org

HOW WELL ARE YOU PROTECTING OUR DRINKING WATER?



QUIZ

We all believe clean drinking water is important. But sometimes we don't realize our actions can have negative impacts on our most valued resources. Keizer gets our drinking water from underground wells which are fed by groundwater. While the City goes to great lengths to monitor and keep our water clean, our actions on the surface can impact our streams and the ground water that provides our drinking water. Here is a quiz to help you tell how well you are protecting our water.

1

Do you apply chemical fertilizer or pesticides to your lawn or garden?

YES

NO

2

Do you store chemicals, oil or tires outside & uncovered?

YES

NO

3

Do you drive a vehicle with poor gas mileage or a vehicle that has leaks?

YES

NO

Clean Drinking Water Starts At Home.

To see how your actions may impact water resources, count how many times you responded yes to the previous questions.

KEY

- 0 = Amazing!
- 1 = You're doing great!
- 2 = Pretty good.
- 3 = You have room to improve.



Answers Explained

- 1** Excess fertilizer & pesticides can runoff lawns into storm drains or soak into groundwater causing harmful levels of nitrates (see pg. 3 for the nitrate water quality results). Try compost or water-safe products for a healthier alternative.
- 2** Storing chemicals, oil and tires uncovered is harmful because rain water washes pollution into our drains or groundwater. Store products undercover or dispose of them at the Marion County Household Hazardous Waste Facility (503.588.5169).
- 3** Exhaust in our atmosphere can settle in soil & build up in our groundwater. Leaking vehicle fluid is also harmful because it runs into our drains & groundwater when it rains. Reducing the amount we drive & maintaining our vehicles can help. Visit www.cherriots.org/tripchoice for alternative transportation options.

TAKE OUR SURVEY & YOU COULD WIN A \$50 GIFT CARD

The City of Keizer's Environmental & Technical Division is conducting a survey and wants to hear from you. Tell us your environmental priorities to help us build future programs. You will be entered to win one of three \$50 gift cards.

Open the camera on your smartphone to scan the QR Code or go to: www.keizer.org/survey





City of Keizer
P.O. Box 21000
Keizer, OR 97307-1000

**This document contains
important information
regarding your water quality.**

*This Drinking water report is available
online at: [https://www.keizer.org/
annualwaterreport](https://www.keizer.org/annualwaterreport)*

*In the future, this report may no longer
be mailed to your home but the above
online version will be sent as a notice on
your water bill. A hard copy will also be
available at City Hall.*

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

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