Safe, reliable drinking water is a basic life necessity. The Tualatin Valley Water District (TVWD) is proud to deliver water to more than 220,000 people every day. We consistently deliver water that complies with all applicable federal and state water quality standards.

Our most recent water quality test results are shown on the following pages. Although the District’s water supplies are tested for more than 200 regulated and unregulated contaminants, only those that have been detected in the water are included in this report.

Drinking Water Quality Report and other important information regarding your drinking water supply

Based on water quality data from the calendar year 2017

Tualatin Valley Water District, the Portland Water Bureau and the Joint Water Commission test your water for approximately 200 contaminants. These include contaminants regulated by the EPA, plus many unregulated contaminants. Sampling is conducted at various locations in the water source, the water treatment plant and distribution system. Results are submitted to the Oregon Health Authority’s Drinking Water Program, the agency responsible for enforcing the EPA’s Safe Drinking Water Act.

If a health related contaminant is not listed in this report, it was not detected.

You can have confidence in the quality of your drinking water. We consistently deliver water that complies with all applicable federal and state water quality standards. For questions, contact TVWD’s Water Quality Division at wq@tvwd.org, (503) 848-3000, or visit TVWD’s Web site at tvwd.org.
About Us

TVWD is a special district located in fast-growing Washington County, west of Portland, Oregon. The District provides drinking water to an urbanized portion of Washington County, including the communities of Aloha, Bethany, Cedar Hills, Cooper Mountain, Progress, Metzger and Rock Creek. The District also serves portions of the cities of Beaverton, Hillsboro and Tigard. As the second largest water provider in Oregon, the District provides an average of almost 22 million gallons of water per day to more than 220,000 people, including residential and commercial customers. Major employers such as Intel, Nike, Reser’s Fine Foods and Providence St. Vincent Medical Center are TVWD customers.

TVWD is responsible for much more than making sure quality water comes out of your tap. For example, TVWD delivers:

Public health protection
In a world where an estimated 3 million people die every year from preventable waterborne disease, community water systems allow us to drink from any public tap with a high assurance of safety. Valley View water supplies meet rigorous federal and state health protection standards.

Fire protection
A well-maintained water system is critical in protecting the community from the threat of fire. The ability to suppress fires influences new home construction, business locations and insurance rates.

Support for the economy
Businesses or housing developments succeed where there is a safe and sustainable water supply. Tap water is critical for day-to-day business operations and is often a primary ingredient in the products they manufacture and process.

The overall quality of life we enjoy
It is often taken for granted that safe water is always accessible to drink, to wash clothes, to water lawns and for a myriad of other purposes.

TVWD maintains more than 5,600 fire hydrants and has 7 fire stations within District boundaries.
Water Sources

TVWD is committed to having multiple quality water sources. This redundancy allows TVWD to better manage resources to reliably provide water to customers at the most affordable price.

The District supplied almost 8 billion gallons of water last fiscal year. 23 covered reservoirs have a combined storage capacity of about 67 million gallons of water. Some reservoirs are below ground with Tualatin Hills Park and Recreation District baseball and soccer fields on top. Approximately 68% of water is used for residential purposes, with the other 32% for business and industrial use.

Joint Water Commission
About 30% of TVWD’s water comes from the Joint Water Commission (JWC), which is jointly owned by the District and the cities of Beaverton, Hillsboro and Forest Grove. JWC water sources are Hagg Lake and Barney Reservoir, as well as the seasonal flow of the Tualatin River. Water from these sources is treated at the JWC water treatment plant located near Forest Grove. For more information about the JWC, visit www.jwcwater.org.

Portland Water Bureau
About 70% of TVWD’s water is purchased from the City of Portland. Portland’s primary source is water from the Bull Run watershed in the Mt. Hood National Forest. Portland also uses pumped groundwater from the Columbia South Shore Well Field next to the Columbia River to augment the Bull Run supply when needed. For more information about the Portland Water Bureau, visit www.portlandonline.com/water.

Aquifer Storage and Recovery (ASR)
During the winter when water is plentiful, TVWD stores treated drinking water underground in the aquifer surrounding the Grabhorn well on Cooper Mountain. During the hot summer months, the stored water is pumped from the aquifer to help meet peak water demands. The Grabhorn ASR well is capable of storing in excess of 300 million gallons of treated water. For more information about aquifer storage and recovery, visit www.asrforum.com.

Willamette Water Supply Program
TVWD and the City of Hillsboro continue to work on developing the mid-Willamette River at Wilsonville as an additional regional water supply source. This new, reliable water supply for Washington County is on-schedule to deliver drinking water to more than 400,000 Washington County residents and businesses in 2026.
Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria which may come from sewage treatment plants, septic systems, livestock, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency (EPA)/Center for Disease Control (CDC) have issued guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants. These are available from the EPA’s Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov.

The source of any drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, or 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.
Source Water Protection

Surface water (streams, rivers, and lakes) or ground water (aquifers) can serve as sources of drinking water, referred to as source water. Protecting source water from contamination can reduce treatment costs, which also reduces risks to public health from exposures to contaminated water.

Source water assessments provide water utilities, community governments and others with information needed to protect drinking water sources.

In September and October of 2017, the Oregon Health Authority completed a Water System Survey of Tualatin Valley Water District. A System Survey is an on-site review of a water system’s sources, treatment, storage facilities, distribution system, operation and maintenance procedures, monitoring, and management, for the purpose of evaluating the system’s capability of providing safe water to the public. System facilities were found to be well operated and maintained by knowledgeable and competent staff with no significant deficiencies or rule violations. The next survey will take place in 2020.

The Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA) completed a source water assessment that identified the surface areas supplying water to the Joint Water Commission (JWC) treatment plant. They also inventoried the potential contaminant sources that may affect the water supply. A total of 306 potential contaminant sources were identified and 295 of those sources are located in sensitive areas. Sensitive areas include places with high soil permeability, high soil erosion potential, high run-off potential, and areas within 1,000 feet of a river or stream. Potential sources of watershed contamination include the following: agricultural/forest management applications, commercial land uses, residential/municipal land uses, and landslide and clear-cut forest areas. These are the existing potential sources of contamination that could, if improperly managed or released, affect the water quality in the watershed. The JWC-Cherry Grove Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at jwcwater.org/water-sources/source-water-protection, the Hillsboro Water Department, 150 East Main Street, Hillsboro, or by calling (503) 615-6702.

The Portland Water Bureau has completed a Source Water Assessment for the Bull Run water supply to comply with the 1996 Safe Drinking Water Act Amendments. The only contaminants of concern for the Bull Run water supply are naturally occurring microbial contaminants such as *Giardia lamblia*, *Cryptosporidium*, fecal coliform bacteria and total coliform bacteria. These are found in virtually all freshwater ecosystems and may be present in the Bull Run supply at very low levels. The Bull Run supply complies with all applicable state and federal regulations for source water, including the 1989 Surface Water Treatment Rule filtration-avoidance criteria. The Source Water Assessment Report is available at www.portlandoregon.gov/water/sourcewaterassessment and by calling (503) 823-7404.
While there is no Maximum Contaminant Level (MCL) for lead or copper, the federal government identifies “action levels” that trigger certain actions by the water provider. The action level is based on the 90th percentile. This means that 90 percent of the samples must meet or be under the defined action level. The action level for copper is 1.3 parts per million (ppm) and the action level for lead is 15 parts per billion (ppb).

Ways to reduce lead include:

- Run your water to flush the lead out. If the water has not been used for several hours, run each tap for 30 seconds to 2 minutes or until it becomes colder before drinking or cooking.
- Use cold, fresh water for cooking and preparing baby formula. Do not cook, prepare baby formula or drink water from the hot water tap. Lead dissolves more easily into hot water.
- Do not boil water to remove lead. Boiling water will not reduce lead.
- Consider using a filter. Check whether it reduces lead – not all filters do. Be sure to maintain and replace a filter device in accordance with the manufacturer’s instructions to protect water quality. Contact NSF International at 800-NSF-8010 or www.nsf.org for information on performance standards for water filters.
- Test your water for lead. Contact the LeadLine at www.leadline.org or 503-988-4000 to get a FREE test.
- Test your child for lead. Ask your physician or call the LeadLine to find out how to have your child tested for lead. A blood lead level test is the only way to know if your child is being exposed to lead.
- Regularly clean your faucet aerator. Particles containing lead from solder or plumbing can become trapped in your faucet aerator. Cleaning every few months will remove these particles and reduce your exposure.
- Consider buying low-lead fixtures. As of January 2014, all pipes, fittings and fixtures are required to contain less than 0.25% lead. When buying new fixtures, consumers should seek out those with the lowest lead content.

Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available at tvwd.org/lead, from the Lead Line at (503) 988-4000 or leadline.org, the Safe Drinking Water Hotline at (800) 426-4791, or epa.gov/safewater/lead.

Lead results are listed on the following page.
Metals and Minerals

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring metals and minerals. Metals and minerals can also result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Acronyms and terms are explained on the glossary of terms page

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measurement</th>
<th>Amount Detected</th>
<th>MCL</th>
<th>MCLG</th>
<th>Major Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>ppb</td>
<td>0.05 - 0.94</td>
<td>10</td>
<td>0</td>
<td>Erosion of natural deposits in groundwater aquifers</td>
</tr>
<tr>
<td>Barium</td>
<td>ppm</td>
<td>.00073 - 0.00975</td>
<td>2.0</td>
<td>2.0</td>
<td>Erosion of natural deposits in groundwater aquifers</td>
</tr>
<tr>
<td>Chromium (total)</td>
<td>ppb</td>
<td>&lt;0.0005</td>
<td>100</td>
<td>100</td>
<td>Erosion of natural deposits in groundwater aquifers</td>
</tr>
<tr>
<td>Copper</td>
<td>ppm</td>
<td>&lt;0.0005 - 0.00101</td>
<td>Not applicable</td>
<td>1.3</td>
<td>Erosion of natural deposits in groundwater aquifers</td>
</tr>
<tr>
<td>Fluoride</td>
<td>ppm</td>
<td>up to 0.70</td>
<td>4</td>
<td>4</td>
<td>A water additive that promotes strong teeth; erosion of natural deposits.</td>
</tr>
<tr>
<td>Lead (source water)</td>
<td>ppb</td>
<td>&lt;0.05 - 0.16</td>
<td>Not applicable</td>
<td>0</td>
<td>Natural deposits</td>
</tr>
<tr>
<td>Nitrate</td>
<td>ppm</td>
<td>0.013 - 0.49</td>
<td>10</td>
<td>10</td>
<td>Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits</td>
</tr>
</tbody>
</table>

Continued
EPA uses the Unregulated Contaminant Monitoring Rule to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. 

**Acronyms and terms are explained on the glossary of terms page**

### Secondary Standards

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measurement</th>
<th>Amount Detected</th>
<th>Secondary MCL</th>
<th>Major Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>ppm</td>
<td>0 - 0.0346</td>
<td>0.05 - 0.2</td>
<td>Rock and soil leaching and natural deposits</td>
</tr>
<tr>
<td>Chloride</td>
<td>ppm</td>
<td>2.4 - 4.3</td>
<td>250</td>
<td>Erosion of natural deposits in groundwater aquifers</td>
</tr>
<tr>
<td>Iron</td>
<td>ppm</td>
<td>ND - 0.0490</td>
<td>0.30</td>
<td>Natural deposits</td>
</tr>
<tr>
<td>Manganese</td>
<td>ppm</td>
<td>ND - 0.004</td>
<td>0.05</td>
<td>Erosion of natural deposits, industrial effluent, leaching of sewage and landfills</td>
</tr>
<tr>
<td>Sulfate</td>
<td>ppm</td>
<td>0.35 - 14.6</td>
<td>250</td>
<td>Natural deposits</td>
</tr>
</tbody>
</table>

### Unregulated Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measurement</th>
<th>Range Detected</th>
<th>Major Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkalinity</td>
<td>ppm</td>
<td>6.8 - 54.0</td>
<td>Erosion of natural deposits in groundwater aquifers</td>
</tr>
<tr>
<td>Calcium</td>
<td>ppm</td>
<td>1.3 - 5.81</td>
<td>Erosion of natural deposits in groundwater aquifers</td>
</tr>
<tr>
<td>Hardness as Calcium Car-</td>
<td>ppm</td>
<td>5.4 - 44.0</td>
<td>Natural deposits</td>
</tr>
<tr>
<td>bonate (CaCO3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>ppm</td>
<td>0.52 - 2.02</td>
<td>Natural deposits</td>
</tr>
<tr>
<td>Potassium</td>
<td>ppm</td>
<td>ND - 0.78</td>
<td>Natural deposits, erosion</td>
</tr>
<tr>
<td>Radon</td>
<td>pCi/l</td>
<td>&lt;50 - 330 Groundwater Aquifers</td>
<td>Radon is a naturally occurring radioactive gas that cannot be seen, tasted or smelled. For more information about Radon, visit <a href="http://www.epa.gov/radon/rnwater.html">www.epa.gov/radon/rnwater.html</a> or call 800-SOS-RADON.</td>
</tr>
<tr>
<td>Silica</td>
<td>ppm</td>
<td>3.6 - 16.6</td>
<td>Natural deposits</td>
</tr>
<tr>
<td>Sodium</td>
<td>ppm</td>
<td>3.3 - 12.0</td>
<td>Found in natural deposits</td>
</tr>
</tbody>
</table>
### Microbiological

As water flows, it can pick up substances resulting from the presence of animals or human activity. Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, livestock, and wildlife.

*Acronyms and terms are explained on the glossary of terms page*

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measurement</th>
<th>Amount Detected</th>
<th>MCL or TT</th>
<th>MCLG</th>
<th>Major Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cryptosporidium</strong></td>
<td>Presence or absence</td>
<td>43 detections out of 378 samples (11,512 total liters of water)</td>
<td>Treatment technique required as of April 1, 2012</td>
<td>Not applicable</td>
<td>Animal Wastes</td>
</tr>
<tr>
<td><strong>Fecal Coliform Bacteria</strong></td>
<td>Presence or absence</td>
<td>ND - 1.6</td>
<td>At least 90% of samples measured during the previous six months must have 20 or fewer bacterial colonies per 100 milliliters of water</td>
<td>Not applicable</td>
<td>Animal Wastes</td>
</tr>
<tr>
<td><strong>Total Coliform Bacteria</strong></td>
<td>Percentage of monthly samples</td>
<td>1 of 1,827 samples (0.05%) collected each month had detectable coliform bacteria</td>
<td>5% of monthly samples with detectable coliform bacteria</td>
<td>0 bacteria detected</td>
<td>Naturally present in the environment</td>
</tr>
<tr>
<td><strong>Giardia</strong></td>
<td>Presence or absence</td>
<td>ND - 0.27 Cysts/L</td>
<td>Disinfection to kill 99.9% of cysts</td>
<td>Not applicable</td>
<td>Animal Wastes</td>
</tr>
<tr>
<td><strong>Turbidity Unfiltered</strong></td>
<td>NTU</td>
<td>0.2 - 3.06 (Portland Water Bureau)</td>
<td>Cannot exceed 5 NTU two times in 12 months</td>
<td>Not applicable</td>
<td>Soil runoff, erosion of natural deposits</td>
</tr>
<tr>
<td><strong>Filtered</strong></td>
<td>NTU</td>
<td>0.02 - 0.09 (Joint Water Commission)</td>
<td>Less than or equal to 0.3 NTU in 95% of measurements taken each month.</td>
<td>Not applicable</td>
<td>Soil runoff, erosion of natural deposits</td>
</tr>
</tbody>
</table>

*The Portland Water Bureau does not currently treat for Cryptosporidium, but is required to do so under the drinking water regulations. Portland is working to install a filtration system by 2027 under a compliance schedule with Oregon Health Authority. In the meantime, Portland Water Bureau is implementing interim measures such as watershed protection and additional monitoring to protect public health. Consultation with public health officials has concluded that at this time, customers do not need to take any additional precautions.

The Environmental Protection Agency has estimated that a small percentage of the population could experience gastrointestinal illness from Cryptosporidium and advises that customers who have compromised immune systems and receive their drinking water from the Bull Run Watershed consult with their health care professional about the safety of drinking the tap water.

For more information, visit [portlandoregon.gov/water](http://portlandoregon.gov/water).

**Tested in the Portland Water Bureau’s Bull Run Watershed. All detections were from pre-treated raw water. As part of Portland’s compliance with the filtration avoidance criteria of the Surface Water Treatment Rule, water is tested for fecal coliform bacteria before disinfectant is added. This is measured in percent of samples with more than 20 colonies in 100 milliliters of water during any six-month period. Chlorine is added to the water to kill these bacteria.**
Disinfection byproducts are chemical, organic and inorganic substances that form during a reaction of a disinfectant with naturally present organic matter in the water. They form when disinfectants, such as chlorine, react with naturally present compounds in the water.

Acronyms and terms are explained on the glossary of terms page

<table>
<thead>
<tr>
<th></th>
<th>Unit of Measurement</th>
<th>Minimum Detected</th>
<th>Maximum Detected</th>
<th>MCL</th>
<th>MCLG</th>
<th>Major Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Trihalomethanes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LRAA</td>
<td>ppb</td>
<td>23.0</td>
<td>28.0</td>
<td>80</td>
<td>Not applicable</td>
<td>Byproduct of drinking water disinfection</td>
</tr>
<tr>
<td>Single result at any one site</td>
<td>1.70</td>
<td>40.1</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Haloacetic Acids</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LRAA</td>
<td>ppb</td>
<td>17.0</td>
<td>29.0</td>
<td>60</td>
<td>Not applicable</td>
<td>Byproduct of drinking water disinfection</td>
</tr>
<tr>
<td>Single result at any one site</td>
<td>0.00</td>
<td>39.8</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Free Chlorine and Chloramines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAA</td>
<td>ppm</td>
<td>1.03</td>
<td>1.09</td>
<td>4.0 (MRDL)</td>
<td>4.0 (MRDLG)</td>
<td>Additive used to disinfect water</td>
</tr>
<tr>
<td>Single result at any one site</td>
<td>0.01</td>
<td>1.96</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Action Level:** The amount of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

**EPA:** Environmental Protection Agency, the federal agency that sets drinking water contaminant levels.

**HAAs:** Haloacetic Acids. A combination of chemicals that are tested for that make up the Disinfection Byproduct (DBP) Rule.

**LRAA:** Locational Running Annual Average. The continual running average from each previous sample site. This is a more stringent and accurate measurement than taking cumulative running annual averages from all sample sites.

**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. MCLs are set at very stringent levels. A person would have to drink two liters of water at the MCL level every day for a lifetime to have a one in one million chance of having the associated health effects.

**MCLG:** Maximum Contaminant Level Goal. The level of 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 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.

**mrem:** Millirem, a measure of radioactivity.

**ND:** Non-detection. No presence of a contaminant was detected.

**NTU:** Nephelometric turbidity units, a measure of turbidity.

**pCi/L:** Picocuries per liter, a measure of radioactivity.

**ppb:** Parts per billion. One ppb means that one part of a contaminant is present for every one billion (1,000,000,000) parts of water. One ppb is equivalent to one inch in 16,000 miles, one second in 32 years and one cent in $10 million.

**ppm/mg/L:** Parts per million/milligram per liter. One ppm means that one part of a particular contaminant is present for every one million (1,000,000) parts of water. One ppm is equivalent to one inch in 16 miles, one minute in two years and one cent in $10,000.

**RAA:** Running Annual Average. The average result from quarterly samples taken within the distribution system. This average is used to determine MCL compliance.

**TT:** Treatment technique; a required process intended to reduce the level of a contaminant in drinking water.

**Turbidity:** A measure of the light-scattering particulate in the water, or how clear the water is.
Notes on Contaminants

Contaminants that may be present in source water 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 result from urban stormwater 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 agriculture, urban stormwater runoff, and residential uses.
• Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
• Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Arsenic, Barium, Fluoride, and Vanadium
These metals are found in the earth’s crust. They can dissolve into water that contacts these natural deposits. At the levels found in Portland’s drinking water, they are unlikely to contribute to adverse health effects.

Radon
Radon is a naturally occurring radioactive gas that cannot be seen, tasted or smelled. Radon can be detected at very low levels in the Bull Run water supply, and at varying levels in Portland’s groundwater supply. Based on the historical levels of radon in groundwater combined with the limited amount of groundwater used, radon is unlikely to contribute to adverse health effects. For information about radon, call the EPA’s Radon Hotline (800-SOS-RADON) or www.epa.gov/radon.

Sodium
There is no drinking water standard for sodium. Sodium is an essential nutrient. At the levels found in drinking water, it is unlikely to contribute to adverse health effects.

Disinfection Byproducts
During disinfection, certain byproducts form as a result of chemical reactions between chlorine and naturally occurring organic matter in the water. These byproducts can have negative health effects. Trihalomethanes and haloacetic acids are regulated disinfection byproducts that have been detected in Portland’s water. Adding ammonia to chlorine results in a more stable disinfectant and helps to minimize the formation of disinfection byproducts.

Nitrate - Nitrogen
Nitrate, measured as nitrogen, can support microbial growth, such as bacteria and algae. Nitrate levels exceeding the standards can contribute to health problems. At the levels found in Portland’s drinking water, nitrate is unlikely to contribute to adverse health effects.

Fecal Coliform Bacteria
The presence of fecal coliform bacteria in source water indicates that water may be contaminated with animal wastes. The Portland Water Bureau uses chlorine to kill these bacteria.

Giardia
Wildlife in the watershed may be hosts to Giardia, the organism that causes giardiasis. The Portland Water Bureau uses chlorine to control these organisms.