WHY PROVIDE A WATER QUALITY REPORT?

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolved naturally occurring minerals and, in some cases, radioactive materials, and can pick up substances resulting from the presence of animals or from human activity.

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 by-products 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.

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. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Therefore, Richland Water proudly produces a water quality report each year, so residents may learn about the health quality of our water.

MESSAGE FROM THE EPA

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 the 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).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised people such as people 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 drinking water advice 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 (1-800-426-4791).

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 Richland is responsible for providing high-quality drinking water and 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.

COMMITTED TO WATER SAFETY

Backflow Protection Prevents Contamination

As a public water system, preventing contamination from the source to your meter is a 24/7 job. Cross connection control requires backflow assemblies be installed on all new commercial services. On existing commercial services, the degree of hazard, remodeling, upgrading, or change of ownership addresses installation of backflow assemblies. The City is offering a backflow assembly program to existing commercial accounts. If you have questions or want answers relating to cross connections or backflow prevention, contact the Water Quality Office at 942-7474.

Assessments Conducted

Susceptibility Assessments have been conducted for Richland’s Surface, Well Field, and single-well water sources. A high Susceptibility Rating was determined for each source. This rating does not indicate poor water quality, but the potential of becoming contaminated. A copy of the assessment can be found at www.ci.richland.wa.us or by calling 942-7670.

For more information regarding this report, please contact:

Richland Water
2700 Duportail
Richland, WA 99352
942-7670
richlandwater@ci.richland.wa.us
CONSERVING our natural resources will help the health and longevity of our City as well as save you money. Here are eight tips that will make a difference.

**CONSERVING WATER**

1. **Water** your lawn during the least sunny times of the day.
2. **Fix** toilet and faucet leaks.
3. **Take** short showers - a 5-minute shower uses 4 to 5 gallons of water compared to 50 gallons for a bath.
4. **Turn** the faucet off while brushing your teeth and shaving; 3-5 gallons go down the drain per minute.
5. **Use** high-efficiency toilets and appliances.
6. **Wash** full loads in the washer and dishwasher.
7. **Conduct** Home Water Audit.
8. **Teach** your kids about water conservation to ensure a future generation that uses water wisely.

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### 2016 WATER QUALITY RESULTS

#### DISINFECTANTS & DISINFECTION BY-PRODUCTS

<table>
<thead>
<tr>
<th>Substance (Units)</th>
<th>Goal (MCLG)*</th>
<th>EPA’s Allowable Limits (MCL)*</th>
<th>Average Level Detected</th>
<th>Range Detected Low</th>
<th>Range Detected High</th>
<th>Typical Source</th>
<th>Violation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haloacetic Acids (IAAAs) (ppb)**</td>
<td>NA**</td>
<td>80</td>
<td>127.2 / 23.5</td>
<td>7.4 / 48.9</td>
<td></td>
<td>By-product of drinking water chlorination</td>
<td>No</td>
</tr>
<tr>
<td>THMs (Total Halomethanes) (ppb)**</td>
<td>NA**</td>
<td>80</td>
<td>146.4 / 45.8</td>
<td>8.1 / 67.2</td>
<td></td>
<td>By-product of drinking water chlorination</td>
<td>No</td>
</tr>
</tbody>
</table>

#### INORGANIC CONTAMINANTS

<table>
<thead>
<tr>
<th>Substance (Units)</th>
<th>Goal (MCLG)*</th>
<th>EPA’s Allowable Limits (MCL)*</th>
<th>Limit Detected</th>
<th>Number of Samples Exceeding the AL</th>
<th>Typical Source</th>
<th>Violation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate (measured as Nitrogen) (ppm)**</td>
<td>10</td>
<td>10</td>
<td>1.51</td>
<td>&lt;0.5</td>
<td>Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits</td>
<td>No</td>
</tr>
<tr>
<td>*** Gross Alpha</td>
<td>0</td>
<td>10 pCi/L**</td>
<td>ND**</td>
<td>ND**</td>
<td>ND**</td>
<td>Combinations of household plumbing systems; Erosion of natural deposits</td>
</tr>
<tr>
<td>*** Combined Radium</td>
<td>0</td>
<td>5 pCi/L**</td>
<td>ND**</td>
<td>ND**</td>
<td>ND**</td>
<td>Combinations of household plumbing systems; Erosion of natural deposits</td>
</tr>
</tbody>
</table>

#### COPPER AND LEAD

<table>
<thead>
<tr>
<th>Substance (Units)</th>
<th>Goal (MCLG)*</th>
<th>EPA’s Allowable Limits (MCL)*</th>
<th>Level Detected (ppb)</th>
<th>Number of Samples Exceeding the AL</th>
<th>Typical Source</th>
<th>Violation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper - action level at consumer taps (ppb)**</td>
<td>1.3</td>
<td>1.0 (AL)*</td>
<td>1.0 / 1.0</td>
<td>0 / 0</td>
<td>Combinations of household plumbing systems; Erosion of natural deposits</td>
<td>No</td>
</tr>
<tr>
<td>Lead - action level at consumer taps (ppb)**</td>
<td>0</td>
<td>0</td>
<td>0.015 (AL)*</td>
<td>0 / 0</td>
<td>Combinations of household plumbing systems; Erosion of natural deposits</td>
<td>No</td>
</tr>
</tbody>
</table>

#### COLUMBIA RIVER WATER TREATMENT PLANT FINISH WATER

<table>
<thead>
<tr>
<th>Substance (Units)</th>
<th>Average Level Detected</th>
<th>Low</th>
<th>Range Detected</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>8.0</td>
<td>7.8</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>Alkalinity</td>
<td>57 mg/L**</td>
<td>47 mg/L**</td>
<td>67 mg/L**</td>
<td></td>
</tr>
<tr>
<td>Hardness</td>
<td>59 mg/L** (1.5 gr/gal)</td>
<td>59 mg/L** (1.5 gr/gal)</td>
<td>59 mg/L** (1.5 gr/gal)</td>
<td></td>
</tr>
<tr>
<td>System Free Chlorine Residual</td>
<td>1.0 mg/L**</td>
<td>0.8 mg/L**</td>
<td>1.3 mg/L**</td>
<td></td>
</tr>
<tr>
<td>Turbidity*</td>
<td>0.03 NTU*</td>
<td>0.04 NTU*</td>
<td>0.19 NTU*</td>
<td></td>
</tr>
</tbody>
</table>

#### 2014 / 2015 UCMR3 REPORT RESULTS IN UG/L

<table>
<thead>
<tr>
<th>Substance (Units)</th>
<th>Average Level Detected</th>
<th>Low</th>
<th>Range Detected</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vanadium</td>
<td>1.01</td>
<td>ND</td>
<td>7.08</td>
<td></td>
</tr>
<tr>
<td>Molybdenum</td>
<td>0.28</td>
<td>ND</td>
<td>2.29</td>
<td></td>
</tr>
<tr>
<td>Strontium</td>
<td>127.22</td>
<td>74.1</td>
<td>365</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>0.052</td>
<td>ND</td>
<td>0.354</td>
<td></td>
</tr>
<tr>
<td>Hexavalent chromium</td>
<td>0.11</td>
<td>0.056</td>
<td>0.354</td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>2.65</td>
<td>ND</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

#### RESULTS OF CRYPTOPOSPORIDIUM MONITORING

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Cryptosporidium results collected during round one of the LT2ESWTR (2008-2009) determined the Columbia River source is 0.029 oocysts. This level places this source in Bin 1 and requires no additional treatment for Cryptosporidium. Current tests do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

### RESULTS OF COLIFORM MONITORING

Coliform samples collected per week - 18

| Percentage of positive Coliform samples | 1 - 5.6 percent |

#### IMPORTANT DRINKING WATER DEFINITIONS

**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.

**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.

**ND** Not Detected

**NTU** Nephelometric Turbidity Unit

**Turbidity** Turbidity is a measurement of suspended particles in the finished water that is used to measure filter performance in the water treatment process.

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

---

1. Hardness of individual sources can range from 65 to 303 mg/L.**
2. 90th percentile level means that 90% of all samples analyzed were at or below this concentration.
3. High and low averages of 8 TTHM and HAA5 sample sites.
4. ppm (Parts per Million), ppb (Parts per Billion), pCi/L (Parts Curies per Liter), mg/L (Milligrams per Liter), NA (Not Applicable), ND (Not Detected)
5. The most recent collection dates for radiological samples were June to September 2014. Quarterly unregulated contaminant monitoring of the USEPA contaminant list #1 in 2011 resulted in no detections.
6. Fluoride: The City of Richland does not add fluoride to the water system. Fluoride levels are monitored quarterly unregulated contaminate monitoring of the USEPA contaminant list #1 in 2011 resulted in no detections.

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6. Fluoride: The City of Richland does not add fluoride to the water system. Fluoride levels are only trace amounts from naturally occurring sources.