

WATER TREATMENT

The water is treated at the Water Treatment Plant, located at the corner of Saint and Harris near Leslie Groves Park. At the water treatment plant, particles are filtered out of the raw water, and chlorine is added to destroy organisms that could potentially be harmful if ingested by the public. After treatment, the drinking water is pumped to various reservoirs around the City, where it is stored until it flows to the customers' taps for use.

TESTING

The City of Richland monitored its water in compliance with State and Federal standards, which included analyzing 1144 samples for microbial, inorganic, organic, and radiological contaminants in 2005.

HEALTH INFORMATION

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 (1-800-426-4791)*.

CRYPTOSPORIDIUM

This microscopic organism is typically found in surface water such as the Columbia River, and is the result of animal waste entering the water. This organism can cause fever, diarrhea, and other symptoms in humans if ingested. During 2005, Richland monitored incoming Columbia River water at the Water Treatment Plant for cryptosporidium, and though microscopic examination and testing did not detect the presence of cryptosporidium, this does not mean that there were none. Although filtration removes this organism, 100 percent removal cannot be guaranteed. Currently recognized test methods can't determine whether these organisms are alive or dead, or if they are capable of causing disease. While most healthy individuals can overcome "cryptosporidiosis," immuno-compromised individuals are encouraged to consult with their physician regarding appropriate precautions to take to avoid infection.

WATER SYSTEM INTERTIES

The City of Richland provides water to other water systems periodically on an unscheduled basis through an emergency connection between our water systems. This water quality report is being provided to these water systems for use in their report to you, their water customer.



CITY OF RICHLAND WATER QUALITY REPORT 2005

***Safe drinking water
is our business!***

The City of Richland is committed to providing safe, clean drinking water for all of its customers. We sincerely hope that this report, which is distributed on an annual basis, will allow you to understand how we perform this job so that every citizen has the utmost confidence in our drinking water supply. If you have any questions or concerns regarding your drinking water, please call Kim Duncan, Water Quality Coordinator, at (509) 942-7474.

PUBLIC PARTICIPATION

The Richland City Council meets the first and third Tuesday of every month at 7:30 p.m. in the Council Chambers of City Hall (505 Swift Blvd.) Occasionally items related to water are discussed. Please feel free to participate.

WHAT AFFECTS OUR WATER QUALITY

As water flows over the land in rivers or through the ground, it dissolves naturally-occurring minerals and radioactive materials and can pick up substances resulting from the presence of animals or from human activity. 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 *Safe Drinking Water Hotline (1-800-426-4791)*. 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 storm water 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 storm water 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 storm water 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 that limit the amount of certain contaminants in water provided by public water systems.

WHERE DOES OUR WATER COME FROM?

The City of Richland draws water from two major sources-the Columbia River and 3 groundwater wells located at various sites in the City. During 2005, approximately 85% of the water was withdrawn from the Columbia River, with the remaining 15% being withdrawn from wells. The specific time of year determines which source is in use. The following table provides a list of detected substances in 2005 samples. If you have questions about water quality, monitoring or test results, please call Kim Duncan, Water Quality Coordinator, at (509) 942-7474.

NITRATES

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

LEAD

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead

levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

ARSENIC

Your drinking water currently meets EPA's revised drinking water standard for arsenic. However, it does contain low levels of arsenic. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory diseases are due to factors other than exposure to arsenic. EPA's standard balances the current understanding of arsenic's health effects against the costs of removing arsenic from drinking water.

CONSUMER CONFIDENCE REPORT REGULATIONS

All community water systems are required to annually deliver a copy of the CCR to each of its customers by July 1st. The CCR is a means of informing consumers about where their drinking water comes from, what is involved in the delivery of safe drinking water, and the importance of source water protection.

CITY OF RICHLAND WA 2004 WATER QUALITY ANALYSIS

Substance	Level detected	Highest detection	MCL	MCLG	Probable Source
MICROBIOLOGICAL					
total coliform	1 of 596 samples	0% of monthly	≥5%	0	naturally occurring
turbidity	0.02 - 0.05	0.05	treatment technique	N/A	soil runoff
INORGANICS					
fluoride	ND	ND	4.0 ppm	4.0 ppm	erosion of natural deposits, discharge from fertilizer and aluminum factories
nitrate as nitrogen	ND - 4.5	4.5	10.0 ppm	10.0 ppm	runoff from fertilizer use, leaching septic tanks, sewage and erosion of natural deposits.
arsenic	ND - 0.006	0.006	0.05 ppm	N/A	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production waste
ORGANICS					
total trihalomethanes	28.4-54.8	54.8	80 ppb	0	by-product of drinking water chlorination
haloacetic acids	23.5-36.7	36.7	60 ppb	0	
LEAD & COPPER					
lead tested - 8/17/05 to 8/24/05	ND - 14.0	14.0 * 8.4	AL = 15.0 ppb	0 ** 0	corrosion of household plumbing systems, erosion of natural deposits
copper tested - 8/17/05 to 8/24/05	ND - 0.6	0.6 * 0.5	AL = 1.3 ppm	1.3 ** 0	corrosion of household plumbing systems, leaching from wood preservatives, erosion of natural deposits
DEFINITIONS					
<i>MCL</i> or 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.					
<i>MCLG</i> or 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.					
<i>Treatment Technique</i> - A required process to reduce the level of a contaminant in drinking water.					
<i>ND</i> or Not Detected - The contaminant was not detected using best available technology.					
<i>ppm</i> - parts per million					
<i>ppb</i> - parts per billion					
<i>pCi/L</i> - picocuries per liter, a measure of radioactivity					
<i>AL</i> or Action Level - The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow. (* 90 th percentile value)					
* * number of sites exceeding action level					

DROUGHT CONDITIONS

In the late 1970s, irrigation water was readily available for development south of the Yakima River. The design and construction of the water system south of the Yakima River was to provide only a potable water system. The system was not built to provide irrigation.

In 1979, the City passed Ordinance 96-79, banning cross connections between irrigation lines and potable water lines in subdivisions developed south of the Yakima River after 1979. If drought conditions should occur with irrigation water shortages, homeowners are allowed to water their lawn and landscaping with a hose connected to a house hose bib.

When drought conditions occur, to avoid overtaxing the potable water system in your area, please use the odd-even system. If your house address ends in an even number, water your lawn and landscaping on even days; if your house address ends in an odd number, water your lawn and landscaping on odd days.

Any connections made to connect a non-potable water system to a potable water line require the installation of an approved assembly to prevent backpressure or back

syphonage causing contamination to enter the City's potable water system. For those residents with questions on cross connections please contact Kim Duncan, Water Quality Coordinator at 942-7474. For questions on drought issues please contact Nancy Aldrich, Environmental Affairs Analyst at 942-7508.

WATER CONSERVATION TIPS

In the summer months, the amount of water used by Richland residents quadruples, compared to winter use. For example, in January of 2005, 199 million gallons of water were used, compared to 900 million gallons in July. Below are some tips to help you be **water wise**.

- Water only when needed. Frequency depends on the type of plants and soil conditions.
- Water only as rapidly as the soil can absorb the water. Water run off is a huge waste.
- Water slowly, deeply and less often. Longer watering cycles allow roots to lengthen and strengthen, allowing hardiness in drought conditions.

- Longer watering times mean fewer days of watering. Water every 2-3 days, if possible.
- Install a trickle or drip irrigation system for a slow, steady supply of water to the plant roots. This method can save up to 60% over other watering techniques.
- Turn off the sprinklers during windy or rainy weather.
- Replace leaky or broken sprinklers and sprinkler heads promptly.
- Over spray on streets, driveways, fences, etc., is wasteful.
- Consider water requirements when purchasing new plants.
- Use native plants when landscaping your lawn. Generally, native plants require less care and water than other ornamental varieties.
- Place a layer of organic mulch around plants and trees to avoid excessive evaporation. This includes bark, grass clippings or compost. Mulch helps to hold moisture into the soil.

For additional water conservation tips visit www.ci.richland.wa.us/enviro/water.htm

Columbia River Water Treatment Plant: Finish Water

ANALYTES	HIGH	LOW	AVERAGE
pH	8.0	6.7	7.5
Alkalinity	63 mg/L	44 mg/L	53 mg/L
Hardness	80 mg/L – (4.68 gr./gal)	50 mg/L – (2.92 gr./gal)	65 mg/L – (3.80 gr./gal)