



# 2006 WATER QUALITY REPORT

**INSIDE THIS ISSUE:**

<i>Origin of Water</i>	2
<i>Key to Tables</i>	2
<i>Water Quality Results</i>	3
<i>Wellhead Protection</i>	4
<i>Capital Improvements</i>	4
<i>City Contacts</i>	4
<i>Internet Sites</i>	4

## YAKIMA'S WATER SCORES HIGH MARKS FOR EXCELLENT WATER QUALITY

2006 was another great year for the City of Yakima Water System. There were no violations of Federal and State standards for safe, clean water delivered into the city's water distribution system. In all categories, the levels of chemical compounds and substances in Yakima's drinking water measured substantially below acceptable contamination levels set by the Environmental Protection Agency (EPA) and administered by the Washington State Department of Health (WSDOH). Our water quality control program involves testing for more than 100 items on a continuous basis, daily, weekly, monthly, and annually. In every case, the levels of the compounds were below federal regulations, ranking Yakima's drinking water among the safest in the country. For measurements of individual compounds, see page 3.

### City of Yakima—Water Facts:

- \$0.17/100 Gallons
- Treated 4.4 Billion Gallons of Water, from the Naches River Water Treatment Plant in 2006.
- Produced 0.56 Billion gallons of water from 3 deep groundwater wells in 2006.

**“Este informe contiene informacion importante sobre la calidad de agua de su comunidad. Trata**

## Safeguarding Our Water

The Environmental Protection Agency regulates the level of various chemical compounds and substances, which may potentially contaminate public drinking water if they exceed certain levels. Tests are performed frequently for the presence of these chemical compounds and for a host of other unregulated substances as well. The high quality of Yakima's drinking water is the result of the proper operation of a modern multi-process treatment facility by State Certified Operators and testing of samples taken in the treatment process on a continuous basis, daily, weekly, monthly, and annually, as well as throughout the distribution system.

## Consumer Confidence Reports

In 1996, the Safe Drinking water Act was amended to require that all community water systems provide their customers with an annual water quality report. This annual water quality report is designed to give the City of Yakima's customers information about the quality of the water they are receiving The presence and detection of chemical compounds and other substances in the water supply is normal, and does not necessarily mean that the water poses a health risk.

We'll be happy to answer any questions about the City of Yakima's water quality. Call our Water Quality Specialist at (509) 576-6477.

Public and education tours of the City of Yakima Water Treatment Plant may be arranged by calling 575-6177.

Public Water System owned and operated by the City of Yakima

# ORIGIN OF OUR WATER

Drinking water for our Yakima customers comes from the Naches River, a surface water source, into the Naches River Water Treatment Plant at Rowe Hill. During an emergency, water can also be obtained from three deep groundwater wells. The wells are located at; Kiwanis Park, Yakima Airport and Kissel Park. These wells are in the Ellensburg Aquifer. Our wells are also sampled and tested for contaminants. How do we protect the water quality of our emergency wells? See page 4, Wellhead Protection Program.

# SOURCE WATER EDUCATION

The sources for drinking 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 it picks up substances that result from animal and/or human activity. Substances 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 contamination, 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 runoff and septic systems.
- (E) Radioactive contaminants, which can be naturally occurring or the result of oil/gas production and mining activities.

# CROSS CONNECTION

## WHAT IS IT AND WHY IS IT IMPORTANT?

Cross-connections are actual or potential physical connections between a public water system or the customer's water system and any source of non-potable liquid, solid or gas that could contaminate the potable water supply by backflow; backflow is flow that has reversed direction. An example of a residential cross-connection is an underground lawn irrigation system that uses domestic water for supply and is connected to that supply without any type of backflow prevention device installed. The city has an active Cross Connection Program to protect our drinking water from contamination. Questions, please call 575-6154.

### KEY TO TABLES:

$\leq$  = Less Than

$\geq$  = More Than

**ND** = Not Detected

**Trigger** = Drinking water response level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples.

**HAA5** = Haloacetic Acids

**MCL** = Maximum Contaminant Level

**MCLG** = Maximum Contaminant Level Goal

**TTHM** = Total Trihalomethanes

**MDL** = Method Detection Limit of current testing methods.

**NTU** = Nephelometric Turbidity Unit

**ppm** = parts per million

**ppb** = parts per billion

**ppt** = parts per trillion

### Explanation of the Water-Quality Tables

The charts in this report provide representative analytical results, collected in 2006 from the City of Yakima water system. Please note the following definitions:

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal or MCLG:** The level of contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.



**What is a part per million? A part per million (ppm) is one pound of a substance detected in a million pounds of water. Another way to express a part per million is one penny out of \$10,000.**

**Turbidity, what is it? Turbidity is a measure of the cloudiness of water. It is monitored because it is an indicator of water quality.**

**EPA Regulated Inorganic Compounds**

Compound	MCL	MCLG	Detected
<b>Values in parts per billion</b>			
Arsenic	10	n/a	<2*
Cadmium	5	5	<0.3*
Chromium	100	100	<4.7*
Mercury	2	2	<0.3*
Selenium	50	50	<5*
Beryllium	4	4	<0.2*
Nickel	100	100	<10*
Antimony	6	6	<5*
Thallium	2	0.5	<1*
Cyanide	200	200	<10*
<b>Values in parts per million</b>			
Nitrite -N	1	1	<0.05*
Nitrate -N	10	10	<0.05*
Barium	2	2	0.003*

**EPA Regulated Inorganic Compounds (Secondary)**

Compound	MCL	MCLG	Detected
<b>Values in parts per billion</b>			
Iron	300	300	<11.5*
Manganese	50	50	<2*
Silver	100	100	<4.7*
<b>Values in parts per million</b>			
Chloride	250	250	3.10*
Zinc	5	5	<0.02*
Sulfate	250	250	9.20

Secondary Inorganic Compounds are EPA standards that relate to the aesthetic quality of water, appearance, odor and taste.

\* Denotes that the detected value is below the minimum reporting level required by the Washington State Department of Health.

**State Regulated Inorganic Compounds**

Compound	Trigger	MCL	Detected
Lead	0.015	N/A	<0.0005*
Copper	1.3	N/A	<.002*

(sampled for at the water treatment plant effluent and not in the distribution system)

**Compounds Tested for, but NOT Regulated**

Compound	MCL	Detected
<b>Values in parts per million</b>		
Sodium*	-	7.94
Hardness	-	29.0
<b>Value in color units</b>		
Color	15	<4
<b>State Regulated Physical Characteristics</b>		
<b>Value in Micromhos/cm at 25 Centigrade</b>		
Conductivity**	700	94

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some chemical compounds and other substances. The presence of chemical compounds and other substances does not necessarily indicate that water poses a health risk. More information about potential contaminants and possible health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

\*The EPA has established a recommended level of twenty ppm for sodium as a level of concern for those customers that may be restricted for daily sodium intake.  
 \*\* Conductivity testing is done in lieu of the more expensive test for Total Dissolved Solids. Exceeding the conductivity MCL would require that the City perform the test for Total Dissolved Solids.

**Water Quality Data Table 1**

Contaminant	Date Tested	Unit	MCL	MCLG	Detection Level	Range	Major Sources	Violation
<b>Physical Characteristics - Clarity</b>								
Turbidity <sup>2</sup>	01/12/06	NTU	1.0	-	0.15	0.02—0.15	Soil runoff	No
<b>Volatile Organic Contaminants – HAA5 +TTHM</b>								
Haloacetic Acids <sup>3</sup>	05/03/06	ppb	60	0	41.4	0 – 41.4	Byproduct of drinking water chlorination	No
Total Trihalomethanes <sup>4</sup>	08/29/06	ppb	80	0	44.4	0 – 44.4	Byproduct of drinking water chlorination	No
<b>Microbiological Contaminants</b>								
Total Coliform <sup>5</sup>	07/18/06	Sample	<5%	0	1.4%	0 - 1.4%	Naturally Present in the environment	No
(The 1.4% detected level for Total Coliform indicates that one sample out of seventy collected during July 2006, was positive)								
<b>Lead and Copper Sampling</b>								
Lead <sup>6</sup>	Sept.'06		0.15		0.170	<0.0005—0.0170	Lead soldered pipe	No
Copper	Sept.'06		1.30		0.2550	<0.02—0.2550	Copper piping	No

- The data in this table is for analysis performed on Yakima's finished drinking water
- Regulations require NTU's never exceed 1.0 units and 95% of all NTU samples will be less than or equal to 0.30 NTU during each calendar month. The 0.15 NTU under Detected Level is the maximum and the 0.02 NTU under Range is the low for 2006.
- Haloacetic Acids (HAA5) are sampled quarterly at four city locations. The four samples taken each quarter are averaged and the averages of each quarter are added and averaged for the year. The 41.4 ppb under Detected Level is the maximum and the 0 ppb under Range is the low.
- Total Trihalomethanes (TTHMs) are sampled quarterly at four city locations. The four samples taken each quarter are averaged and the averages of each quarter are added and averaged for the year. The 44.4 ppb under Detected Level is the yearly maximum and the 0 ppb under Range is the yearly low.
- Each year 840 Coliform samples from the distribution system are collected and analyzed.
- Lead and Copper sampling in the distribution system is conducted every three years. The Lead action level was not breached due to the Lead levels overall being within the 90th percentile of all samples taken and tested.



Federal Drug Administration, FDA, regulations establish limits for contaminants in bottled water.

**City of Yakima  
Phone Numbers**

City Manager  
575-6040  
Water & Irrigation  
575-6154  
Water Treatment Plant  
575-6177  
Utility Services  
575-6080  
Water Quality  
576-6477

**Water Internet  
Sites**

EPA  
[WWW.EPA.GOV](http://WWW.EPA.GOV)  
  
Washington State Dept.  
of Health  
[WWW.DOH.WA.GOV](http://WWW.DOH.WA.GOV)  
  
American Water Works  
Association  
[WWW.AWWA.ORG](http://WWW.AWWA.ORG)  
  
City of Yakima  
[WWW.CI.YAKIMA.WA.US](http://WWW.CI.YAKIMA.WA.US)



**Wellhead Protection**

The Washington State Department of Health requires a Wellhead Protection Program to ensure protection of groundwater supplies from surface and or other sources of contamination. The City of Yakima complies with the Washington Department of Health Wellhead Protection Program and updates this program on a bi-annual basis. The City is a member of the Upper Yakima Valley Wellhead Protection Program. For more information on the Wellhead Protection Program, please call 576-6477.

**CAPITAL IMPROVEMENTS**

The rehabilitation of the filtration system at our Water Treatment Plant was completed in February 2006. This upgrade assures compliance with the "Enhanced Surface Water Treatment Rule", as well as improving the treatment processes. Replacement of some 24 inch steel pipe and some improvements to the middle zone reservoirs was initiated and is scheduled for completion in 2007. Other capital improvements scheduled for 2007 include replacement of a pressure reducing valve in the distribution system, designing and starting addition 24 inch pipe replacements and replacing the overflow system at the middle zone reservoirs and the continued project of eliminating dead end water mains.

**WATER TREATMENT OPTIMIZATION**

The City of Yakima has adopted the Washington State Treatment Optimization Program (TOP) for all rapid rate surface water treatment plants. The TOP includes MCLG that are below the standard EPA MCL's for water quality. The TOP has improved the performance of our surface water treatment plant. TOP focuses on particle removal and disinfection to maximize public health protection from microbial contaminants.

**WATER SYSTEM PLAN**

The Washington Department of Health requires all Class "A" water systems to complete a Water System Plan every six (6) years. The plan includes an evaluation of the current system, any deficiencies and plans to eliminate them, and future needs such as expansion, water rights and storage facilities. The city completed this plan in March 2004. While the next update will be in 2010, the professionals operating our water system are continuously looking for opportunities for enhancement not contemplated in the plan.

**WATER AND HEALTH**

Some people may be more vulnerable to certain chemical compounds and substances 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 and the Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the **Safe Drinking Water Hotline (800-426-4791)**.

**FLUORIDE**

The Washington State Department of Health requires water systems that fluoridate to maintain a fluoride concentration in the range of 0.80 ppm through 1.30 ppm throughout the system. Yakima maintains an average of 1.05 ppm. The City has been fluoridating the drinking water since April 2002.