

# ANNUAL WATER QUALITY REPORT

*Water testing performed in 2007*



PWS ID#: 2290023

## Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2007. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

## Where Does My Water Come From?

Moscow's drinking water comes from five groundwater sources. Although all of the wells are located within the Palouse Basin, Wells #2 and #3 draw water from the basin's shallow aquifer known as the Wanapum, and Wells #6, #8, and #9 draw water from the deep aquifer known as the Grande Ronde.

To protect our source water, the City of Moscow Water Department implements best management practices aimed at protecting the wellheads and surface seals within the zone immediate to the wells.

## 811 – What Is It?

811 is the new CALL BEFORE YOU DIG number. An easy call to 811 starts the process for locating underground utilities that will be located and marked for free. When you call 811 you will be routed to the Idaho One Call Center. An operator will ask you for your digging location, type of work, and a few other questions. A notice will be sent out to all the utility companies in the area, and a representative will be sent out to mark any utilities within the digging area. Once all of the underground lines have been marked, you will know their approximate location.

## CALL BEFORE YOU DIG – IT'S THE LAW

## Source Water Assessment

A Source Water Assessment for the City of Moscow was completed in 2001. The assessment determined that Wells #2 and #3 have overall high susceptibility risk ratings while Wells #6, #8, and #9 have lower susceptibility scores than Wells #2 and #3. A copy of the Source Water Assessment can be obtained from the State of Idaho Department of Environmental Quality (DEQ). The City of Moscow has never had a sample exceed the Maximum Contaminant Level (MCL) from any of the identified sources for possible contamination. For more information contact the DEQ at (208) 799-4370.

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Tap vs. Bottled

Thanks in part to aggressive marketing,

the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resource Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25% of bottled water is actually just bottled tap water (40% according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70% of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at [www.nrdc.org/water/drinking/bw/exesum.asp](http://www.nrdc.org/water/drinking/bw/exesum.asp).



## Questions?

For more information about this report, or for any questions relating to your drinking water, please call one of the following people:

**Chief Operator Gary Smith** - (208) 883-7109

**Utility Operations Supervisor David Richardson**-  
(208) 883-7108

**Water Manager Tom Scallorn** - (208) 883-7106

**Public Works Director Les MacDonald**-  
(208) 883-7028

# Pharmaceuticals in Drinking Water

## How do drugs get into the water?

People take pills. Their bodies absorb some of the medication but the rest of it passes through and is flushed down the toilet. The wastewater is treated before it is discharged into the environment. Conventional treatment processes remove some of these pharmaceuticals however just which ones and how many is not clearly understood. Once these waters enter the environment, they may be picked up again by water treatment plants further downstream, treated, and piped to customers. Even users of bottled water don't necessarily avoid exposure. Bottlers, some of whom simply repackage tap water, do not typically treat or test for pharmaceuticals. Because Moscow uses well water, this is unlikely to be an issue for Moscow's drinking water.

Moscow's aquifers are protected by the clay layers that also protect us from other potential contaminants such as nitrates from farming activities. We are fortunate to have groundwater sources that are free of contaminants.



## Lead and Drinking Water

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 Moscow 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 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Free Irrigation Audits

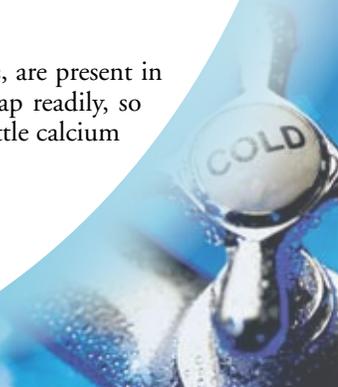
The City of Moscow will be offering free irrigation audits again this year. The audits will consist of procedures to collect and present information concerning the uniformity of application, precipitation rate, and general condition of an irrigation system and its components. We are here to give you information and direction about your system and ways to conserve water. For a complete audit, your system needs to be functioning at its best with all heads adjusted properly and to have all timers working. For information check out the Irrigation Association Web site ([www.irrigation.org](http://www.irrigation.org)) under consumer's information. On the Web site there is a lot of good information on how to hire a contractor and your Bill of Rights in regards to irrigation contractors. Please contact Tom Luther, CLIA, or Nichole Baker, Conservation Specialist, at (208) 882-3122.

## How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

## What Makes Water Hard?

If substantial amounts of either calcium or magnesium, both nontoxic minerals, are present in drinking water, the water is said to be hard. Hard water does not dissolve soap readily, so making lather for washing and cleaning is difficult. Conversely, water containing little calcium or magnesium is called soft water.



## Irrigation Systems Require Backflow Prevention

**B**ackflow regulations are necessary to help prevent contaminants from entering the public water supply through what is known as backflow. Backflow is defined as “The reverse flow of any contaminated or foreign liquids, gases, or substances into the distribution system of a public water supply.” An approved backflow prevention assembly, certified by the State of Idaho, is designed to properly prevent backflow.

New irrigation systems have been required to install approved backflow assemblies since the early 1990s. This spring the water department will implement the first phase of a comprehensive program to bring all irrigation systems that are not already protected or are improperly protected with a backflow prevention assembly into compliance with State Drinking Water Regulations and City of Moscow Code. All irrigation systems, existing or new, must be equipped with an approved backflow prevention assembly. This program will take about four years to complete. The city has been divided into four sections beginning with the older sections of town.

A street-side survey will be undertaken to locate systems that have inadequate or non-existent backflow protection. A notice requiring corrections to bring these systems into compliance will be sent to the owner(s) of record. A plumbing permit is required before work begins and must be purchased at the Building Department.

The protection of Moscow’s water supply is of critical importance to both the City of Moscow and its citizens; your cooperation will be greatly appreciated. For more information or if you have any questions about your irrigation system, please contact Tod Gosselin at [tgosselin@ci.moscow.id.us](mailto:tgosselin@ci.moscow.id.us) or by calling 883-7111. If you receive a notice requiring the installation of a backflow assembly and you believe your irrigation system has approved backflow protection or that the notice has been sent in error, please contact me by phone or by the e-mail listed above.

## Information on the Internet

**T**he U.S. EPA Office of Water ([www.epa.gov/watrhome](http://www.epa.gov/watrhome)) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Idaho Department of Environmental Quality has a Web site ([www.deq.state.id.us/water/prog\\_issues/drinking\\_water/overview.cfm](http://www.deq.state.id.us/water/prog_issues/drinking_water/overview.cfm)) that provides complete and current information on water issues in Idaho, including valuable information about our watershed.

## Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2002	15	0	2.52	0.5–4.8	No	Erosion of natural deposits
Beta/Photon Emitters <sup>1</sup> (pCi/L)	2002	50	0	4.12	3.0–5.6	No	Decay of natural and man-made deposits
Fluoride (ppm)	2002	4	4	0.76	0.4–1.3	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
TTHMs [Total Trihalomethanes] (ppb)	2007	80	NA	1.83	NA	No	By-product of drinking water chlorination

Tap water samples were collected from 30 sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2006	1.3	1.3	0.04	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2006	15	0	6	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

<sup>1</sup> The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

## Definitions

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

**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.

**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.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a 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.

**NA:** Not applicable

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).