



annual

# water quality report

water testing  
performed in

# 2011

# 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, 2011. 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 to 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

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 two 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 at **(800) 426-4791** or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Additional 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 at **(800) 426-4791**.

# where does my water come from?

Moscow's drinking water comes from five groundwater sources. Although all 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.

To conserve our water source, the City has a long standing conservation program. If you would like more information, please contact Nichole Baker at [nbaker@ci.moscow.id.us](mailto:nbaker@ci.moscow.id.us) or call **(208) 883-7114**.

# 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) for possible contamination. For more information, contact the DEQ at **(208) 799-4370**.

# questions?

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

**Gary Smith** Water Production Lead **(208) 883-7109**

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

**Tom Scallorn** Water Manager **(208) 883-7107**

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

# sampling results

During the past year, we have taken hundreds of water samples in order to identify 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		Violations	Typical Source
Combined Radium-226 and 228	pCi/L	2010	5	0	0.939		No	Erosion of natural deposits
Substance	Unit of Measure	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Lowest Level Detected	Highest Level Detected	Violations	Typical Source
Chromium	ppb	2010	100	100	1.11	1.39	No	Discharge from steel and pump mills; erosion of natural deposits
Barium	ppm	2010	2	2	0.007	0.199	No	Discharge from drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	ppm	2010	4	4	0.5	1.6	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
TTHMs (Total Trihalomethanes)	ppb	2011	80	NA	0.4	6.7	No	By-product of drinking water chlorination

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

Substance	Unit of Measure	Year Sampled	AL	MCLG	Amount Detected (90th %tile)	Sites Above AL/ Total Sites	Violations	Typical Source
Copper	ppm	2009	1.3	1.3	0.235	0/30	No	Corrosion of household systems; erosion of natural deposits; leaching from wood preservatives
Lead	ppb	2009	15	0	6	0/30	No	Corrosion of household systems; erosion of natural deposits

\*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 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 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).

# substances that could be in water

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (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, 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.



# water department upgrades

The Moscow Water Department Distribution Crew has been busy upgrading and maintaining the infrastructure of the City's Drinking Water System. The fire hydrant replacement program which targets fire hydrants in need of repair or upgrades is ongoing. Fifteen fire hydrants were replaced within the last six months throughout the City, and an additional 15 have been targeted for replacement in the next six months.

The City acquired a new valve exercising truck equipped with a powerful vacuum to clean out valve boxes. With this new equipment, the crew will be capable of more efficiently exercising water valves. In the last two months, 200 valves were exercised; our annual goal is to exercise 750 valves.

We also have a goal to replace 12 gate valves this next year. This will give us more reliable valves for shut downs and reduces the number of customers affected during repairs.

The water system has approximately 800 customer service lines that are galvanized and have been in the ground for 30 years or more. Galvanized service lines are subject to corrosion which causes leaks and results in interrupted service to our customers and unwanted water loss. Our goal is to replace 50 of these services this year.

The Water Department continues to upgrade meters as resources allow. These new meters are touch read meters which are quick and easy to read resulting in less time having to be spent reading meters.

In addition to the above, we test all the backflow assemblies on City of Moscow facilities and spot check customer assemblies to verify that they are being accurately tested. This program is essential in protecting our water system.



## completed upgrades of well #6

The Water Department has completed planned upgrades to Well No. 6 that included the replacement of an oil-lube line driven turbine pump with a modern energy efficient submersible well pump and motor.

The new well configuration reduces moving parts thereby reducing the overall cost of operations and maintenance as well as future costs for repair and eventual replacement. This is just one more step in the modernization of your water system that greatly improves its overall reliability and efficiency.



## award winning equipment

In March, the Distribution Crew entered our two-ton service truck and valve exercising truck in a truck rodeo/training in Spokane and took grand prize for the best two-ton truck and grand prize for the best specialty vehicle. The crew has done a great job setting these trucks up to be useful, practical pieces of equipment.



## irrigation systems require backflow protection

Backflow regulations are necessary to help prevent contaminants from entering the public water supply through what is known as backflow. Backflow is defined as, "the flow, other than the intended direction of flow of any 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 prevention assemblies since the early 1990s. Last year, the water department began implementing a comprehensive program to bring all irrigation systems that are not already or improperly protected with a backflow prevention assembly into compliance with the Idaho Rules for Public Drinking Water Systems and Moscow City Code. All irrigation systems, existing or new, must be equipped with an approved backflow prevention assembly and must be inspected and tested annually by a State of Idaho licensed backflow assembly tester. This program will take approximately 24 months to complete.

A street side survey has initiated 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 can begin 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. If you have any questions about your irrigation system, or if you know that your irrigation system is not protected and would like a list of licensed testers who can install the appropriate assembly, please contact Kyle Steele at [ksteele@ci.moscow.id.us](mailto:ksteele@ci.moscow.id.us) or by calling (208) 882-3122. If you receive a notice requiring the installation of a backflow prevention 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 email as listed above.

## 811: what is it?

811 is the new "CALL BEFORE YOU DIG" number. An easy call to 811 starts the process for identifying underground utilities which will be located and marked for free. When you dial 811 your call 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 their representatives will mark their utilities within the digging area. Once all of the underground lines have been marked, you will know their approximate location.

**Call before you dig — its the law.**