

ANNUAL
WATER QUALITY
REPORT

Water testing performed in 2005

Proudly Presented By:
CITY OF MOSCOW
WATER DEPARTMENT



PWS ID#: ID2290023



Visit the Xeriscape Demonstration Garden

In 2001 The City of Moscow and the University of Idaho collaborated to create a Xeriscape demonstration garden located at the University of Idaho Arboretum. The quarter acre garden provides an example of the beauty that Xeriscaping provides, as well as, ideas for the every day gardener. Examples of Xeric plants include: bunch grasses, brushes, flowering perennials, annuals, turf grass, and a variety of other drought tolerant plants which are available for public viewing.

The University of Idaho Xeriscape demonstration garden can be found at 1200 West Palouse River Drive, about 1/2 mile west of Highway 95, south of Moscow. Parking is available at the Red Barn lot, and the garden is located just steps away. A complete list of species at the Arboretum can be found at www.uidaho.edu/arboretum



Continuing Our Commitment

Once again we proudly present our annual water quality report. This edition covers all testing completed from January through December 2005. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

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

Water Manager Tom Scallorn (208) 883-7106

Public Works Director Les MacDonald
(208) 883-7028

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 or www.epa.gov/safewater/hotline.



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.

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.

Will You Tell Me If There Is Something Wrong With The Water Or If It Is Unsafe To Drink?

Boil Order in Moscow Neighborhood

On October 18, 2005 we received a report of air and dirt in the city water supply. We took samples at the home as a precautionary measure. After some investigation we found that a sprinkler system had just been blown out, (winterized) close to this home. Realizing the potential for contamination to the public, a boil order was immediately posted. An area of impact was defined and door hangers

were hung on homes with instructions to boil their water before consumption. Fire hydrant flushing began immediately along with extensive water sampling. Bottled water was delivered to all homes in the designated area until water was confirmed safe to drink. The public was also notified by radio, newspapers and television announcements.

Protecting public health and safety are always top priority for the City of Moscow water operators.

Conservation Websites

City of Moscow: www.ci.moscow.id.us/pw/waterconservation

American Water Works Association: www.awwa.org/waterwiser

Consortium for Energy Efficiency: www.ceel.org

Palouse Basin Aquifer Committee: www.webs.uidaho.edu/pbac

Palouse-Clearwater Environmental Institute: www.pcei.org

Palouse Water Conservation Network: www.pwcn.org

Toiletology 101: www.toiletology.com

Xeriscape Colorado: www.Xeriscape.org

Free Irrigation System Audits and Inspections

With water conservation being an important part of our community, the Moscow Water Department is offering free irrigation system audits and inspections. If you have any questions about your irrigation system or watering practices for residential or business we would like to help answer them. Please contact Tom Luther, Certified Landscape Irrigation Auditor, at (208) 892-8624.



Substances That Might Be in Drinking 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 can acquire 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 which 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 or www.epa.gov/safewater/hotline.



Q & A

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.

Why is there a green stain in my sink?

A green or blue-green stain in a sink, bath tub, or toilet is caused by tiny amounts of copper that dissolve from your home's copper plumbing system when the water sits unused overnight. Copper staining may be the result of a leaky faucet or a faulty toilet flush valve, so be sure your plumbing is in good working order.

Are you aware of what a cross-connection is?

The public water supply can become contaminated by accident through unprotected connections to the water system. These potentially hazardous connections are called cross connections. A cross connection is any actual or potential physical connection between a water supply line and any pipe, vessel or machine that contains or could contain hazardous fluids, solids or gasses. A cross connection incident can occur when the pressure in the public water supply drops because of water main breaks or heavy demand (fire) causing contaminants to be siphoned from equipment or contaminated piping systems; this is called back-siphonage. Backpressure caused by pressure exceeding the supply pressure can also force contamination into the system causing a cross connection incident.

A potentially hazardous cross connection that could affect the health of a family or community occurs every time a garden hose is used without a backflow prevention device. Contaminants such as fertilizer, insecticides or herbicides commonly used in garden sprayers can be drawn into your water supply or the public water supply if a backflow incident should occur. Residential irrigation systems that are not properly protected are another potential source of contamination.

Community water systems are at risk from unprotected residential connections as well as commercial applications. Appropriate backflow protection is achieved by using backflow prevention assemblies and devices that are matched to the degree of hazard.

The protection of Moscow's water supply is of critical importance to both the City of Moscow and its citizens. For more information or if you have any questions about possible cross connections, please contact Tod Gosselin at tgosselin@ci.moscow.id.us or by calling 883-7111.

Sampling out of Compliance Statement

Due to an error in the frequency of sampling required for the new Disinfectants and Disinfection Byproducts Rule (D/D BPR), the City of Moscow was out of compliance by missing the first quarter of required sampling between April and June of 2005. The maximum contaminate level for Trihalomethanes (THMs) is 80 ppb and for Haloacetic Acids (HAA5) is 60 ppb. Results from Moscow's most recent sampling show a maximum result for THMs at 2.4 ppb and non-detected for HAA5, both well below the MCL.

The new D/D BPR rule goes into effect in 2007, but community water systems that use chlorine as a disinfectant were required to sample quarterly for THMs and HAA5 starting in 2005 to build a data base. Moscow has been required to sample THMs once yearly at two locations since 1988 and the results have always been well under the MCL. THMs and HAA5 can form when chlorine reacts with organics (substances that contain carbon). Due to deep aquifer source waters we have very little organics present in our water. The new rule will increase monitoring of the distribution system in areas of low circulation where organics can accumulate and become a problem. We are now required to sample five sites in low flow areas four times a year to build a record of 8 quarters of sampling. If all samples are below MCL requirements, sampling will be reduced in 2007 when the new rule goes into effect.

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 contamination.

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).

Sampling Results

During the past year we have collected 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 requires 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 samples were taken.

REGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	MCLG	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 (pCi/L) ¹	2002	50	0	4.12	3.0-5.6	No	Decay of natural and manmade 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)	2005	80	NA	1.8	NA	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from 30 homes throughout the community

SUBSTANCE (UNITS)	YEAR SAMPLED ²	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH% TILE)	HOMES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2003	1.3	1.3	0.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2003	15	0	6	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

¹ The MCL for Beta/photon emitters is written as 4 mrem/year. EPA considers 50 pCi/L as the level of concern for beta emitters

² Sampling is done every three years from a pool of 60 homes. Sampling will occur again in the summer of 2006.