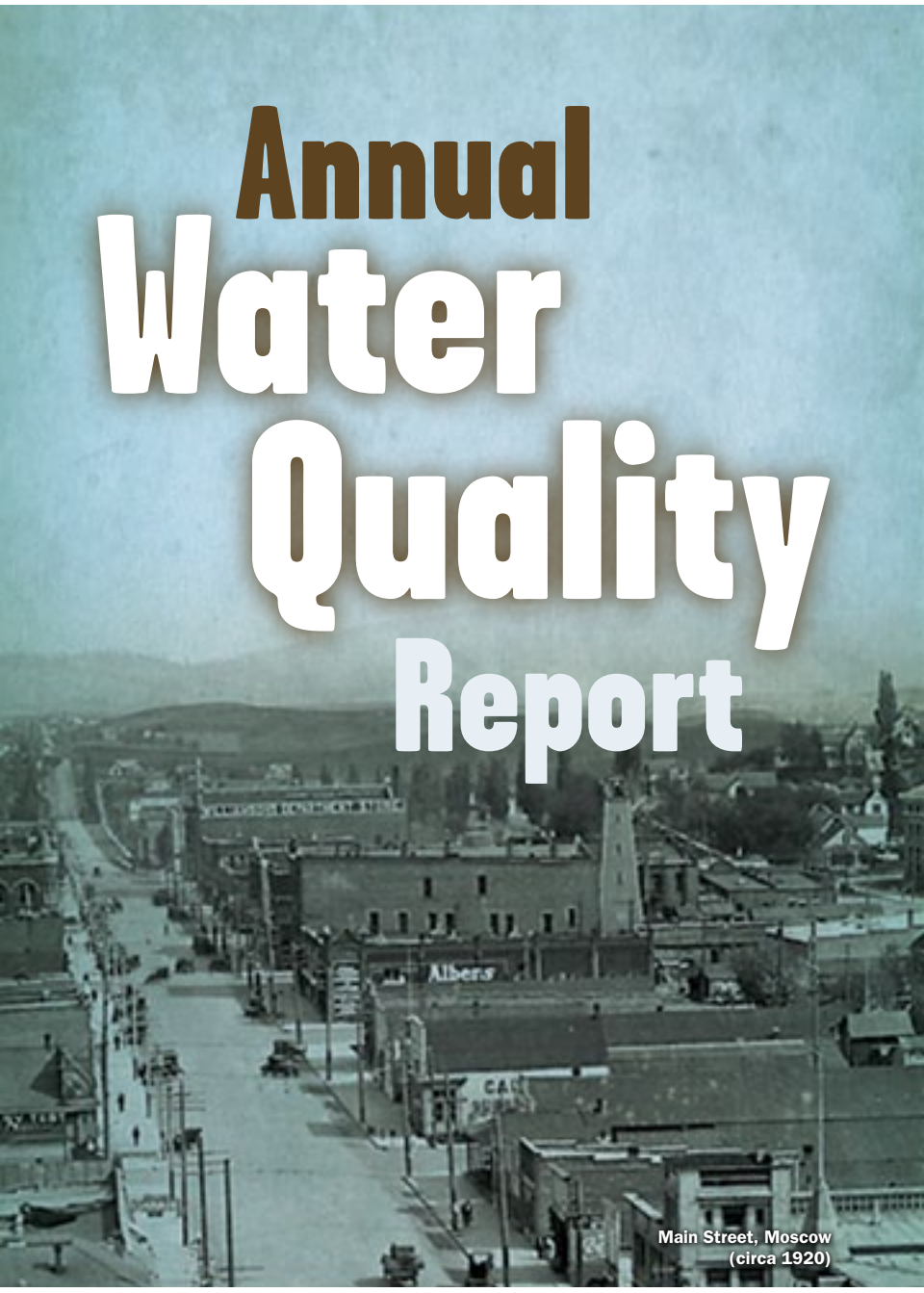
Annual Water Quality Report



Main Street, Moscow
(circa 1920)

Water Testing Performed in 2010

CITY OF MOSCOW
1887
IDAHO

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, 2010. 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**.

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.

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) 883-7106**
Les MacDonald Public Works Director	**(208) 883-7028**

Q & A

Q: I have a water softener, but I still get spots on my bathroom tile. Why is this?

A: First, a little easy chemistry. All water contains dissolved nontoxic minerals. Calcium, magnesium, sodium, sulfate, chloride, and bicarbonate are the most common. These have no health effects. If you put water in a dish and let it evaporate, the white stuff that is left are these minerals.

Two of these minerals, calcium and magnesium, cause "hardness." Because they interfere with sudsing and thus make washing "hard" (difficult), they are referred to as causing hardness. A water softener like you have trades (exchanges) the calcium and magnesium for sodium or potassium, so the water leaving the softener has no calcium or magnesium (no hardness) but more sodium or potassium.

Thus, minerals were not eliminated during softening, just traded. If you put the softened water in a dish and let it evaporate, the white stuff left over, although it would be different, would look the same and would equal the same amount as before the softener was installed.

If you had installed a reverse osmosis unit instead of a water softener, it would actually remove minerals from the water, not just exchange them, and you would not experience this problem.

Q: How can I locate my home's master valve?

A: It is important to know where the master valve is in case you have a major leak. The most common locations in your house or apartment are:

- Where the water supply enters your home
- Near the clothes washer hook up
- Near your water heater

To determine if the valve you have found is the correct one, try turning it off and see if it shuts off all water faucets in your home. If not, repeat this process with each valve you find until you identify the correct one. If you are unable to locate it, contact your plumber for assistance. Once you've found the valve, it's a good idea to mark it with something distinctive like bright paint, a tag, or ribbon. This will help you locate it quickly in case of an emergency.

Q: Is tap water safer in one area of a community as compared with another?

A: Rarely. All the tap water must meet all federal, state, or provincial requirements. In cities with a single source of water, everyone gets the same. Communities who receive water from more than one source may experience differences in their water, but all the water must be safe to drink. The condition of the pipes and the flow patterns of water may be different in different areas, and this may cause some differences in water quality, although it usually does not affect water safety. To keep the distribution pipes clean, a water utility will flush them periodically. This practice may cause a temporary change in water quality. If you notice a change in water quality, you should notify your water supplier immediately.

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. During the past year, the City collected hundreds of water samples in order to identify the presence of the contaminants described below, and it is important to note that none of the contaminants detected exceeded the maximum contaminant level.

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**.

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 Containment 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	0.94		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	0.01	0.2	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 deopsits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
TTHMs (Total Trihalomethanes)	ppb	2010	80	NA	0.51	6.35	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	0.24	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

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 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).

Annual Tank Cleaning

The Vista Reservoir, which is capable of holding 2,000,000 gallons of water, was cleaned in April with the use of robotic technology. This takes the place of the antiquated drain and clean approach that can waste millions of gallons of water. It also alleviates the need to place divers into a confined space.

These robots are able to vacuum sediment from the floor of the tank while remaining on line and in service. A robotic camera is then deployed to inspect the tanks interior coating and structure to determine if repairs are needed.

Well #6 Upgrade

City Water Operations is in the process of putting a submersible pump and motor in Well #6. This well has a long history of pump and shaft failures due to a crooked bore hole. For years we could not set the turbine shaft pump any lower than 450 feet due to the crooked hole.

The turbine shaft refers to the motor above the ground with a two-inch shaft that runs down to the pump below the water. Any bend would cause damage to the bearings requiring the pump to be pulled for repairs. When both a submersible motor and pump are placed down the well, the alignment is not as important. As we all know, water levels are slowly dropping requiring us to draw water from a deeper level. The new submersible equipment will be set at 520 feet to assure an adequate water level above the pump for safe operation.

Water Meter Technology

Meter technology has come a long way in recent years. It used to be that every meter in the system was read by opening the box, wiping off the glass face of the meter or pumping out the box to get to the dial. Currently we install touch-read meters. These meters have a wire from the meter to a touch pad that mounts in the lid of the meter box. To read this meter you simply touch the pad with an electronic reader and it collects the data for you. There is no need to open the meter box at all. Approximately half of our meters are currently touch-read. We also have approximately 95 radio read meters that require no physical connection to read the meter, and can be read from several hundred feet away. We install these in hard-to-access locations for more efficient read times.

Fire Hydrant Replacement

The City of Moscow Water Department has a fire hydrant replacement program in place. Hydrants, like other pieces of equipment, wear out over time and require improvements necessary to keep them in good working order for public safety. They are susceptible to all types of weather and don't typically wear out from usage or frequent operation, but from corrosion of the threads and other moving parts. This replacement program also allows the city to install newer fire hydrants using better service material. The cost of a fire hydrant itself is right around $1,500. With the accessories to replace a hydrant, the cost could be as high as $2,100. Labor, equipment costs and street cut repairs can push the cost as high as $3,500 in some instances.

Irrigation Systems
Require Backflow Protection

Backflow regulations are necessary to help prevent contaminates 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. This year, the water department will implement a comprehensive program to bring all irrigation systems that are not properly 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 18 months to complete.

A street side survey will be undertaken to locate systems without adequate 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** 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 make contact 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 — IT’S THE LAW.