



Household Water Quality



Missoula Water and individual residents of the city share the same responsibility to ensure the highest quality of water is delivered to every water service.

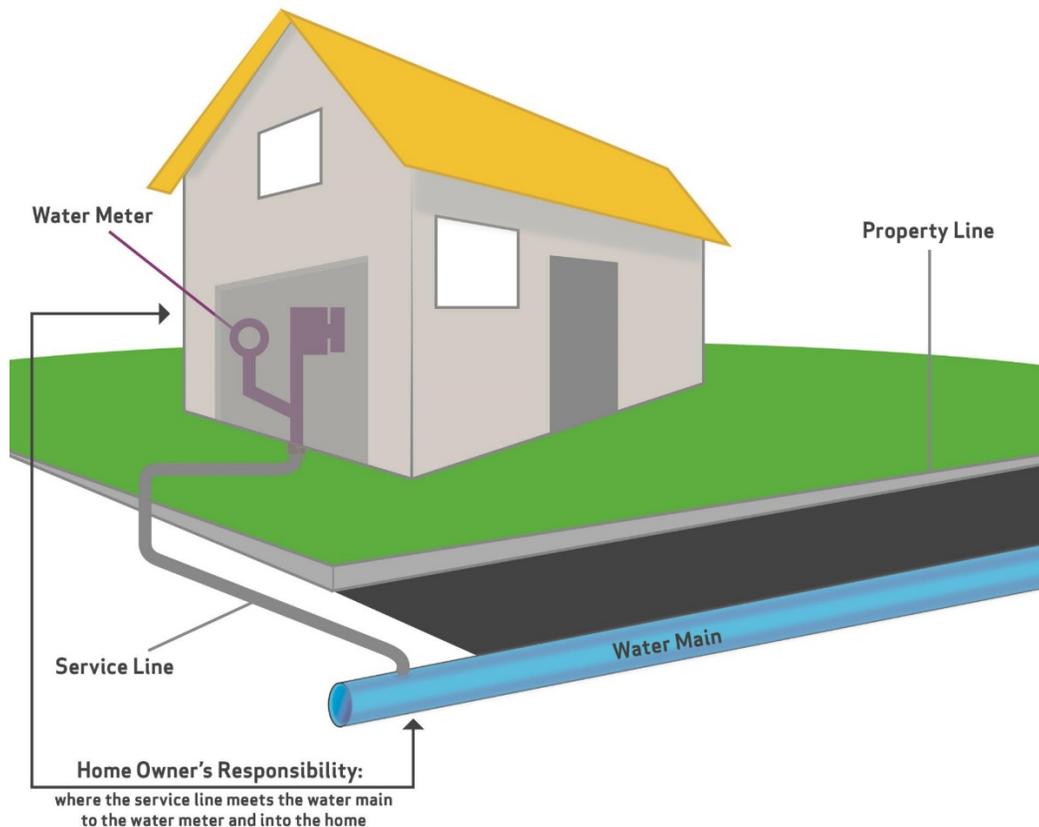
When water flows from the groundwater wells to our faucets, several factors in the distribution system and our home's plumbing can affect the quality of the water that is delivered.

The water provided to the Missoula Valley comes from 40 groundwater wells that draw water from the valley's groundwater aquifer. This aquifer is then recharged by runoff from precipitation and snowmelt. Water is delivered to our houses and businesses by the use of storage tanks, booster stations and approximately 337 miles of water mains.

This guide will go over the following items:

- ❖ Domestic service line
- ❖ Types of plumbing pipe
- ❖ Water quality tips
- ❖ Identifying water problems

Domestic Service Line



The water service line connects the water main to a home's plumbing. The property owner owns the water service line. The property owner also has the exclusive responsibility for the maintenance of the home's plumbing and the service line. Missoula Water owns the water meter inside the home (usually located in the basement) and may replace or repair the meter if needed.

The material the service line is composed of varies from home to home in the city. A water service line might not be the same material on public and private property. Missoula Water maintains records of most water service lines. This historic data may be incomplete and might not include information about the service line material on private property.

Types of Plumbing Pipes

Following the guide below or contact a licensed plumber to determine the material of your home's water pipes. To identify the material of your service pipe on private property, check your home's water connection, usually located in the basement.

Homeowners should identify and replace old pipes in the home, especially galvanized plumbing and any sources of lead. Different types of pipes can vary throughout the home.

Galvanized

A dull, silver-gray color. Use a magnet - strong magnets will typically cling to galvanized pipes.



Copper

The color of a copper penny.



Plastic

White, rigid pipe that is joined to water supply piping with a clamp.



Lead

A dull, silver-gray color that is easily scratched with a coin. Use a magnet - strong magnets will not cling to lead pipes.



Galvanized Plumbing & Impacts on Water Quality

Galvanized pipes were installed in many homes built between the 1880s through the late 1980s. Over many years, rust, corrosion and scales build up inside the walls of galvanized pipes.



These pipes can cause discolored water, pressure issues and can corrode at the joints, which can lead to leaks. Galvanized pipes installed on water lines between 1880 and 1980 were dipped in molten, naturally occurring zinc. Naturally occurring zinc is impure, so these pipes were bathed in zinc that also contained lead and other impurities.

There is no confirmed evidence that the zinc coating containing lead has leached to the inside of the pipe. There has been trace elements of lead found in houses that have galvanized plumbing.

Water Quality Tips

It is suggested to flush cold water when the home's water has not been used for several hours. Run water until temperature changes before using the water for drinking or cooking (approximately one minute). When water sits in your pipes for several hours, water quality can decline.



It is recommended that hot water is not used for drinking and cooking. Hot water dissolves contaminants and may contain metals, sediment and bacteria that build up in the hot water heater. Hot water can also have higher sodium levels if ran through a water softener.



Routinely replace filter cartridges as advised. Bacteria sediments and metals can build up in filter cartridges. Be sure to follow the manufacturer's instructions for filter replacement.



It is suggested to routinely clean faucet strainers. Sediment and metals can collect in the aerator screen located at the tip of your faucet. Replace aerators that are in poor condition. They are available at your local hardware store. Contact a local plumber if necessary.

Water Quality Tips Continued

Draining your water heater tank annually is highly recommended. Sediment, bacteria and metals can build up in the hot water tank. Approximately 80% of water quality problems come from the hot water tank in your home.

Poor maintenance can lead to corrosion inside the tank. Sediment and metal can build up on the bottom of the tank. Build-up in your tank can lead to water pressure issues, premature tank failure and reduced heating efficiency.

Set a date once year to maintain your hot water tank. Contact a local plumber if necessary.



Replacing old house plumbing and any potential lead sources is suggested. Replace galvanized plumbing and install “lead-free” plumbing fixtures that contain 0.25 percent lead or less.



Identifying Water Problems

	Issue	Potential Causes	What-To-Do
color	Cloudy Milky	<ul style="list-style-type: none"> Air bubbles in household pipes from changes in water temperature or construction. In cold weather, water travels from water mains into warmer household pipes, causing air bubbles to form and release at the tap. Construction can also allow air to enter the pipes. Minerals in water - calcium or phosphate. 	<ul style="list-style-type: none"> Air bubbles and minerals in water are not a health risk. Fill a glass with water; if the cloudiness disappears from bottom to top in a few minutes, it is air bubbles. If cloudiness settles to the bottom or does not clear, it is likely calcium or phosphate.
	Brown Red Orange Yellow	<ul style="list-style-type: none"> Sediment or rust from old household pipes or water mains, particularly iron or galvanized pipes. Temporary changes in flow (hydrant flushing) or pipe disturbances (construction or a water main break) can disrupt older pipes and cause discoloration. 	<ul style="list-style-type: none"> Iron in water is not a health risk. Flush cold-water taps for 15 minutes. Do not use hot water until water clears. If you experience discolored water from your hot water tap for several hours, flush your water heater. Do not do laundry. If discoloration occurs during laundry, do not dry clothes. Rewash clothes to avoid stains. Replace old household plumbing, particularly galvanized pipes.
	Green Blue	<ul style="list-style-type: none"> Copper plumbing corrosion. Newly installed plumbing can release metals in water. 	<ul style="list-style-type: none"> Copper in water is not a health risk. After installing new household pipes or fixtures, flush cold-water taps for five minutes at a high flow rate once a day for three days or until water clears. Replace old copper plumbing.
particles	White Particles	<ul style="list-style-type: none"> Calcium build up in the water heater can collect in faucet aerators and appear in tap water. White particles can be visible in ice cubes made with tap water. Water heater - dip tube is made of a nontoxic plastic material that can break apart, collect in faucet aerators and appear in tap water. 	<ul style="list-style-type: none"> Calcium in water is not a health risk. Place the white material in a small amount of distilled vinegar. Calcium particles will bubble or dissolve within 24 hours. Plastic particles will not dissolve. Clean aerators. Flush water heater - contact the manufacturer if plastic particles continue to appear in water.
	Black Particles	<ul style="list-style-type: none"> Rubber materials from plumbing gaskets or O-rings. Carbon water filter cartridges. Iron or manganese can release from old pipes after construction or a water main break. 	<ul style="list-style-type: none"> Replace gaskets and O-rings with chloramine-resistant materials. Routinely replace filter cartridges. Clean aerators. Flush water heater - contact the manufacturer if plastic particles continue to appear in water.
taste / odor	Chlorine	<ul style="list-style-type: none"> Chlorine is used to disinfect drinking water. When chlorine interacts with debris and bacteria in pipes, it may cause a stronger odor. 	<ul style="list-style-type: none"> Chlorine in water is not a health risk and is monitored to ensure levels meet drinking water standards. However, at times you may notice an increase in chlorine taste and odor. Flush cold-water tap for two minutes. Refrigerate a pitcher of cold tap water to allow the chlorine odor to dissipate. Use a pitcher-style or faucet-mount filter to remove chlorine taste and odor.
	Metallic	<ul style="list-style-type: none"> Metal release in water - newly installed or old plumbing can release metals in water. 	<ul style="list-style-type: none"> Flush cold-water taps after installing new household pipes or fixtures. After installing new household pipes or fixtures, flush cold-water taps for five minutes once a day for three days or until water clears.
	Sulfur Sewer	<ul style="list-style-type: none"> Bacteria growth in the sink drain or water heater. Debris can build up in the u-shaped plumbing beneath the sink and create an odor at the tap. 	<ul style="list-style-type: none"> Fill a glass halfway with tap water and smell the water in a different room. If the odor is no longer present, the odor is likely from the sink drain, not the tap water. Pour 1/2 cup of bleach or disinfection product down the drain to remove debris and odor. Repeat if necessary. If odor is from the hot tap water, flush water heater.

Identifying Water Problems Continued

	Issue	Potential Causes	What-To-Do
other	White Residue	<ul style="list-style-type: none"> • Commonly appears in showers and kitchenware from dissolved minerals in water (water hardness), such as calcium and phosphate. Typically, water hardness is higher during warmer months. • Calcium and phosphate can build up in the water heater and on household surfaces. 	<ul style="list-style-type: none"> • Calcium in water is not a health risk. • Commercial products are available to remove white residue. • Flush water heater.
	Pink Stains	<ul style="list-style-type: none"> • Biofilm (non-harmful bacteria) that is airborne and spreads easily in warm, moist environments. Can appear as pink, orange or yellow. • Bacteria can grow in water heaters and contribute to biofilm growth on wet surfaces. If the water heater temperature is not maintained at manufactures' or EPA recommendation, bacteria can grow. 	<ul style="list-style-type: none"> • Pink biofilm is not a health risk for healthy individuals. Immune compromised individuals should seek advice from a physician. • Disinfect and scrub affected areas. Keep surfaces dry. The presence of biofilm is difficult to permanently remove. During warmer months, routine cleaning may be necessary. • Fix dripping faucets and showerheads. • Check the temperature of your water heater.

Contact Information



Customer Service / Billing 406-552-6700
 Payments 1-866-790-7218
 24-Hour Emergency Hotline 406-552-6700
waterscs@ci.missoula.mt.us

Learn more about Missoula Water at:

www.ci.missoula.mt.us/water

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