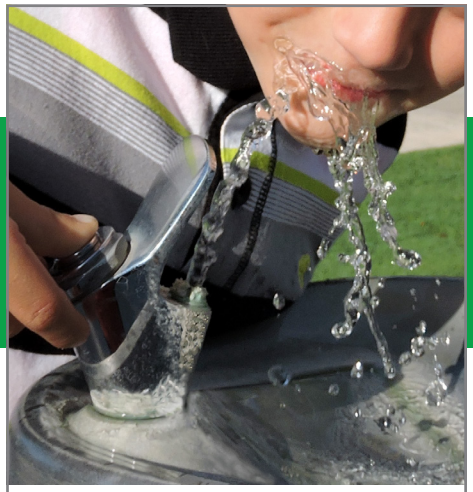
HARD WATER FACTS

Hard water is water that has a high content of dissolved minerals, primarily calcium and magnesium. It is an aesthetic characteristic that affects lathering of soap and contributes to scaling of pipes, fixtures and appliances.



Hard water scale is purely aesthetic and does not pose a health risk.

Why is Scottsdale's water hard?

Water hardness is measured by the presence of minerals, such as calcium and magnesium, in water. These minerals originate from the soils our source water comes into contact with as it travels from and through watersheds to Scottsdale's water treatment plants.

Approximately 80 percent of the country has hard water. In the southwest, especially the Sonoran desert, however, low rainfall, hot weather and high mineral content in the soil contribute to Arizona's very hard water.

Scale and Mineral Deposits

While hard water does not pose any health risks, it can be a nuisance for customers. Long-term movement of hard water through a pipe can result in what is called scale buildup. Scale is a hard, white or yellowish coating of solid calcium carbonate that forms inside pipes and on appliances and fixtures. Scale is not dangerous, but it can reduce the efficiency of some appliances and clog faucets, aerators and, in rare cases, pipes.

Mineral deposits from every day cleaning are another effect of hard water. Customers will generally notice these as spots on dishes and glasses and soap scum in the shower and bath.

Health Effects

Hard water consumption does not pose any known health risk. In fact, calcium and magnesium are essential nutrients for human health. Calcium in drinking water is absorbed in the digestive tract and is used to build bones and teeth. Magnesium in drinking water is also absorbed through the stomach and helps form proteins and in the maintenance of blood pressure and metabolism.

Measuring Hardness

Hardness is usually reported in milligrams per liter (mg/L) or grains per gallon (gpg). One mg/L is equivalent to one part per million (ppm), or one part of hardness for every one million parts of water. Grains per gallon is a less accurate measurement defined as 1 grain (64.8 milligrams) of calcium carbonate dissolved in 1 U.S. gallon of water.

Scottsdale treats water from multiple surface and groundwater sources. Water hardness varies by the water source and the treatment process. Hardness levels by area are indicated in the table below.

Boundary	Hardness (gpg)	Hardness (mg/L)
South of Indian School Road	22 - 25	370 - 430
Indian School Road to Chaparral Road	20 - 22	340 - 370
North of Chaparral Road	16 - 18	275 - 300

Helpful hints for dealing with hard water:

- Run a cup of white vinegar through the coffee maker and the dishwasher rinse cycle every few months.
- Use a rinse aid in your dishwasher.
- Set water heater to 120-125 degrees.
- Soak showerheads and faucet aerators in white vinegar to loosen deposits.
- Spray fixtures with lemon juice and wipe with a soft cloth.
- Consult manufacturer recommendations for dishwashers, clothes washers and coffee makers for use with hard water.

Why not treat for hardness?

Scottsdale Water is committed to providing our customers the cleanest and safest drinking water possible, at an affordable price. Additional treatment processes for the sole purpose of addressing hardness would not be cost effective, especially considering about 70 percent of residential water consumption in Scottsdale is used outdoors.

Water Quality

For information on Scottsdale's water quality, sources and treatment processes, see the latest Water Quality Report at **ScottsdaleAZ.gov/Water** or call 480-312-8732 to request a printed copy.

SCOTTSDALE WATER

CITY OF SCOTTSDALE