wellcare® information for you about

Sediment & Well Water

What is Sediment?

Sediments are naturally occurring particles that develop as earth materials are broken down through weathering and erosion. Sediment can consist of sand, rocks, and minerals, or may consist of organic particles of plants and microbes. Sediments may appear in well water as color or cloudiness which may or may not settle on the bottom of containers. This type of sediment is called suspended solids. Additionally, some sediment develops from clear well water only after it is exposed to air. This type of sediment is called dissolved solids.

What are the effects of Sediment?

Sediment can affect the quality of water in a number of ways. Besides an unappealing look, the sediment in the water can cause wear to plumbing, pumps, and water appliances or even create clogs throughout the water system to reduce the flow of water. Additionally, health risks posed by sediment in drinking water are from pollutants and pathogens that can attach themselves to sediment particles entering your water supply. Potential health contaminants include microbes such as bacteria, virus, and protozoa; from pollutants such as fertilizers and pesticides; and from dissolved metals like mercury, lead, and arsenic.

Sources of Sediment

Sediment can enter your water supply from a number of sources:

- Sediment from the drilling process may remain in recently drilled wells. It can take up to 30 days after a well is drilled and the water is used on a daily basis before the well settles and sediments are gone.
- Older wells, or wells drilled in loose bedrock, may experience sediment piling up at the bottom of a well, which might then be pumped into the plumbing system.
- Damaged or degraded well components, including casing, screens, and seals can create pathways that allow sediments to enter the well.
- Dissolved minerals, like calcium or magnesium (hardness), iron or manganese can precipitate out and develop into a white scale build-up or orange/brown staining on your fixtures or appliances.
- Organic matter, including iron and sulfur bacteria, can build up on well components and fixtures.

Is my well at risk?

The visual appearance of the well water may provide a clear indication of a potential problem. Even the slightest hint of color or cloudiness indicates the presence of suspended solids in the water. The potential for suspended contaminants is greater for water wells near surface waters, shallow wells, and wells with damaged well casings. Some suspended sediment, however, may be difficult to detect with the naked eye. As a proven general rule, all new wells should be tested for the risks of contamination. If there is any suspicion of contamination, such as odor, taste or illness, stop drinking or cooking with the water immediately, and do not resume use until testing has proven the water source to be safe. Always seek the advice of your medical doctor if you have any health concerns. See the wellcare® information sheets on these contaminants on our website at www.wellcarehotline.org.

How do I test for Sediment?

Testing your water is the only way to be certain about the contents of your drinking water. We recommended that your well water be tested for at least bacteria, hardness, iron, manganese, pH, silica, and total dissolved solids. If sediment is present or suspected due to color or cloudiness, also test for tannins and turbidity. Contact your state or local health department for a list of state-certified laboratories in your area.

What are the treatments for Sediment in drinking water?

Treatment for sediment may be installed in the well or in the home. The type of treatment required depends upon the source and type of sediment in your water.

In the Well

If you find sand or rock particles in your water, the issue might be resolved by raising the pump, increasing the distance between the bottom of the well and the pump. Further development of the well by a well contractor could remove sediment particles remaining from recently drilled or underdeveloped wells. Repairing defects in the well casing or seals, or replacing the screen may eliminate pathways that allow sediments to enter your well. Contact a water well professional to perform an inspection and to make any necessary repairs.

In the Home

Minor and in-solution sediment may be successfully treated with the installation of a treatment system in the home. Centrifuge systems spin physical sediments out of the water, but successful removal of the sediment is limited by sediment size and can result in a reduction in water pressure. Filtration systems involve physically filtering the sediment from the water, and require regular maintenance to remove the collected sediment or replacement of filter cartridges. Scaling or 'hard water', and sometimes iron and manganese, can be treated by installing a water softener. Check with your local water treatment professional for the best water treatment options for your system.

In extreme cases, it may be recommended that a new well be drilled if it is determined the sediment cannot be successfully treated or removed.

For more information about Sediment

New Hampshire Department of Environmental Services: *Sand and Sediment in Water Supply Wells.* http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-3-14.pdf

Fondriest Environmental, Inc. 2014. "Turbidity, Total Suspended Solids and Water Clarity." *Fundamentals of Environmental Measurements*. http://www.fondriest.com/environmental-measurements/parameters/water-quality/turbidity-total-suspended-solids-water-clarity/

Anthony, T. 2014. *Water Quality and Common Treatments for Private Drinking Water Systems.* University of Georgia Cooperative Extension, Bulletin 939. http://extension.uga.edu/publications/files/pdf/B%20939_2.PDF

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FOR MORE INFORMATION to help you maintain your well and protect your water supply

wellcare® is a program of the **Water Systems Council (WSC)**. **WSC** is the only national organization solely focused on protecting the health and water supply of the 43 million people nationwide who depend on household wells for their water supply.

This publication is one in a series of **wellcare®** information sheets. There are more than 90 information sheets available FREE at www.watersystemscouncil.org.

Well owners and others with questions about wells or groundwater can also contact the FREE wellcare® Hotline at 1-888-395-1033 or visit www.wellcarehotline.org.

JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the FREE **wellcare®** Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit www.watersystemscouncil.org or www.wellcarehotline.org.

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