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Typical Contaminants And Problems

Turbidity (Cloudy Water)

Water drinkers find turbidity objectionable primarily because the physical appearance of dirty water is less appealing than clear sparkling water. Turbidity caused by inorganic minerals is undesirable because its abrasiveness can erode a plumbing system's pipes and fittings and score its valve seats and washers. Turbidity caused by suspended organic matter is objectionable because it can stain sinks and fixtures and discolor laundered fabrics. Suspended matter can also carry pathogens.

The main problem turbidity causes is interference with disinfection processes. Bacteria, which are usually present in turbid water, can be protected from chlorine and other disinfectant techniques.

Causes Of Turbidity

Cloudy or muddy water is caused by the presence of fine suspended particles of clay, silt, algae, or organic matter. Solid particles suspended in water absorb or reflect light and cause the water to appear cloudy. These particles are picked up as water moves over or under the ground. Since the surface of the earth acts as an excellent filter, the water from deep wells is usually clear without significant amounts of turbidity. Turbidity is more common in the water from surface supplies.

In fractured bedrock aquifers, cloudy or gritty water may occur as a result of blasting, construction activities, or surface water intrusion.

If cloudy water routinely occurs after rainfall and snow melt, either your well has a leaky casing or rock fractures are allowing rapid movement of surface water into the well.

Treatment Of Turbidity

When To Treat: Turbidity in excess of 5 NTU is usually objectionable for esthetic reasons. If the amount exceeds 10 NTU, the water may contain bacterial contaminants and may not be safe to drink.

How To Treat: Activated carbon filters or mechanical filters remove turbidity. Two different types of mechanical filters may be used individually or in combination. One is the sand filter and the other is the cartridge filter.

A sand filter is best for removing heavy loads of suspended particles while a cartridge filter may be used as secondary filtration at the point of use to remove very fine particles not removed by the sand filter. If the turbidity concentration is relatively low, a cartridge filter may be all that is needed.

Public water systems using surface sources provide full treatment, including filtration. Many systems with turbid groundwater also provide filtration.

Reverse osmosis and distillation also successfully treat turbidity.

Turbidity At A Glance

Symptoms: Cloudy or gritty water; water pipes, filters, and water heater plugged.

Causes Of The Problem: Fine sand, silt, and clay passing through well screen; suspended particles of organic matter; precipitates forming in water from temperature or pressure changes.

Suggested Treatments: Activated carbon filter, mechanical filter (sand or cartridge), reverse osmosis, or distillation.

Prevention: Make sure well is sealed from direct surface contamination. Repair or replace well screen. Soften the water to prevent precipitation of scale.

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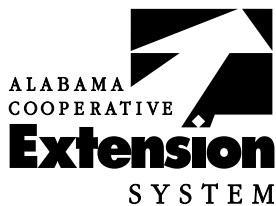
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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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