

**MINNESOTA RURAL WATER ASSOCIATION
SMALL SYSTEMS BULLETIN**

AESTHETIC ISSUES

Material	Symptoms	Treatment Options
Calcium and/or Magnesium “Hard Water”	<ul style="list-style-type: none"> • Soap won’t “foam” causing excess soap consumption • White scale on plumbing fixtures 	<ul style="list-style-type: none"> • Water softener
Chloride	<ul style="list-style-type: none"> • Water has a salty taste • Corroded plumbing 	<ul style="list-style-type: none"> • Reverse-osmosis units • Distillation units
Acid Water	<ul style="list-style-type: none"> • Green stains present on plumbing fixtures • Water is blue-green 	<ul style="list-style-type: none"> • Calcite media filter
Hydrogen sulphide and/or Sulfate-reducing bacteria	<ul style="list-style-type: none"> • “Rotten egg” or sulfur smell and taste • Corrosion of plumbing fixtures • Tarnishes copper • Discolors beverages and taints cooked foods 	<ul style="list-style-type: none"> • Chlorination with filtration units • Greensand filtration • Aeration with filtration • Disinfection of well and plumbing
Iron and/or Manganese	<ul style="list-style-type: none"> • Rusty-black stains on plumbing fixtures, laundry and utensils • Unpleasant taste (metallic) • Red or black particles in water 	<ul style="list-style-type: none"> • Aeration with filtration • Greensand filtration • Distillation • Water softeners • Chlorination with filtration units • Potassium permanganate with filtration
Iron Bacteria (Crenothrix bacteria)	<ul style="list-style-type: none"> • Red-brown slime on plumbing fixtures • Unpleasant taste and odor • Staining of laundry • Well yield decreased due to bacteria clogging well screens, pumps and water filters • Corrosion of pipes and pumps 	<ul style="list-style-type: none"> • Chlorination with filtration units • Disinfect well and plumbing
Methane	<ul style="list-style-type: none"> • Offensive gas smell • Cloudy water 	<ul style="list-style-type: none"> • Aeration with filtration • Activated carbon filters • Aeration
Sulfate	<ul style="list-style-type: none"> • Water has a laxative effect • Water may have a bitter taste • Scale build-up on plumbing 	<ul style="list-style-type: none"> • Reverse-osmosis units • Distillation units
Tannins	<ul style="list-style-type: none"> • Organic color (looks like “tea”) • Yellow stains on laundry, plumbing fixtures, and utensils 	<ul style="list-style-type: none"> • Chlorination with filtration units • Ozonation with filtration • Activated carbon filters • Anion exchange
Turbidity/Grittiness (mud, silt, clay or sediment)	<ul style="list-style-type: none"> • Cloudy water 	<ul style="list-style-type: none"> • Sediment filters • Install a new well screen