

| PARAMETER | SOURCE OR CAUSE | SIGNIFICANCE | KERR CO RANGES | TREATMENT |
|-------------------------------|---|--|---|---|
| Specific Conductivity | Is an indicator of the dissolved mineral content of water; mostly calcium carbonate along with other dissolved salts. | Is a measure of the electrical Conductivity of water and varies with the amount of dissolved solids | 0-500 μ mhos/cm Good 500-1500 μ mhos/cm Normal >1500 μ mhos/cm *MC Limit | 1. Reverse Osmosis 2. De-ionization |
| Total Dissolved Solids | Dissolved mineral content from various rock formations | Considered a general indicator of the quality of the water | >1000 ppm *MC Limit | 1. Reverse Osmosis 2. De-ionization |
| Total Hardness | Caused by the presence of calcium and magnesium carbonate. Commonly found in Hill Country formations. | Hard water consumes soap before a lather will form and creates scale in boilers, water heaters and pipes. | 0-120 ppm Soft to Moderate 121-180 ppm Hard 181+ ppm Very Hard | 1. Water Softener 2. Reverse Osmosis for people sensitive to salt 3. De-ionization |
| Iron | Dissolved from rocks and soil; may also come from iron pipes, pumps and other equipment. Commonly found in Hill Country formations, | On exposure to air, iron in ground water oxidizes to reddish-brown (red water) which may stain laundry and utensils; large quantities can cause unpleasant taste and encourage the growth of Iron bacteria. | 0-0.3 ppm OK >0.3 ppm MC Limit 1.0 ppm Common in some areas | 1. Iron Filtration with Greensand Media 2. Reverse Osmosis 3. Softner with "Iron Out" 4. De-ionization |
| Sulfate | Dissolved from rocks and soil containing gypsum, iron sulfides, and other sulfur compounds. Commonly found in Hill Country formations, | Sulfate in water containing calcium is scale forming in large amounts; sulfate can give a bitter taste and unpleasant smell to water and/or have a laxative effect. | 0-100 ppm Good 100-250 ppm Noticeable odors possible >300 ppm *MC Limit | 1. Reverse Osmosis 2. De-ionization 3. To remove odors caused by sulfur bacteria, chlorinate |
| Fluoride | Dissolved in small quantities from rock and soil. Fluoride may in some cases actually be added to drinking water supplies. | May cause mottling of the teeth in children depending on the quantity and temperature average per year. In concentrations of 1 to 2 ppm it may reduce dental cavities and bone hardening | 0-0.6 ppm Good 0.6-2.0 ppm Optimum 2.0-4.0 ppm Mottling of teeth >4.0 ppm Possible health risk | 1. Reverse Osmosis 2. De-ionization |
| Nitrate-Nitrogen | Prevalent in decaying organic matter, sewage, and fertilizers. Dissolves easily and can readily migrate to shallow aquifers. | Considered a general indicator of the quality of the water. | 0-2 ppm Common 2-10 ppm Suspected Contamination >10 ppm *MC Limit | 1. Reverse Osmosis 2. De-ionization |
| pH | pH is lowered by acids; acid-generating salts and free carbon dioxide. pH is raised by carbonates, bicarbonates, hydroxides, phosphates, silicate and borates. | May cause corrosion problems. Extreme pH values may cause physical harm on contact or by ingestion | 0-6.5 Acidic (Corrosive) 6.5-8.5 Normal >8.5 Alkaline (Excessively) | 1. Chemical Addition 2. De-ionization |
| Chloride | It is dissolved mainly from rock salt found in sedimentary rocks and soils. Chloride is present in sewage and found in large amounts in oil field brines, seawater and industrial brine effluent. | Excessive chloride may result in decreased alkalinity of the blood which may cause hyperkalemic metabolic acidosis. In large quantities, chloride increases the corrosiveness of water. | 0-30 ppm Normal >300 ppm *MC Limit | 1. Reverse Osmosis 2. De-ionization |
| Total Coliform | It is the most common bacteria originating in the colon of all animals indicating contamination. These widespread organisms are typically present on almost any surface not recently disinfected | Indicates water is not disinfected. Will not meet EPA Drinking Water Standards for public drinking water supplies. May be unsafe to drink depending on type of organism and severity of the contamination. | ABSENT: Potable PRESENT: Non-Potable | 1. Sterilize well and distribution system. Retest to confirm sterilization complete 2. Chlorination system 3. UV Light System |
| E. coli Coliform | A type of fecal coliform bacteria which originates in the lower intestine of warm blooded animals. This indicates <u>recent fecal coliform contamination</u> to water supply. This is often caused by farm animals or septic system issues. | Indicates water is not disinfected and it has a high risk of disease causing bacteria being present. Will not meet EPA Drinking Water Standards for public drinking water supplies. Definitely unsuitable for consumption until treated. Source of contamination needs to be found and eliminated if possible. | ABSENT: Potable PRESENT: Non-Potable | 1. Sterilize well and distribution system. Retest to confirm sterilization complete 2. Chlorination system 3. UV Light System |

*MC Limit – Maximum Contaminant Limit for Public Drinking Water

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