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QUAIL VALLEY WATER DISTRICT NEWS

BOARD OF DIRECTORS

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November 5, 2018

IRON IN OUR DRINKING WATER

Iron can be a troublesome chemical in water supplies. Making up at least 5 percent of the earth's crust, iron is one of the earth's most plentiful resources. Rainwater as it infiltrates underlying geologic formations dissolves iron, causing it to seep into aquifers that serve as sources of groundwater for wells. Although present in drinking water, iron is seldom found at concentrations greater than 10 milligrams per liter (mg/L) or 10 parts per million. However, as little as 0.3 mg/l can cause water to turn a reddish brown color. Water produced by the Montclair well contains about 0.3 to 0.5 mg/l.

Iron is mainly present in water in two forms: either the soluble ferrous iron or the insoluble ferric iron. Water containing ferrous iron is clear and colorless because the iron is completely dissolved. When exposed to air in the pressure tank or atmosphere, the water turns cloudy and a reddish brown substance begins to form. This sediment is the oxidized or ferric form of iron that will not dissolve in water. Chlorine is also an oxidizer and the addition of chlorine to our water at the Montclair well causes the ferrous iron to convert to ferric iron.

Iron is not hazardous to health, but it is considered a secondary or aesthetic contaminant. Essential for good health, iron helps transport oxygen in the blood.

Most tap water in the United States supplies approximately 5 percent of the dietary requirement for iron.

Dissolved ferrous iron may give water a disagreeable metallic taste. When the iron combines with tea, coffee and other beverages, it produces an inky, black appearance and a harsh, unacceptable taste.

Concentrations of iron as low as 0.3 mg/L will leave reddish brown stains on fixtures, tableware and laundry that are very hard to remove. When these deposits break loose from water piping, rusty water will flow through the faucet.

When iron exists along with certain kinds of bacteria, a smelly biofilm can form. To survive, the bacteria use the iron, leaving behind a reddish brown or yellow slime that can clog plumbing and cause an offensive odor. This slime or sludge is noticeable in the toilet tank when the lid is removed. The organisms occur naturally in shallow soils and groundwater, and they may be introduced into a well or water system when it is constructed or repaired.

The Arsenic Remediation Project that the District has been constructing includes a water treatment plant at the Montclair well site that is designed to remove most of the iron from well water and eliminate the current problem with "red water". It is anticipated that this treatment plant will be installed and in operation in the summer of 2019.

LEAD AND COPPER

QVWD has completed lead and copper sampling for 2018. A total of 13 residents participated in the collection of water samples. The samples are collected from the residents' interior, cold water tap, typically the kitchen faucet after the water has been sitting overnight.

The 13 tap samples were analyzed by BSK Associates for lead and copper. Results for lead ranged from non-detect to 0.030 mg/l and copper ranged from non-detect to 0.250 mg/l. The 90th percentile (which is used by the State for compliance reporting) was 0.007 mg/l for lead and 0.250 mg/l for copper. The Action Level (90th percentile) for lead is 0.015 mg/l and 1.3 mg/l for copper.

Lead and copper typically are leached from plumbing fixtures used in homes as well as lead and copper in water piping and fittings. The majority of the District's facilities are constructed with PVC piping with a very small percentage of copper and steel fittings and valves.

BOARD OF DIRECTORS VACANCY

Quail Valley Water District has a vacancy on the Board of Directors.

If interested in serving your community as a Director, please contact Richard at 822-1923, Monday through Thursday, 8:30 to 12:30.