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Drinking water characterization and removal of manganese.Removal of manganese from water

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ABSTRACT

Samples of drinking water were taken during a year from two wells; all samples were tested for pH, temperature, electric conductivity, dissolved solids, dissolved oxygen, acidity, alkalinity hardness, chloride, nitrites, nitrates, sulfates, phosphates, Ca, Mn, Mg, Na, K, and Si. The analysis showed that the concentration of manganese in one well was higher than the official regulations. Qualitative and quantitative models were applied to determine the stability of water and the corrosion indexes were determined; the results indicated that water was aggressive or corrosive. Manganese was removed from drinking water by using a sodium modified zeolitic tuff; the kinetic equilibrium was reached in 48 hours. 10 mL/20 mg ratio was enough to remove the excess of manganese from aqueous solutions and 10