

Supplementary materials

Article

Integrated Assessment of Shallow-Aquifer Vulnerability to Multiple Contaminants and Drinking-Water Exposure Pathways in Holliston, Massachusetts

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Water Treatment for Manganese and Iron

“Wells #4, #6 and #7 receive filtration. The water pumped from these wells is filtered at water treatment plants to remove the iron and manganese. Removal generally requires a two-step process of oxidation and filtration. Oxidation is accomplished by adding an oxidant such as chlorine or potassium permanganate to the water. This causes the iron and manganese to form tiny particles. Once this happens, the water passes through special filters consisting of material (greensand) that is specifically designed to capture iron and manganese particles. Over time, filters clog and are cleaned using a high-flow backwash process. Chlorine is added for disinfection during the filtration process to provide a chlorine residual throughout the distribution system.”