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The applicability of iron and manganese precipitation bacteria in drinking water systems

ABSTRACT. This article presents detailed analyses of the mechanisms for the physicochemical and biological methods of Fe/Mn oxidation/precipitation. The two methods were furthermore compared using kinetic and light microscope images of backwash sludges from water treatment plants. It was evident from the comparisons that biological iron precipitation gives a rapid oxidation of Fe with a superior, more compacted backwash precipitate, which can easily be removed by sand filters. Biological Fe/Mn precipitation can therefore revolutionize the removal of Fe/Mn from groundwater for drinking purposes.

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