

5. Insolubilization of Naturally Arsenic-Contaminated Soil by Use of Iron Bacteria Sludge - Development of Heavy Metal Insolubilizer Utilizing Industrial Waste -

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Biological contact filtration, which is a water treatment method using iron bacteria, generates sludge containing a large amount of ferric hydroxide. By using this sludge as part of raw material, a heavy metal insolubilizing compound was developed, and the compound was used to insolubilize naturally arsenic-contaminated soil generated from shaft excavation carried out as part of shield tunnel construction. As a result, the rate of arsenic leaching from the soil was successfully reduced to a level lower than the environmental quality limit for soil contamination.

Key words: naturally contaminated soil, arsenic, insolubilization, iron bacteria