

Report

Application of Soil Washing System to the Volume Reduction of Radioactively Contaminated Soils and Automated Treatment of Sludge Cake

Mitsuo MOURI*, Mitsuru TSUCHIDA, Naoki BABA, and Takuma NAKAJIMA

Soil Remediation Div., Engineering Hdqrs., Shimizu Corp. (2-16-1 Kyobashi, Chuo-ku, Tokyo 104-8370 Japan)

Summary

The pilot plant study was intended to evaluate; a) the removal efficiency of radioactive Cs, b) the volume reduction rate of feed soils, c) the volumetric rate and concentration rate of discharged sludge cake, and d) the effect of radiation exposure reduction by automated filter press unit and automated packing unit of sludge cake. As a result of this study, following observations were made; 1) the radioactive Cs content of clean sands ranged 882~2,940Bq/kg as compared to the feed soils of 8,790 to 26,270Bq/kg, 2) the removal efficiency of radioactive Cs ranged 84~92% of feed soils, 3) the volume reduction rate of feed soils ranged 70~86% (ave. 82%), and 4) the automated filter press unit and the automated packing system of sludge cake were helpful for workers in reducing radiation exposure. It is concluded that soil washing system can effectively reduce volume of radioactively contaminated soils and can be practically used in Fukushima for remediation of soils.

Key Words: Soil washing, Radioactively contaminated soil, Soil remediation, Volume reduction, Radiation exposure reduction
