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Original

Dewatering Method for Cesium Contaminated Clayey Soil as a Post Process of Particle Size Separation

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● **Summary** ● Radioactive cesium contaminated soil removed by the decontamination process after the explosion of Fukushima nuclear power plant 1 is estimated to be 13 million m^3. Of these, the target soil to be decontaminated in the facility is categorized as one which can be decontaminated for 8000 Bg/kg or less using a particle-size separation technique and can be reused after the treatment. However, since more than 80% of the target soil is composed of fine silt and clay derived from farmland, a combined of mud crushing and fine soil classification system was developed setting the classification point lower about 20 μm to increase the amount of soil for recycling. Regarding the dehydration technology that becomes a bottleneck in this system, in this study, a method for improving the dehydration speed by pre-concentration with a surfactant and a polymer flocculant was investigated. In addition, through experiments under various conditions, the mechanism of dehydration and squeezing was confirmed as well as dose of the chemical agents were optimized.

Key Words: particle size separation, cesium contaminated soil, dehydration, filter press

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