

Report on Classified-washing of a Large Amount of Radioactively Contaminated Soil Collected from Road Surface Cleaning

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Summary

From October to December in 2015, we dealt with 296 tons of radioactively contaminated soil which was collected from road surface cleaning in Fukushima prefecture.

Originally, the specific radioactivity of the total contaminated soil had been 7,508 Bq/kg dry on average, and 20,530 Bq/kg dry at maximum. Through the classified-wash process, it turned into gravel with 1,253 Bq/kg dry, sand with 3,120 Bq/kg dry, and dehydrated cake with 25,683 Bq/kg specific radioactivity on respective average. In other words, they became respectively 17%, 42%, 340% of the original average.

Also, it should be noted that 75.2% of the radioactive cesium were gathered in the dehydrated cake whose weight accounts for only 22.3% of the total dry weight. In fact, those which mainly consisted of dehydrated cake with over 8,000 Bq/kg wet specific radioactivity, were successfully certified to be "designated waste", which brought reduction in weight by 75.7% and volume by 64.1%.

In conclusion, depending on the properties of the original radioactively contaminated soil such as specific radioactivity or content rate of fine-grained fraction, we can expect significant reduction in volume and weight with this method.

In addition, we confirmed 10% reduction of specific radioactivity of sand with "abrasive wash" method.

Key Words: Radioactive contaminated soil, Soil wash, Classified-wash, Volume reduction system
