

# Leaching test of coal fly ash for the landfill

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## **ABSTRACT**

The authors are going to propose a new method to characterize the dissolution property of coal fly ash for landfill. Similar phenomena called “diagenesis” in geology will occur at the landfill of coal fly ash. Diagenesis is compaction, cementation and replacement of sedimentary rock occurring under condition of same pressure and temperature of the outer part of earth’s crust. To improve the conventional methods, a column type method is tested in this study. Fly ash is set in the bottom of a plastic pipe and water penetrates by gravity and the pressure of water head. As the results, dissolution and precipitation occur in the column. For example, carbonate crystals precipitates by the reaction between dissolved cation and carbonate ion from air. This precipitation was dominant at the fly ash at which harmful elements exceeded the standard value by conventional leaching test. As the result, precipitation of carbonate mineral decreases the porosity of the column, and decreases the concentration of metallic ions in the drain. This will decrease the pollution. It has been impossible to predict these phenomena by the conventional method.

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