

# TECHNOLOGICAL AND ENVIRONMENTAL INDICATORS FOR RINSING OF MATERIALS RECOVERED FROM LANDFILL

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## **Abstract**

Investigations were carried out in Alytus regional landfill, using waste samples taken from the landfill. Samples were taken from different depths of borehole, made in the landfill. After analysis of recovered materials quantities and composition two waste fractions were selected for an experimental study: textiles and plastics. These fractions were washed with distilled and tap water. Ash content and volatile substance in textile and plastic waste were determined before and after washing. Permanganate oxidation (ChDS(Mn)) and heavy metal analysis of filtrate from the landfill was performed. The highest values of ChDS(Mn) were located at a depth of between two and seventh borehole depth meter of the landfill, after washing with water: plastics - 19.27 mg O<sub>2</sub>/l and textiles - 28.8 mg O<sub>2</sub>/l. In all samples heavy metals (Zn and Cu) were detected, and a number of samples traces of Mn, Ni and Pb were found. After washing, ash content of the two factions decreased by an average of 10% and amount of volatile fraction increased. According to this analysis it is evident, that washing improves energetic properties of materials (if it is used for energy generation), recovered from landfills, and contributes to the reduction of environmental pollution.

## **Keywords**

Landfill mining; Waste analysis; ChDS(Mn); Energetic properties; Energy recovery.