LULEÅ
UNIVERSITY
OF TECHNOLOGY

Dept. of Environmental Engineering
Div. of Landfill Science & Technology

1999-09-10

Proposal for a M.Sc. Project

Project title: Characterisation of air pollution control (APC) residues from municipal solid waste incineration (MSWI) using Soxhlet extraction
Subject: Landfill Technology
Examiner: Anders Lagerkvist, tekn dr
Supervisor: Holger Ecke, tekn lic

Background

Air pollution control (APC) residues from municipal solid waste incineration (MSWI) contain mainly two categories of pollutants: metals and persistent organic pollutants (POP) such as e.g. polyaromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB) and dioxins. Due to these contaminants, APC residues are classified as hazardous waste and are sometimes treated prior to landfilling. However, until today, very little is known about the leaching behavior of POPs under landfill conditions.

The goal of this M.Sc. project is to assess the mobility of POPs from raw as well as pretreated APC residues.

Methods

A literature study in the fields of characterization and treatment of APC residue is made to document the state-of-the-knowledge and to determine the final experimental layout.

The leaching behavior of POPs from both raw and treated APC residues is investigated using the Soxhlet extraction. The procedure is adapted to the goal of the project.

The data received from the experiments are evaluated and presented using statistical methods such as comparing averages, multiple linear regression and multivariate analysis.

Schedule

The project is started as soon as possible and corresponds to 20 weeks study on a full-time basis.

Report

The report is prepared preferably in Swedish or English, but also German is accepted if the student has strong and convincing motives.

If you are interested or have any queries, do not hesitate to contact Holger Ecke.

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