



Versuchseinrichtung zur Grundwasser- und Altlastensanierung - VEGAS
IWS - Universität Stuttgart - Pfaffenwaldring 61 - D-70569 Stuttgart

Universität Stuttgart
**Institut für Wasser- und
Umweltsystemmodellierung**

Wissenschaftlicher Leiter VEGAS
Jürgen Braun, PhD Tel.: 685-67018
Technischer Leiter VEGAS
Dr.-Ing. H.-P. Koschitzky Tel.: 685-64716

Master Thesis / Bachelor Thesis

Pfaffenwaldring 61
D - 70569 Stuttgart
Telefon +49 (0) 711 685 - 64717
Telefax +49 (0) 711 685 - 67020
E-Mail: ramona.haeckl@iws.uni-stuttgart.de
Internet: www.vegas.uni-stuttgart.de

trö/ 20. Februar 2018
180215_CHC_mass_TisS.docx

Determination of mass transfer rates of contaminants during steam-air enhanced in-situ remediation processes

The computer software "DLI-Tool" is used to design a steam-air driven in-situ soil and ground-water remediation. Thermodynamic and hydrodynamic processes are well predicted by the software. The contaminant mass removal depends on process specific parameters as well as the site specific parameters soil type, content of organic matter, and kind of contaminants distribution.

The investigation of the mass removal rate for chlorinated hydrocarbons is based on a literature study to develop an analytical/numerical solution. The novel approach will be verified during flume experiments in the VEGAS facility. The work may be split into three different theses.

The main tasks will be the experimental implementation of 2-D remediation experiments and the data evaluation and the enhancement of an existing spreadsheet-based analytical method to predict the contaminant mass transfer rates.

Studienprogramm/ study program

UMW, WASTE/WAREM, BAU

Vorkenntnisse/ prerequisites:

Knowledge and experience in chemical analysis using a gaschromatograph. Mechanical and technical skills to maintain and operate the process equipment / installation. Thermodynamic and chemical skill / courses required.

Sprache / language:

English/German

Möglicher Beginn / possible starting date:

01.03.2018, (2) 3 months of experimental work

Betreuer / supervisor:

Oliver Trötschler, oliver.troetschler@iws.uni-stuttgart.de