

**Abstract**

This bachelor thesis deals with numerical modelling of groundwater flow and contaminant transport.

This thesis consists of two parts. In the first part are briefly described and compared basic methods, which are used for solving problems of groundwater flow and substance transport. Further more are set up initial and boundary conditions, which are an essential part of the compilation model.

The second part deals with models from location Bzenec, where was the leakage of chlorinated aliphatic hydrocarbons. Models were created in purpose to describe the extent of contamination and spreading of contaminants and also to predict the further development of the pollution.