

## **Abstract of the doctoral dissertation**

**MSc Wojciech Mizera**

### **Reclamation method of closed tailings management facilities from flotation of copper ores in Poland**

**Key words:** reclamation, flotation tailings, TMF, flotation of copper ore

The following PhD thesis presents an elaborated low-cost reclamation method of closed TMFs from flotation of copper ores in Poland.

The paper consists of two parts: description and analysis of existing literature within the subject and presentation of the experiment.

Within the literature part, the subject's state of the art was assessed. Existing TMF's reclamation methods were presented, including their analysis and assessment. This refers to a description of the current legal status of TMF's and presentation of vast environmental problems, triggered by the volume of deposited flotation tailings.

The experimental part consist of presentation of the aim, thesis and the scope of the research, along with characterization of the investigated area and research methods used. Description was enriched with presentation of the criteria of testing area selection and summarized with the analysis of 3 years on-site tests.

Conducted field tests were based on complex approach spanning all of the experiment's components including physical and chemical properties of the substrate along with variability of the elements bioaccumulation in plants. Above mention feature was assessed by the seasonal observation of the plant's chemical composition. In parallel observations of plants vegetation (growth) were conducted and widely documented on the photographs. Description of the experimental part was summarized with discussion of the results and conclusions.

At the end of thesis a table of used literature (along with 158 citations) and other attachments were enclosed (comparison graphs, photographs, record of visits at the field and research works conducted).

The summary underlines the fact, that in the thesis scientific and application aims were combined to – by basing on scientific research - elaborate efficient, cost-effective, sustainable method of reclamation of closed TMF's, useful for national non-ferrous metal industry. Justification of the research conducted one can find also in comparison of the economic aspects presented in the paper for two alternative reclamation methods – existing called traditional and developed.