

## SUMMARY:

This thesis is focused on identification of spatial distribution of Pb, Zn and Cu pollution in floodplain sediments of the Litavka River and reconstruction of its pollution history related to mining and metallurgy of Ag, Pb and Zn in the Příbram area. Sampling was performed in floodplain and sediments were analysed by X-ray fluorescence spectroscopy (ED XRF) in aim to understand the distribution of the target elements in the floodplain fill. The results of ED XRF were calibrated by analyses of selected sediment samples by inductively coupled plasma mass spectrometry with (ICP-MS). The same method was used to determine ratios of lead stable isotopes  $^{206}\text{Pb}$  and  $^{207}\text{Pb}$ . Additionally, magnetic susceptibility was measured, granulometric analysis of selected samples was performed, and cation-exchange capacity (CEC) was determined. The aim of the work was to attempt to reconstruct history of pollution of the floodplain sediments. Sediment dating was performed by  $^{14}\text{C}$ ,  $^{137}\text{Cs}$  and  $^{210}\text{Pb}$ .

Key words: aluvial sediment, contamination, heavy metals, reconstruction