

## **Abstract**

This work is focused on soft-sediment deformation structures, often called synsedimentary deformation structures (SSDS). Theoretical part of the work consists of description of these structures and processes of their genesis. The main processes which lead to the formation of SSDS are fluidization and liquefaction. Furthermore we discuss the role of trigger processes, which can be divided to seismic and non-seismic. In many cases, the formation of SSDS is connected with seismicity, so the important topic is description of the wider group of deformation structures called “seismites”. In this part, the relation between SSDS and seismites and the principles of their distinction are also discussed. Second part of the thesis contains results of field work in the area of Most Basin. The aim of the field work is to analyze SSDS within the sediments of Bílina Delta and consider they are seismogenic or non-seismogenic. In case of seismogenic SSDS, there is a possibility for palaeoseismic reconstruction in the certain area.