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Summary of the PhD dissertation entitled:

The development of Upper Jurassic gravity flow deposits from the northern and southern margins of the Krzeszowice Graben

The objective of this doctoral dissertation is to define the development of the Upper Jurassic gravity flow deposits, which are exposed in the tectonic edges of the northern and southern margins of the Krzeszowice Graben. Furthermore, the aim of this study is to unequivocally determine whether the entire tectonic structure of the Krzeszowice Graben, accentuated both in the Mesozoic and Cenozoic deposits, is of Late Jurassic age.

Four geological sites have been analyzed in detail, i.e. two located within the northern margin of the Krzeszowice Graben - outcrops in Tomaszowice and Radwanowice, and the two remaining ones exposed in its southern margin - Nawojowa Góra and Nielepice. The results of comprehensive field observations, collected for each exposure, enabled to determine the lithological characteristics of the analyzed deposits. For each of the analyzed sites, the microfacial analysis was performed, and for the Tomaszowice site, additional micropaleontological analysis has been also performed. Based on the obtained data, it has been shown that different types of Upper Jurassic gravity flow sediments are exposed in this outcrops that represent debris flows, debris flows with olistoliths and *Saccocoma-calciturbidites*.

The doctoral dissertation also presents the use of the Electrical Resistivity Tomography (ERT) method for two selected sites, in Tomaszowice and Nawojowa Góra, in terms of recognizing and detailing the geological structure of both sites. As part of the conducted works, a series of 2D ERT profiles have been performed in the close vicinity of the analyzed exposures. The visualization of the results was supplemented by the analysis of the distribution of the vertical and horizontal gradients of the interpreted resistivity. Furthermore, the obtained 2D data from the Tomaszowice area have been used to create a 3D model of the study area. The obtained results allowed for the spatial identification of the gravity flow deposit as well as other facies identified in the research outcrop in Tomaszowice, and the presentation of the general geological structure in the Nawojowa Góra. The results also enable the identification of the tectonic disturbances, i.e. faults (fault zones) that are not distinctive in the morphology of both study areas. In some cases, it was found that the faults were additionally widened by karst.

The presented integrated research methods (geological and geoelectrical) show great practical significance, and at the same time indicate their usefulness as an additional tool used both for the sedimentological and tectonic considerations.

A significant share of Upper Jurassic sediments interpreted as redeposited, of various types, clearly indicate synsedimentary activity of the fault zones in the margins of the Krzeszowice Graben. This emphasizes that the entire Krzeszowice Graben is of Late Jurassic age.

Key words: Krzeszowice Graben, gravity flow deposits, synsedimentary tectonics, Upper Jurassic, electrical resistivity tomography.