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Outlining and 3-D modelling a faulted conglomerate deposit from Oii Creek, Hăşmaş Mountains, Romania

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Abstract

The studied area is marked by the presence of two thrust nappes: a gravitational nappe (the Hăşmaş Nappe) and an overthrust nappe (the Bukovinian Nappe). Ontop the Bukovinian Nappe, deposits rests a rudite formation which resembles the Bârnadu conglomerates formation. In order to outline these deposits, several field trips have been made, during which devices with GPS and GLONASS sensors were used. Using the QuantumGIS and a high resolution DTM (Digital Terrain Model), the recorded observation points were correlated, obtaining the boundaries of the studied deposit, which were illustrated on a geological map and a geological sketch. The final process was accomplished by utilizing the Move3D software, where the volumes of the conglomerates and the fault displacement has been calculated.

Keywords: Hăşmaş Mountains, thrust nappe, fault, conglomerate deposits, 3-D geological modelling, Move3D.

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