

densely built-up part of the city. Based on our observations, we conclude that this fault does not exist. In support of our conclusion, we discuss: (1) the nature of a steep contact between Neogene bedrock and Quaternary deposits exposed at a roadcut along the coastal avenue, (2) the depositional environment of Quaternary deposits at the above outcrop and surrounding area, (3) the buried relief and stratigraphic features exposed in a trench excavated by previous workers across the alleged fault trace, and (4) the geomorphological context of coastal deposits and marine terrace remnants used by previous workers for fault slip rate estimation. This case study is presented as a vivid example of the importance Geomorphology and Quaternary Geology have in studies of active faulting.

Geochemical and climatic parameters of environment versus isotopic composition of travertine in northern Slovakia

Gasiorowski M.¹, Hercman H.¹, Gradzinski M.², Smosna P.², Czop M.³ and Motyka J.³

¹*Institute of Geological Sciences, Polish Academy of Sciences, Research Centre in Warsaw, Twarda St. No. 51/55, Warsaw, PL-00-818, mgasior@twarda.pan.pl*

²*Institute of Geological Sciences, Jagiellonian University, Oleandry 2a, 30-063 Krakow*

³*Institute of Geological Sciences, Jagiellonian University, Oleandry 2a, 30-063 Krakow*

Isotopic studies on carbonates and lake sediments are a major source of paleoclimate and paleoenvironment data from continental records. Studies on recently deposited travertines from Northern Slovakia were basis for correlation of isotopic record with recent climate changes.

Many sites with presently deposited travertine are located in North Slovakia and they annual sedimentation rate is up to several tens of centimetres. The geochemical and isotopic measurements give possibility to precise description of deposition process and its relation to air and water temperatures. This was useful for revision of paleotemperature records obtain from fossil travertines in the region.

Two sets of data were collected for realisation of the project: water samples of stream flows through travertines cascades and samples of travertine. Actinide activity and stable isotope composition were measurement for both sets of data.

The results point to: (1) a high sedimentation rate of travertines – 1 mm of sediment is deposited during 2-4 days, (2) a high activity of actinides in water and travertine samples, (3) changes of actinides' activity during the year, probably related to changes in metabolism of algae growing in travertine cascades, (4) no correlation between oxygen isotopic composition and changes in air temperature in annual scale.

Persistent synmetamorphic thrusting in the Rhodope until 33 Ma: evidence from the Nestos Shear Zone and implications for Aegean geodynamics

Gautier P.¹, Gerdjikov I.², Ruffet G.¹, Bosse V.³, Cherneva Z.², Pitra P.¹ and Hallot E.¹

¹*Université Rennes 1, Géosciences Rennes, UMR 6118 CNRS, Campus de Beaulieu, 35042 Rennes, France, pierre.gautier@univ-rennes1.fr, gilles.ruffet@univ-rennes1.fr, pavel.pitra@univ-rennes1.fr, erwan.hallot@univ-rennes1.fr*

²*Sofia University "St Kliment Ohridski", 15 Tzar Osvoboditel Blvd, 1504 Sofia, Bulgaria, janko@gea.uni-sofia.bg, cherneva@gea.uni-sofia.bg*

³*Université Blaise Pascal, Laboratoire Magmas et Volcans, UMR 6524 CNRS, 5 rue Kessler, 63000 Clermont Ferrand, France, V.Bosse@opgc.univ-bpclermont.fr*

The Nestos Shear Zone (NSZ), mostly on the Greek territory, is recognized as one of the major structures of the Rhodope Metamorphic Complex (RMC). It consists of a thick NNE-dipping pile of mylonites with top-to-SW kinematics encompassing the contact of the 'Sidironero Unit' (SU) onto the 'Pangaeon Unit' (PU, the lowest exposed unit of the RMC). For most authors, the top-to-SW shear fabric of the NSZ reflects synmetamorphic thrusting.