mantle slabs underneath the Eastern Alps) that fundamentally and abruptly changed the lithosphere-scale geometry of the Alps-Carpathians-Dinarides system during a very severe Miocene overprint, initiating at around 20 Ma ago.

Acknowledgements: We greatly benefitted from advice and scientific interaction with R. Schuster, M. Rockenschaub and G. Pestal from the Geologische Bundesanstalt in Vienna, as well as with R. Brandner, A. Töchterle and B. Fügenschuh from Innsbruck University, B. Lammerer from Munich University, W. Kurz from Graz University and E. Kissling from ETH Zürich. We were supported in part by grants from the German Science Foundation (DFG grants Ha 2403/10 and RO 2177/5) and the Alexander-von-Humboldt Stiftung (to SM).

The structure of the Hallstatt evaporite body (Northern Calcareous Alps, Austria): a compressive diapir superposed by strike-slip shear?

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Based on previous detailed mining- and surface geological maps and on own structural observations in the Hallstatt salt mine, we reinterpret the structure of the Hallstatt evaporite body of the uppermost Permian Haselgebirge Fm. within the Northern Calcareous Alps (NCA). The Haselgebirge Fm. is now a rock salt mylonite, which contains, at all scales, abundant lenses of protocataclasite composed of sulphates, mudstones, clay and host limestones. In comparison with results of analogue modeling we interpret the present shape of the Hallstatt body as a WNW-ESE elongated compressive diapir. This diapir is overprinted by N-S shortening and dominantly sinistral shearing along a W-trending shear zone, resulting in elongation and thinning of the evaporite body along the shear zone. The internal structure shows steeply dipping rock units and a steep foliation and the structures are formed by either pure shear flattening or simple shear under mainly subhorizontal maximum principal stresses. Earlier ductile fabrics of likely Early Cretaceous age are preserved in sulphate rocks like anhydrite and polyhalite and are subsequently overprinted by mylonitic fabrics in rock salt and cataclastic fabrics in other rocks. These processes caused cataclastic disintegration of mechanically strong lithologies and the foliation of rock salt wraps around these lenses mainly as a result of shearing.

Because of the low strength of halite, the Hallstatt evaporite body is now subject of recent subvertical shortening and the strain rate of this process could be quantified by deformed subhorizontal boreholes. We quantified the strain rate at 8 x 10-10 [s-1]. This value is similar to such strain rates (10-10 to 10-9 s-1) estimated by the grain size of halite from other salt mines in the NCA (LEITNER et al., 2011). The coincidence of both values argues, therefore, for a sub-recent formation of the halite microfabrics.

Acknowledgements: The work is supported by FWF grant no. P22,728 Polyhalite.

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