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### **On the Development of Salt-Related Structures in the Polish Trough**

The Polish Trough is a broad NW-SE trending asymmetrical dish filled with latest Paleozoic to Tertiary rocks. The western margin of the trough is the Foresudetic Monocline, a sub-salt (basement) ramp that dips gently down towards the central axis of the trough.

Facies variations within the Zechstein Fm. exert a fundamental control on the distribution of structures with the overburden. To the NE of a prominent hinge-zone on the monocline, the Zechstein is a more basinal facies and contains a thick lower halite sequence that forms the diapirs in the center of the trough; to the SW, approaching the Wolsztyn High, the Zechstein thins dramatically and comprises a more platformal facies in which the lower halites are thin to absent.

A series of thin-skinned Mesozoic graben occur immediately outboard of the hinge zone. Towards the center of the trough, the graben are arranged in an en echelon array that is oblique to the trend of the basin margin. As the lower halites thin up-dip towards the hinge zone, the graben progressively curve into parallelism with the basin margin. Important additional detachments occur at other levels within the overburden most significantly in halites of the Keuper Fm.

Inversion during the latest Cretaceous and Tertiary 'Alpine' events caused reactivation of the Trans-European Suture-Zone and substantial uplift of the western European Platform. This accentuated the dip of the Foresudetic Monocline and reactivated both basement faults and overlying salt structures. Diapirs in the centre of the trough became rejuvenated and new contractional structures formed.