

ation the Leszczyńiec Shear Zone across the Intra-Sudetic Fault into the so called Kaczawa Line, and thus ignores a significant strike-slip displacement on it (Aleksandrowski et al., in press).

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## Late Palaeozoic Sedimentation in the Intra-Sudetic Basin (Western Sudetes, SW Poland)

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The Intra-Sudetic Basin, situated at the northern margin of the Bohemian Massif in the West Sudetes, represents one of larger intramontane troughs widespread along the Variscan belt of Europe. It is filled with a Lower Carboniferous to Lower Permian volcano-sedimentary molasse sequence, overlain by Upper Permian, Lower Triassic and Upper Cretaceous continental and shallow-marine deposits. The total thickness of sediments filling up the basin range up to 12 km. The Intra-Sudetic Basin corresponds to a large fault-bounded synclinal structure, 70 km long and 35 km wide, extended in the WNW-ESE direction. It is framed by crystalline basement units of the Variscan consolidation and, locally, by another Late Palaeozoic sedimentary basins.

The Intra-Sudetic Basin was initiated at the beginning of Early Carboniferous as an intramontane depression bounded by tectonically active margins (Teisseyre 1968). Its NW part was framed by the Góry Kaczawskie metamorphic complex, Rudawy Janowickie complex and, hypothetical, South massif which were rapidly uplifted and eroded during Early Carboniferous. Since Late Tournaisian to Middle Visean the basin was filled with non-marine, clastic deposits comprising mainly coarse-grained conglomerates and sedimentary breccias. This part of the Lower Carboniferous molasse sequence of 5 km thick was formerly referred to as "Older Culm" (Dathe 1892; Teisseyre 1975). It represents deposits of transverse alluvial fans developed along active fault scarps bounding the basin. Alluvial fans grew centripetally towards the axial fluvial belt

with easterly inclined palaeoslope (Teisseyre 1968, 1975; Dziedziec and Teisseyre 1990). The upper Tournaisian - Middle Visean succession shows a distinct cyclic organisation (Teisseyre 1968, 1975). It comprises several megacyclothems which are distinguished as individual lithostratigraphic units: the Ciechanowice, Stare Bogaczowice and Lubomin Formations.

During the Late Visean a marine transgression invaded westwards along the northern margin of the Intra-Sudetic Basin (Żakowa 1963). The western part of the basin was covered by a shallow marine embayment passing southwards into an extensive fluvial/deltaic system. At the same time, the eastern part of the basin was overlaid, in contrast, by a relatively deep sea. The Upper Visean sedimentary succession was referred to as the Szczawno formation ("Younger Culm"). Its thickness increases gradually from 600 m in vicinities of Wałbrzych to approximately 2 km in the western part of the basin. Sediments include fossiliferous shales containing brackish fauna (Żakowa 1963).

A tectonic uplift of the east and south basin borders led, at the turn of Early and Late Carboniferous, to palaeogeographical rearrangement of the Intra-Sudetic Basin and to reorganisation of its depositional system. In consequence of a marine regression, the consecutive Upper Carboniferous to Lower Permian sedimentary successions were formed in a continental setting. The Upper Carboniferous sequence consists of few individual fining upwards megacyclothems, typical of

an alluvial environment. They comprise up to 2000 m thick succession of continental clastic deposits, mostly of a coal-bearing character.

The early Namurian Wałbrzych Formation consist of quartz conglomerates and arenites interpreted to represent an upper delta-plain association which evolved into a meandering alluvial plain associations (Němec 1984). N-directed palaeocurrent indicators showing a distinct fan-like arrangement were related to a northward propagation of the alluvial-deltaic system. The Wałbrzych formation is approximately 300 m thick and contains some 30 coal seams.

The Biały Kamień Formation represents up to 400 m thick Upper Namurian to Lower Westphalian (Gothan and Gropp 1933) series of coarse-grained barren deposits. Sedimentation was dominated by in-channel processes. A braided style of the channel pattern evolved upwards into a meandering channel system of the upper delta fan. Palaeocurrent indicators, in vicinities of Wałbrzych, point to NNW-directed transport of clastic material, derived from E and S frames of the Intra-Sudetic Basin.

The Biały Kamień Formation grades upwards into fine-clastics of the acl Formation (Westphal A-C) which contain numerous coal seams. This is up to 900 m thick sequence of sediments representing diverse in-channel and overbank sub-facies of the extensive alluvial plain. The palaeocurrent indicators suggest a N and NW-directed transport of clastic material from the S and SE margins of the basin, parallel to the inclination of the palaeoslope. Low-lying areas of the basin remained out of the active paths of sediment distribution. They accumulated only fine-clastics supplied during periodic floods. Such environmental conditions resulted in a permanent plant colonisation and a high-rate of peat-forming accumulation.

The acl Formation is overlain conformably by the monotonous succession of the Glinik Formation (Westphal D - Stephan). The latter represents a 600 m thick sequence of transitional character between coal-bearing Namurian to Westphalian successions and barren Stephanian and Lower Permian sediments. The Glinik Formation consists of pink to yellow sandstones and fine conglomerates interlayered with red mudstones. They represent deposits of braided-type channels and overbank areas.

The Late Stephanian sedimentation in the Intra-Sudetic Basin produced up to 400 m thick, fining upwards sequence of the Ludwikowice Formation. This sedimentary succession comprises mostly red-coloured sandstones and conglomerates deposited in alluvial-fluvial settings. Coarse- to medium grained sediments grade upwards into mudstones and claystones including thin intercalations of bituminous limestones.

This uppermost portion of the Ludwikowice Formation is referred to sedimentation in a lacustrine environment.

The Autunian sediments of the Intra-Sudetic Basin are similar in many respects to the underlying Ludwikowice Formation. They comprise two successive megacyclothems: the Krajanów and Stupiec Formations which collectively attain up to 900 m in thickness. Both fining upwards sequences comprise clastic deposits of alluvial fan, fluvial and lacustrine environments. Sedimentation developed in NW-SE elongated palaeovalleys which were fed by axial NW-sloping fluvial systems and transverse, marginal alluvial fans.

An intense tectonic activity during the Saxonian led to the significant uplift of the S and SE frames of the Intra-Sudetic Basin and resulted in a high-relief morphology. Elevated margins of the basin were subjected to effective erosion. Sedimentation took place in elongated valleys bounded by fault-related steep slopes. The valley floors were occupied by fluvial plains dominated by accumulation in braided-type channels. The axial fluvial belts were effectively fed in coarse-clastic material by transverse, mass-flow-dominated alluvial fans. The Saxonian period of sedimentation in the Intra-Sudetic Basin was recorded in a form of 100 to 400 m thick sequence of the Radków Formation which consists of red-coloured, coarse-clastic conglomerates.

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# The Cathodoluminescence Study of the Metasomatic Mineralization from the Uranium Deposit Rožná

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The uranium deposit of Rožná occurs in the Variegated group of the Strážek Moldanubian, 10 km southeast from the city of Nové Město na Moravě. Three main types of uranium mineralisation are mined in this deposit:

- vein type

- mineralised tectonic zones
- metasomatic type

The source of uranium is traced in neighbouring paragneisses (Hájek and Uhlík 1987). The remobilisation and concentration of uranium is according to both authors connected with melt-