



Special Issue:  
**Sedimentary Basin Analysis of the Polish Lowlands**  
Permian to Cretaceous Depositional Architecture  
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## PREFACE

*The present volume is the first of planned issues of the "Geological Quarterly" presenting results of the project "Sedimentary basin analysis of the Polish Lowlands". The project, which has been conducted during two years between late 1994 and late 1996, was designed as a pioneering attempt to apply integrated methods of a basin analysis in Polish regional geological studies. As such, it covered wide spectrum of aspects including depositional architecture, subsidence analysis, burial history, hydrocarbon generation modelling and regional qualitative assessment of petroleum potential. This volume is focused on the first of the above named themes, including only Permian and Mesozoic basins. Stratigraphic and sedimentological aspects of the remaining, i.e. Devonian and Carboniferous basins will be covered in a separate series of reports to be published in future. Planned publications in the "Geological Quarterly" will include also other topics as listed above.*

*The opening paper of the present volume (by M. Narkiewicz, the leader of the project) is intended as an introduction to the above series of publications. It outlines the regional scope and structure of the project as well as the range of studied problems and methods applied. The next paper (by R. Dadlez) describes a broad regional setting of the Polish basins and a deeper crustal background of their development. Following the introductory papers there is a series of reports arranged in a stratigraphical order and referring to depositional architecture of the Permian and Mesozoic basins. In the case of Permian, the separate description of the Rotliegend (H. Kiersnowski) and Zechstein basins (R. Wagner, T.M. Peryt) is obvious in the light of strong contrasts in a style of a sedimentary fill development and also some structural differences. On the other hand, the Mesozoic basin has been defined as a single entity for the purposes of the project. We feel, however, that its complex development with several phases of subsidence and palaeogeographic changes point to its polyhistory character. Therefore we decided to include in this volume separate papers describing the Early and Middle Jurassic basins (A. Feldman-Olszewska) as well as the Early and Late Cretaceous ones (K. Leszczyński). The descriptions of the Triassic and Late Jurassic basins are not yet included because of methodological problems which at the moment preclude adequate interpretation of depositional systems and correlation of cycles. We hope that these gaps soon shall be filled in.*

*In the case of the basins described below, an attempt has been undertaken to apply new concepts of depositional architectural elements. The latter include stratigraphic-genetic units related to facies distribution within the basin (depositional systems) and their arrangement in depositional cycles, mostly equivalent to widely used third- or fourth-order cycles. It is hoped that this approach, applied for the first time on such a wide regional scale in Poland, will open a new perspective in stratigraphic studies of the sedimentary basins in the Polish Lowlands area. It is to be stressed, however, that the reported results have been based on detailed analysis of merely a few key sections selected from a total number of many hundreds of deep wells penetrating the Permian and Mesozoic of the Polish Lowlands. The new observations have been generalized over the entire basins using previous results of mostly litho- and biostratigraphic investigations as well as general palaeogeographic-facies interpretations (summarized in Polish in: S. Marek, ed., 1988, Kwart. Geol., 32, no. 1; R. Dadlez, 1989, Kwart. Geol., 33, p. 175–198; S. Marek and M. Pajchłowa, eds., 1997, Pr. Państw. Inst. Geol., 153). Future studies will include more well data and, possibly, seismic interpretations in order to verify the presented conclusions and add more detailed correlations and interpretations.*

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