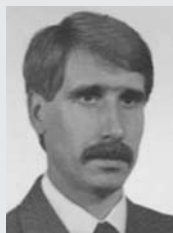


Foreword by the Chief Geologist of the Polish Oil and Gas Company



Polish Petroleum Geology has a long tradition: it has started as early as in 1850s when Ignacy Łukasiewicz refined oil into light fractions especially kerosene. Oil seeps in the Carpathians have been known for a long time but beginning of the distillation of oil in the industrial scale gave really initiated geological exploration of oil fields. The development of petroleum industry in the Polish Carpathians was very rapid in the second half of the 19th century, a lot of companies discovered many oil fields not only by a simple mapping but also these ones placed under the flat laying Miocene cover. In that time numerous achievements in geology, geophysics and drilling were done. This pioneering period in petroleum geology in Poland was a fundamental one for new concepts and technology. Ignacy Łukasiewicz was a great Polish patriot and his activity in the entirely new branch of petroleum industry kindled the imagination of many Poles as the source of the wealth which could contribute to total regaining of independence for Poland, the southern part of which called Galicia was administered by the Austrian-Hungary Empire (1772–1918). At the turn of the 19th and 20th centuries Galicia was one of the first regions in a world oil production. Anyway, the overproduction of oil appeared then and only popularization of internal-combustion engine driven by products of oil (gasoline, diesel oil) has caused a high demand increase for oil. Results of the First World War decided on the independent return to Poland and Galicia was included as its south-eastern part. Revived the Polish State started the development of geological researches and particularly a petroleum exploration. In 1919 the Polish Geological Institute and the Carpathian Geological-Petroleum Institute were established. Oil rush was constantly present in the scientific and social awareness. Reports on oil seepages in the Polish Lowland appeared from time to time. The most famous one from Kcynia (Kujawy region) was still serious that a few scientific expertises were done. The Second World War was a period of predatory exploitation. Many Carpathian oil fields were lost because of overproduction. Polish petroleum geologists in the post-war period entered with a great enthusiasm having in the consciousness the almost centenary tradition of petroleum exploration in Poland. In the Polish Lowland first drillings were realized already in 1946. Salt diapirs and their surrounding were the principal research objects. In Germany oil fields (Hannover region) located nearby salt structures have been well-known for a long time and it seemed that in Poland could be the similar geological conditions. At the same time the prospecting works were intensified in the Carpathians and particularly in the Carpathian Foredeep. The crucial event was the discovery in 1957 of the oil field Lubaczów in the Carpathian Foredeep, located in the Jurassic deposits covered by the flat-lying Miocene clastics. These results were possible by extended usage of seismics. At the end of 1950s and beginning of 1960s the huge gas fields in the Miocene deposits were discovered. Adversities of researches in the Mesozoic deposits in the Polish Lowland decided to extent exploration into the Permian formations. Positive petroleum results in the Rotliegend and the Zechstein reservoirs in Germany and in the Netherlands were known in Poland yet so the drillings started in shallower parts of the Fore-Sudetic Monocline. The Polish Geological Institute managed in the same area exploration for copper minerali-

zation and obtained results were exchanged mutually. First successes in petroleum exploration came at the beginnings of 1960s. The oil field Rybaki in the Zechstein Main Dolomite formation (1961) and the Bogdaj-Uciechów gas field in the Rotliegend sandstone and in the Zechstein Limestone unit (1964) confirmed the prospectivity of the Polish Permian Basin. In 1966 the geophysical company *Geofizyka Toruń* was established and in 1971 also the Zielona Góra Exploration Department as a branch of the Piła Exploration Division. Intensive exploration works gave new positive results so every year new oil and gas fields were discovered. Geological works were moved from shallower to deeper parts of the Polish Basin. The Wolsztyn Ridge — the large palaeotectonic and palaeogeographic structure was detected. On its sides were recognized oil and gas fields, though by the corner structural and lithofacial characteristics. In the beginnings of the 1980s has started penetration of the Main Dolomite barrier in western Poland. Hydrocarbons were often here accompanied with the hydrogen sulfide. It stopped exploration progress in this area for almost ten years due to COCOM embargo on high technology equipments. In 1993 the BMB oil-gas field, the largest oil field in Poland, was discovered. In the second half of the 20th century in Poland the significant finances were invested in hydrocarbon exploration and they resulted in acquiring the general geological information. Many geological institutions as: the Polish Geological Institute, the Polish Academy of Sciences and academical centers realized out a lot of scientific elaborations and papers, cooperating well in-between. Changes of political system after 1989 caused also a new arrangement in economy and the foreign petroleum companies were admitted to activity in Poland on principles universally accepted in the petroleum world business.

Presented special issue of the *Polish Geological Review* focuses on the development of petroleum exploration in Poland during the last 150 years of changed administrative borders and political systems. The Carpathian searches are continued also today. The next great exploration targets — the Carpathian Foredeep and the Polish Lowland areas are still intensively explored. Exploration refers not only to the Permian Basin but also to the Lower Paleozoic deposits in the Baltic Basin and the Upper Paleozoic ones in the Lublin Basin. Polish petroleum geology works on deposits representing almost whole stratigraphic spectrum: from the Cambrian to the Miocene and within the sedimentary basins of different origin and history.

The oil and gas fields in Poland are rather medium and small in size. Researches are difficult and they require the great thoroughness. Successes come sometimes after many years of adversities. The greatest value of the Polish petroleum geology is the staff of geologists, geophysicists and drillers. Their professional activity is now used not only in Poland, but also abroad in the considerable percentage. The great tradition and experience in the petroleum industry in Poland is a guaranty of high job and services quality offered on the international market. Presented collection of articles devoted to the Polish petroleum geology is supposed to help the reader to understand hydrocarbon problems in Poland, to show the tradition and the modernity of Polish petroleum geology as well as a long history of petroleum exploration in Poland.