



## **CO<sub>2</sub> sorption potential of Pomeranian gas bearing shales**

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In the last 6 years the Early Paleozoic Baltic-Podlasie-Lublin Basin in Poland has become the focus of attention as potential shale gas plays with projected reserves (depending on estimates) varying from 350 to nearly 5300 bln m<sup>3</sup>. Similarly to Coalbed Methane, shale rocks act both as a source and a sink for natural gas. In this case however, gas is adsorbed not only in organic matter but also on clay minerals as proven by previous studies. The idea behind this study was to assess the sorption capacity of shale rocks as potential CO<sub>2</sub> storage sites. Set of samples was acquired from one of the exploratory wells in the Baltic Basin represented by thinly laminated mudrocks with matrix composed mostly of clay minerals, true micas and chlorites mixture. In the study sorption experiments in the manometric setup were conducted over a wide range of pressures and temperature of 50°C and 80°C. Results of sorption measurements were compared with XRD compositional analysis of samples and TOC values. Relatively high sorption capacities were observed although the excess sorption curve drops drastically above the supercritical point for CO<sub>2</sub> which was also observed in other studies.