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**Rock physics templates based on well logging data of the shale gas
formations from Baltic Basin, Poland.**

Abstract

In shale gas unconventional hydrocarbon resources information on rock elastic properties is a crucial issue. In this study rock physics templates (RPT) have been derived for Silurian and Ordovician shale formations in the Baltic Basin in Poland. There are numerous claystones, siltstone and mudstone deposits, rich in oil-prone organic matter (Type II kerogen). Complex relationship between the elastic moduli, porosity and lithology were investigated with the use of velocity-porosity, V_p - V_s , V_p/V_s -AI crossplots. Various theoretical rock physics models along with the lower and upper bounds of elastic properties have been tested through wells in different parts of the Baltic Basin and for different lithostratigraphic units. The result is a rock physics template which includes important properties from log data and which is considered useable throughout different areas and different lithology of the Baltic Basin.