



An organic-geochemical comparison of possible Lower Cretaceous oil and gas shale targets in NW Germany

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Several sediment sections of the Lower Cretaceous of NW Germany are known to contain abundant organic material. We present a geochemical high-resolution study on the Wealden and compare the results to comprehensive geochemical data of organic-rich Barremian and Aptian sediments.

The different studies comprise inorganic geochemistry, organic pyrolyses methods, organic geochemistry including biomarker and stable carbon isotope investigations to characterize palaeo-depositional and -environmental changes.

From the different regional data sets, it is obvious, that palaeo-environment and related facies may have significant influences on the production qualities of the different stratigraphic shale plays. We also provide information on thermal maturities of the sediments and present estimates on their regional unconventional oil or gas potential. The dominantly lacustrine German Wealden of Berriassian times is already a target of gas shale exploration, and in addition, the marine Barremian and Aptian Paper Shales as well as the Aptian Fish Shale could well be regarded as possible oil shale plays.