

Biogeochemical characterization of Luxembourgian bituminous shales.

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Oil-shales and bituminous-shales have become in the last decades particularly economically important. New technological developments have made these these hydrocarbons available as economic energy source. As a result most country's reprospected their carbon rich shales, as most of these unconventional reservoirs have been in central Europe first systematically studied during the second world war. As a result, also the Luxembourgian Toarcian shale has been periodically studied regarding its commercial value e.g. by the Svenska Skifferolje Aktibolaget in the late 50's and more recent in the late 80's by a cooperation between the ARBED and the Australian Southern Pacific Petroleum, Ltd.. However, geochemical petrological studies of such rocks have not only economic importance, but are able to cast light on intrinsic processes during climate change and especially temperature and oxidation changes within the sea. Such changes can be geographically restricted but events like during the Toarcian seem to be global and are so important records for dramatic climate change.

Preliminary ICP-OES major element and CHNS elemental analyzer data characterize the studied with an average C_{TOT} of 9 wt.% content, relatively high Al_2O_3 abundances (>10 wt.%, average 16 wt.%) and a significantly high S content of (1 to 4.5 wt.%).