



Biomarkers of Eocene Coals in the North Anatolia, Turkey

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In this study, organic geochemical and biomarker characteristics of the Eocene coals in the Boğaköy (Amasya), Yeniçeltek Eskiçeltek, Armutlu (Amasya-Suluova), Aspiras (Kastamonu-Tosya) and Salıpazarı (Bolu-Mengen) fields in northern Anatolian were investigated.

All samples have high TOC values but low bitumen/TOC ratios. High HI values were determined for the samples of Yeniçeltek, Eskiçeltek and Salıpazarı fields. The coals are composed of Type II kerogen while other coals are mostly composed of Type III kerogen and lesser amount of Type II kerogen.

Gas chromatograms indicate the dominancy of n-alkanes, which are the indicator of terrestrial environment with single carbon number, and little amount of algal contribution.

Parameters obtained from mass spectrometer data on m/z 191 and m/z 217 indicate that Yeniçeltek and Eskiçeltek coals were formed in suboxic lakes or lacustrine swamps, the Armutlu and Aspiras coals were deposited in suboxic marine swamps and the Salıpazarı coals were formed in slightly saline suboxic lake or lacustrine swamps. UCM observed in gas chromatograms indicates immature organic matter and biodegradation. In addition, Tmax, CPI and OEP indexes and biomarker maturity data show that coal samples are thermally immature.

Key words: Coal, Eocene, TOC, Kerogen, Maturity, n-Alkane, Biomarker.