

GENETIC TYPES OF MAIKOP SERIES KEROGEN OF CAUCASUS-SCYTHIAN REGION

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Maikop Series (MS) (Oligocene-Low Miocene) is considered as the main oil-source rock for the Cenozoic formation. Rock-Eval data, petrographic data and elemental content have shown that the Maikop deposits contain, mainly, the phyto-planctonic OM with greater or less admixture of the terrestrial organic material. The bulk of kerogen consists of amorphous material, whereas the detrital components represent, approximately 10%. They are represented by liptinites, vitrinites and nondegraded algae – green algae (Chlorophytes), diatoms and dinoflagellates; the last one is prevalent. These algae are characterized by high bioproductivity and ability to accumulate fats within the reserve systems, therefore providing the high oil-source potential. The kerogen, formed from such material, has been referred to the Type II (or a mixed Type I-II) with high hydrogen content (7.1 to 7.9%), high atomic H/C ratios (1.1-1.5) and HI varying between 300 and 700 mg HC/g TOC; the amorphous mass has been determined as colloalginite. This type of OM has been found in both the Oligocene and Miocene parts of MS, but generally within the Lower MS, regionally confined to the Western Pre-Caucasus, western part of the Eastern Pre-Caucasus and North Azerbaijan.

Most of the Maikop deposits contain the kerogen, having the extremely low hydrogen contents (4.1-5.2%), H/C (0.69-0.86) and HI (5-100 mg HC/g TOC), has been referred to the Type III. Little admixture of the vitrinite detritus testifies to this kerogen is Type II degraded.