

LAGGING AND ITS KINETIC MECHANISM OF HYDROCARBON RE-GENERATION FROM ORGANIC MATTERS IN COALS

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Based on the composite analysis of the coal sample series with natural and artificial maturation from China, the lagging and its kinetic mechanism of the hydrocarbon re-generation from the organic matters in coals were studied using the Rock-Eval method. The results showed that the maturation at the hydrocarbon re-generation peak shifts regularly forward with increasing the original maturation and the deadline of the hydrocarbon re-generation lies about at 4.0% R_o . The difference value between the peak and original maturation of hydrocarbon re-generation develops as a parabola-like model with increasing the original maturation, and the resolute and relative laggings evolve in stage, from which the lagging depth might be predicted. The peak-half width of the hydrocarbon re-generation curve develops as the original maturation increases, which might indicate that the hydrocarbon-generated rocks with the original maturation lied at about oil peak might be relative high in the hydrocarbon-regenerated amount. Meantime, the mean reactivated energy of the coal samples with original maturation develops as four stages that is highly consistent with those of the hydrocarbon-regenerated amount and lagging, which indicated the hydrocarbon re-generation is strictly controlled by the geochemical mechanism of reactive kinetics.