ON EVOLUTION OF MINERAL ASSEMBLAGES IN CENOZOIC SEDIMENTS

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Cenozoic evolution of mineral associations is connected with problems of placer prospecting, correlation of sections, paleogeography, etc. Different signs of evolution may be established as a result of mineralogical investigations. Some trends are caused by successive reconstruction of provenance and processes of weathering. Periodic changes are controlled by climatic oscillations.

The proposed approach to investigation of mineral assemblages in Cenozoic sediments considers analysis including several levels of evolution. The first level is based on discovery of mineralogical boundary in sections. It is the contact between layers with different mineral assemblages. On the territories of North America and North Eurasia it usually marks contact between Neogene and Quaternary sediments where stable mineral association is often replaced by assemblages of unstable minerals. The reason is abrupt climatic reconstruction and conversion into glaciation regime.

The second level means variations with presence of constant mineral assemblage. For instance, in the Western Urals Quaternary alluvial sediments as a rule preserve comparatively monotonous mineral association with predominance of epidote group. Distinctions may be found out in correlation of other widespread components due to river basin rebuilding and changes in provenance.

The next levels of evolution are connected with composition of definite mineral group, diversity of mineral varieties, change of mineral properties conditioned on alterations in sedimentation area and abrasion processes in river beds.