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metamorphism under diagenetic conditions.

Branisko samples contain 0.2-0.35 wt% TOC out of which 86-88% is made of residual C. Authochthonous bitumens are present, n-alkanes have a maximum C<sub>18</sub>-C<sub>19</sub>. Pyrolytic CO<sub>2</sub> does not exceed 3.5 mg/g. About half of the bitumen extracts is represented by asphaltens, 0.4% are oils and the rest are pitches. The low value of CP index (1.03) also indicates an advanced stage of thermic degradation of OM>

Branisko Mts. are genetically related to sedimentation under epicontinental conditions. Post diagenetic burial and subsequent metamorphism (greenschist facies) are responsible for recrystallization and tectonic reworking. Uplift and erosion caused almost total destruction of the Mn ore-bearing horizons.

Regardless of the different tectonic and metamorphic histories of both the Urkut and Branisko areas, primary depositional, Mn-concentration and diagenetic features have been quite similar.

#### THE FORMATIONAL CONDITIONS OF GOLD-BEARING BLACK SHALE SERIES, ALTAY

KOZLYANINOV, D.M., GOSTEV, Yu. V.,  
ZAKHAROV, A.V., Tsnigri, 129B Varshavskoye  
Shosse, Moscow 113545, U.S.S.R.

In the complexly dislocated black shale carbonaceous series (Altay, USSR), the rock sequence was subdivided and the paleogeographic conditions of host rocks and the stratiform character of gold mineralization were determined. The series is divided into three groups: lower, middle and upper. The lower group mainly volcanoclastic, consists of siliceous sinter, ductile, terrigenous rocks. The middle group flysch consists of the following types: a) turbidites; (b) contour currents; c) creep.

The character of the contact between middle and upper (ore-bearing) groups is gradational and sharp as well, with intensive scour. Lenses of basal conglomerates containing fragments from the lower group occur at the bottom of the upper group.

The conglomerates are overlain, and replaced in a lateral direction, by inequigranular greywacke sandstones with variable amount of coaly-clayey matrix. These sandstones form ribbon-like bodies in profile. The amount of cement in sandstones as well as the amount of organic carbon in the matrix increases toward the upper parts of the section. Among the sandstones, interlayers of coaly and pelitic matter occur, several tens of meters thick, with compositions similar to that of the sandstones matrix. In the coaly-pelitic matter shungitic mineralization occurs, represented by shungite in the cement and in the veinlets, possibly derived from buried flora remains. Scattered syngenetic pyritic mineralization and increased original gold concentrations are connected with the same part of profile. The thickness and length of coaly-pelitic interlayers vary greatly due to facies variations, being replaced by sandstones with coal-clayey matrix or by interbedding of coaly-carbonaceous sandstones and coaly-carbonaceous aleurolites.

The ore-bearing group may have been deposited under shallow marine conditions, relatively close to the surface, in a distal part of a paleodelta with irregular seafloor. The upper group deposits may have been related to a submarine-fluvial group. The coaly-pelitic rocks have been formed in the distal parts of delta, as well as in paleo-depressions under anoxic stagnant conditions. This can be proved by a great number of sideritic concentrations with syngenetic pyritic mineralization.

During later periods the ore-bearing rocks may have been subjected to the deep katagenesis stage. At the same time the shungitic mineralization of various types and pyritic mineralization were formed and bodies of metamorphogenic quartz appeared. Auri-arseniferous mineralization was formed by redistribution of ore matter in katagenesis, as well as by addition of metals to the series of rocks from the hypogene source.