

Gemmology and typomorphism of jadeitites of Russia and Kazakhstan.

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The complex gemmological study of jadeitites of the famous deposits of Russia (Polar Ural and Western Sayany) and Kazakhstan (Pribalkhash'e) allowed to reveal variety of natural stones, peculiarities of its morphological compound and structure-textural differences.

Analysis of their gemmological characteristics revealed the dependence of the decorative properties of jadeite on the mineral compound, morphology of the rock forming minerals and their aggregate state. It was established the grey jadeite rocks of different shades were put together by jadeite. Green colour is caused by emergence of omphacite, diopside and chlormelanite there. Dim green colour is connected with the first two minerals but the chlormelanite presence imparts the apple-green or rich grass green colour to this gem stone. The polymineral varieties of jadeitites have the motley colour (grey-green, greenish-grey with different shades). The texture pattern depends on the compound and form of segregation of the packed out minerals. Thus the single mineral varieties (jadeitic, omphacitic, chlormelanitic) are characterized by the homogeneous structure and the absence of distinctly shown pattern. The single mineral varieties of the fine cryptomere structure have the greatest translucence.

Carried out investigations on the complex studies of the substance composition and decorative properties were the basis for development the quantitative indexes of the raw material quality and methods of improvement of non-grade and low quality natural jadeite into the grade one including high quality material. Systematisation of natural jadeite to possibility and method of its improvement allowed to classify such raw materials to the natural and technical types.