TIEN SHAN ROCKS DEFORMATION PROPERTIES AND STRUCTURAL TYPES OF DEPOSITS

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Deformation is the change of form or volume of body under the action of outer forces. Characteristics of deformation is depended on rocks mutual combination, surface, time or velocity of deformation, temperature, etc.Tien Shan structure heterogeneity is stipulated with widespreading of geological formations, determined lithology and structure of Tien Shan geotectonic zones, are the following: terrigenous, carbonaceous, carbonaceous-terrigenous, volcanic and plutonic. Rocks of carbonaceous-terrigenous formation are of the greatest total and effective porosity. It is conditioned by presence of great quantity of clastic material in it. The least porosity of carbonaceous formation rocks is stipulated by their capacity for fissure self-healing. Usually porosity is considered in connection with large-scaled tectonic deformations, but, to all appearance, it have been manifested in connection with plastic deformations as well. Ratio between total and effective porosity is changed according to total one. This fact indicates about secondary origin (tectonic or metamorphic) of overwhelming majority of pores. Many researches studying porosity influence on ore-forming processes give preference to effective porosity. But as a result of tectonic deformations pores turn into open from closed state and backwards. Thus, permeability of rocks will be hanged from total porosity. Volcanic rocks permeability accounts for volatiles influence, which are well preserved there on account of their rapid cooling. Five structural types of deposits are conditioned by diversity of rocks with deformation properties of different kinds: ore localization is connected with (1)folded structure, (2) with faults, (3) volcanic-tectonic structures, (4) intrusive contact surface, (5) deformations of some structural types.