

ORE GENESIS AND GEODYNAMICS OF THE WORLD OCEAN

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Oceanic ore genesis results from peculiarities of its historical development. Oxide Fe-Mn ores (nodules and crusts) are the products of the mantle activated in the process of the formation of the Ocean. Hydrothermal sulphides of Cu and Zn occurred as final differentiates of oceanic spreading mechanism. Phosphorites appeared as a result of geodynamical migration of oceanic waters and their interaction with the biosphere. The Metallogenic Map of the World Ocean, compiled by the authors, shows their distribution on the seabed. For 170-200 million years the Ocean has been developing as a complex geodynamical system. Several stages of a transform rift formation started to develop. Demarcation faults, extending into the Ocean from the continents, started to play a leading role. Block structures of the Ocean show to an inherited character of its development. The Ocean was founded on heterogeneous climatic foundation. The thermal field allows to single out six hydrothermally active megasystems – four on the ridges and two in the transition zone. They are divided into the closed and open ones. The former ones are favourable for the formation of large accumulations of sulphide ores, the latter are dissipating them. A gradual development of the Ocean has led to a formation of magmatic complexes of different magmatic specialization – gabbro-peridotitic (Cu-Ni-Pt), lhercylite-harzburgites (Cr, Ni,Os), gabbro-norite-troctolitis (Ni,Pt,Cr), ferrogabbro (Ti, Pd, Au⁷), alkali-ultrabasic one in combination with carbonates (Ce,La,Nb).