

Geochemical activity in underground biosphere

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Enormous factual data evidence the presence of numerous invisible microenvironments in the Earth's upper lithosphere. These microorganisms are the part of the Earth's biosphere. Our calculations suggest that total biomass of the World Ocean microflora.

Our recent observations reliable evidence the existence of the lower boundary of biosphere in lithosphere that comprises 6820m (Tjumen superdeep well), and this is by far not a limiting value. Stripping of Kola and other superdeep wells at the depths up to 12 km in the regions of disconsolidation of rocks in lithosphere, that are characterized by active processes in water and gas exchange will not allow to detect there viable underground microflora which is unique in its physiological characteristics, and is similar to the one found in thermæ of «black smokers» of abyssal fractures at the bottoms of seas and oceanic troughs.

The extent of geochemical activity of the underground microenvironment possesses a global character, as microorganisms are actively involved in the formation of gaseous content of the Earth's atmosphere, chemical composition of underground waters, in current processes of mineral formation and metamorphism of rocks in lithosphere. Potential loss in biological diversity of microorganisms due to the barbarous intervention into this microenvironment while underground exploiting of deposits, and at burial of chemical and radioactive wastes into the underground levels, and underground nuclear explosions in particular, remains unpredictable.