

Geological and geophysical model of cap rock of the Karymshinskaya hydrothermal system (Kamchatka)

Veronika Yu. Pavlova, Ivan F. Delemen

Institute of Volcanology and Seismology FEB RAS, Russia

E-mail: sacura17041988@mail.ru

Karymshinskaya hydrothermal system is located to the west of the volcanoes of the Eastern Kamchatka volcanic belt within the valley of the rivers Paratunka and Karymshina and is part of the Upper Paratunka geothermal system, dedicated to the area of the giant caldera of an extinct ancient supervolcano, which lies between the mountains of Berry, Fat Point, Hot, Baby Stone (Leonov and Rogozin, 2007). Structural position of the system is determined by the intersection of the strike slip fault, extends along the axis of the valley with a transverse fault to him. Thermal waters are confined to the tank represented fractured vein zone within the volcanic deposits of miocene-pliocene age (acid tuffs). Results of integrated geophysical studies in the area (Melnikova, Shulzhenkova and others, 2011), in addition to the GPR and well logging GK-5, which is the object of routine observations of the Kamchatka branch of the Geophysical Service RAS (KB GS RAS), allowed us to construct geological and geophysical model of cap rock of the Karymshinskaya hydrothermal system. Cap rock these rocks are massive tuffs, and a violation of these tuffs fractured zones are thermal-water discharge. Discharge zone extends along the fault. In this case, we have a medium-temperature system, dedicated to the same faults.