

NIZHNEKANSKIY GRANITOID MASSIF (MIDDLE SIBERIA, RUSSIA) AS A POTENTIAL SITE FOR HLW DISPOSAL

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At the Yenisei Ridge (Middle Siberia) there are conducted prospecting works on choosing a site for disposal of high-level radioactive waste arising from weapon plutonium production and reprocessing of spent nuclear fuel of the Russian nuclear power plants. The geological and geophysical studies are carried out by many organisations in St. Petersburg, Moscow, Krasnoyarsk and Zheleznogorsk under the scientific supervising of the Radium Institute. The studies were performed in several steps: from gathering information on global geological structures to site-prospecting geological and geophysical works and borehole drilling on promising areas. The prospecting territory (Southern part of the Yenisei Ridge) was chosen upon completion of the analysis of regional geology, tectonics, seismic activity, social and economical factors. The analysis of previously available geological, geophysical and geodetic information on 1:200,000-1:100,000 scales, as well as the lineament analysis of cosmic and aerial photographs, made feasible to select and to assess some 20 promising areas within the territory under investigation. The areas were assessed using the commonly accepted and specially developed concepts and criteria. The northern part of the Nizhnekanskiy granitoid massif has been acknowledged as the most promising area by summing over all the criteria. Based on the analysis of data about the scales of 1:100,000-1:50,000 and the results of reconnoitring geological and geophysical works on its area, there were determined and estimated 11 promising sites. Two of them have been considered most promising. The performed geological and geophysical works on the scales of 1:50,000-1:25,000 has confirmed the validity of this choice.