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## Safety work organization of mining on the Semipalatinsk test site

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**Statement of the Problem:** Semipalatinsk test site (STS), where 459 nuclear tests were tested, according to geological studies is a territory rich in mineral deposits. Exploration studies discovered tungsten, beryllium, iron, coal and fluorite at the territory of Semipalatinsk test site (STS). Ensuring radiation safety in mining quarries on STS is radically different from traditional methods associated with controlling the levels of gamma, alpha and beta-emitting radionuclides. The purpose of this study is to ensuring radiation safe mining of minerals in conditions of close location of underground nuclear test sites.

**Methodology & Theoretical Orientation:** Radiation monitoring of underground and drainage water, atmospheric air, production of the deposit, workplaces, machinery and equipment. Control of personnel dose loads.

**Findings:** The content of radionuclides in the air does not exceed the permissible values. Doses of quarry workers do not exceed acceptable levels. Radioactive contamination of production does not present. Increase content of radionuclides was observed in the groundwater in connection with the growth of the depression funnel. The flow of contaminated water from UNE sites has been identified. Corrective actions were developed.

**Conclusion & Significance:** The situation is predicted to be successful within existing quarries for all parameters of radiation monitoring at present, while observing radiation safety measures and a number of measures to prevent the movement of polluted groundwater to the quarry.

**Recommendations:** Since the deposits in the territory of the STS are located not far from the places of UNE, their further development is possible if the requirements and recommendations of state bodies that control the protection of public health and environmental protection are fulfilled. First, it is necessary to control the content of <sup>90</sup>Sr and tritium in drainage waters, and to control the tritium content in the air of working areas.

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