

FEATURES OF ASHES FROM THE 2009 KORYAKSKY VOLCANO ERUPTION.**Anikin L.P., Vergasova L.P., Maximov A.P., Ovsianikov A.A., Chubarov V.M.***Institute of Volcanology and Seismology FED RAS (Petropavlovsk-Kamchatsky)*maximov@kscnet.ru

In order to study nature and mechanism that caused the last unrest of Koryaksky Volcano the authors analyzed chemical, mineralogical and granulometric compositions of ashes from the 2009 eruption. Bulk chemical composition of ashes corresponds to medium-potassic calc-alkaline andesites. Remarkable feature of the composition is high sulfur content (1.8 – 2.85 wt.%). The ashes are very fine-dispersed: fraction with < 0,063 mm dominates while particles larger than 0.5 mm are very rare.

Minerals of these ashes can be divided into 3 main groups: (1) the rock-forming minerals of basic and intermediated igneous rocks (plagioclase, orto- and clinopyroxenes, olivine, magnetite and also volcanic glass), (2) accessory minerals (sphen, rutile, zircon, corund, garnet, pyrite, ilmenite, spinel, muassanit, apatite, pyrrhotite), (3) minerals that may have hydrothermal genesis (gypsum, barite, pyrite, sulfur, quartz, cristobalite, amorphous silica, silica phases with low sum of microprobe analyses, sulphides of ferrum, potassic feldspar). In addition, there are numerous light gray porous grains of pumice appearance. Particles of colourless acid glass with spherulitic structure described in ashes from the Koryaksky 1957 eruption were not revealed.

Granulometric and mineralogical characteristics of ashes denote their complex, hydrothermal - resurgent origin. Absence in ashes of fresh glass particles, presence of hydrothermal minerals and visual observations suggest that this eruption is not related directly to magmatic process and refers to hydrothermal-fracture type.