

## **GEOCHEMISTRY OF CLINOPYROXENE FROM VOLCANITES OF THE SILURIAN ISLAND ARC OF THE URALS: POSSIBILITIES OF GEODYNAMIC INTERPRETATION**

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Geochemistry of clinopyroxene from volcanites of the Silurian island arc of the Urals: possibilities of geodynamic interpretation1NOSOVA, A.A., 2SAZONOVA, L.V., 1Federal State Unitary Enterprise Scientific-Industrial Center for Superdeep Drilling and Comprehensive Studies of the Earth's Interior Nedra, Yaroslavl, Russia; 2Moscow State University, Moscow, RussiaThe Ural Superdeep Well (the Taguil Trough, the Middle Urals) penetrated a continuous section (thickness - 5.4 km) of formations of the Silurian island arc of the Urals. Volcanites of the section represent a complete set of island arc associations: from initial contrast to late subalkaline, from rocks of frontal zones to rocks of back zones. Distribution of trace elements (Ti, Cr, Sr, Zr, Ba, Th, Y, Nb, B, Li, Be, REE) was studied in clinopyroxene from these volcanites. Concentration of elements in clinopyroxene was determined by using a Cameca IMS-4f ion microprobe and electron microprobe. Concentration of trace elements in clinopyroxene is a fine and stable indicator of a geodynamic nature of the host rocks. It is very important that specific island arc geochemical features of clinopyroxene which are typical to mantle peridotite below island arcs also remain in clinopyroxene from its derivatives - basaltic volcanites of island arcs. In this case a typical geochemical character of clinopyroxene is traced in the rocks of island arc associations: from initial contrast to late subalkaline, from rocks of frontal zones to volcanites of back zones. At the same time for all groups of elements-indicators (LILE, REE, HFSE, light elements) there are some differences between clinopyroxene from island arc basaltoids especially between clinopyroxene from the rocks of frontal and back zones of island arcs.