



Amphibolites of oceanic affinity from metamorphic basement of Wrangel Island

Sergey Silantiev (1), Sergey Sokolov (2), and Artem Moiseev (2)

(1) Vernadsky Institute of Geochemistry and Analytical Chemistry of Russian Academy of Sciences, (2) Geological Institute Russian Academy of Sciences, RAS, Russian Federation (ssokolov43@mail.ru)

New data on petrography, geochemistry and geochronology concerning amphibolites sampled in Neoproterozoic metamorphic basement of Wrangel Island are considering in geodynamic context. Major element chemistry as well as character of rare earth element distribution for these rocks allow conclude that they have oceanic origin and arise from MORB protolith. It cannot be ruled out that this protolith was presented by plutonic or subvolcanic rocks. Parental rocks for amphibolites were metamorphosed at conditions of greenschists and amphibolite facies by range of temperature 350-6000 . The age of amphibolite protolith corresponding to 617 ± 13 and 698 ± 12 Ma and has been estimated by U-Pb dating of Zircon (SHRIMP II and La-ICP MS). If our interpretation of geodynamic mode of studied amphibolites origin is correct it is first recognition of oceanic magmatism events in metamorphic basement of Arctic Alaska – Chukchi microplate. Certain similarities in petrography between studied rocks and rock dredged recently at Chukchi Borderland (Bromley et al., 2015) deserve attention. Perhaps this similarity is key point for reconstruction of geodynamic evolution of Eurasia and Amerasia Basins of Arctic Ocean. This research was supported by RFBR grant 18-05-70061, and RSF (grant 16-17-10251).