

WHAT DO WE KNOW ABOUT LAURENTIA-SIBERIA CONNECTION? CONSTRAINTS FROM U-PB ZIRCON GEOCHRONOLOGY AND ND ISOTOPES FOR THE SIBERIAN CRATON

KOVACH,V.P., KOTOV,A.B., SALNIKOVA,E.B and LARIN,A.M. Institute of Precambrian Geology and Geochronology RAS, St.-Petersburg, Russia

Recent paleotectonic reconstructions of Meso- Neoproterozoic supercontinent Rodinia suggest Laurentia-Siberia juxtaposition since Paleoproterozoic time. However, their relative position remains a topic of disagreements. All reconstructions propose continuity of Paleoproterozoic Thelon-Taltson magmatic zone of Northern Laurentia and Magan province, Akitkan belt or Aldan and Uchur terranes of Siberia, Wopmay orogen of Laurentia and Hapchan, Akitkan and Angara belts of Siberia or Archaean Slave province and Batomga, Olekma terranes or Tungus province of Siberia. Available geochronological (U-Pb zircon) and Nd isotopic data indicate that continental crust of Siberia was formed mainly during Archaean (3.8-3.5 and 3.1-2.8 Ga) and Paleoproterozoic (2.4-2.0 Ga) crust-forming events and was reworked during Archaean (3.3-3.2, 3.0 and 2.7-2.6 Ga) and Paleoproterozoic (2.4 and 2.0-1.9 Ga) tectono-thermal events whereas continental crust of Northern Laurentia was formed mainly during 2.8-2.6 and 1.9-1.8 Ga events, reworked and assembled by 2.0-1.8 Ga. Mainly cryptic 2.3-2.1 Ga continental crust is widespread only in Wopmay orogen and Cordillera. Significant part of Siberia is composed by 2.4-2.0 Ga continental crust (Hapchan, Central Aldan, Uchur terrane, Sharyzhgaysk uplift) opposite to mainly cryptic 2.3-2.1 Ga continental crust of Wopmay orogen and Cordillera. Volcano-plutonic complexes of Akitkan and Ulkan belts have anorogenic character and were formed at 1.87-1.85 Ga and 1.74-1.71 Ga after amalgamation of Siberia by ca. 1.9 Ga. These data indicate that apparent continuity of one tectonic units led to discontinuity of another units. New lines of evidences and investigations poorly known regions of Siberia are need to Laurentia-Siberia connection be revised again.