Late Permian – Triassic Granitic Magmatism of western part of the Northern Taimyr: evidence for two magmatic events.

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The studied intrusions are located within the Northern Taimyr domain (southern part of the Kara terrane) on the northwestern coast of the Taimyr Peninsula and on several islands in Kara Sea. Intrusions cut the Lower Paleozoic metasedimentary rocks.

Late Permian – Early Triassic intrusions are represented by coarse- to medium-grained quartz-syenites and alkali-feldspar-granites. U-Pb dating of these granites yielded age of 253 Ma. Ar-Ar micas ages varies from 236 to 251 Ma. The granites are high- to medium acidic, high alkaline (alkali-calcic to alkalic), ferroan and magnesian, mainly peraluminous. Granites are characterized by relatively low initial $^{87}\text{Sr}/^{86}\text{Sr}$ ratio (0.7041) and slightly positive $\varepsilon_{\text{Nd}}(t)$ value (1.03).

Middle – Late Triassic intrusions are represented by coarse-grained granodiorites and granites. U-Pb zircon ages of these granites range from 228 to 238 Ma. Ar-Ar micas and amphibole ages varies from 206 to 235 Ma. They are acidic to low acidic, moderately alkaline (alkali-calcic, calc-alkalic), magnesian, peraluminous and metaluminous. Middle – Late Triassic granites are characterized by higher initial $^{87}\text{Sr}/^{86}\text{Sr}$ ratios (0.7045-0.7060) and negative $\varepsilon_{\text{Nd}}(t)$ values (-5.47 to -0.80).

Late Permian – Early Triassic high alkalic predominantly ferroan granites are most likely related to A-type granites. Middle – Late Triassic moderate alkalic magnesian granites have transitional I/S-type character. Thus, Late Permian – Early Triassic granites likely form an outer rim of the Permo-Triassic Siberian plume. Middle – Late Triassic granites of Northern Taimyr were formed from different source with more significant crustal component contribution. Obtained data suggests two magmatic events throughout Early Mesozoic that affected Northern Taimyr.

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