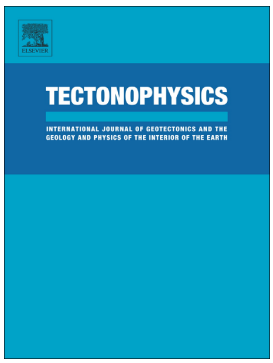

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PII: S0040-1951(17)30497-3
DOI: doi:10.1016/j.tecto.2017.11.035
Reference: TECTO 127701

To appear in: *Tectonophysics*

Received date: 22 October 2016
Revised date: 5 November 2017
Accepted date: 27 November 2017

Please cite this article as: V. Latyshev Anton, V. Veselovskiy Roman, V. Ivanov Alexey , Paleomagnetism of the Permian-Triassic intrusions from the Tunguska syncline and the Angara-Taseeva depression, Siberian Traps Large Igneous Province: Evidence of contrasting styles of magmatism. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Tecto(2017), doi:10.1016/j.tecto.2017.11.035

Paleomagnetism of the Permian-Triassic intrusions from the Tunguska syncline and the Angara-Taseeva depression, Siberian Traps Large Igneous Province: evidence of contrasting styles of magmatism

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Abstract

Based on the detailed paleomagnetic investigation, we distinguished different styles of intrusive magmatic activity in two regions of the Siberian Traps Large Igneous Province (LIP). The emplacement of intrusions in the Angara-Taseeva depression (the southern periphery of the Siberian Traps LIP) occurred as brief but intense bursts of magmatic activity that led to the emplacement of large and extensive sills. We argue that this pulsating style of intrusive magmatic activity is common for the margins of the Siberian Traps LIP. We also estimated the duration of the main magmatic events as $<10^4$-10^5 years for the large sills and their area of manifestation (>200-250 km in diameter and dozens of thousands km^2 in square). On the contrary, in the central part of the Siberian Traps LIP (the Tunguska syncline) the intrusive magmatism was more or less continuous without intense peaks of magmatic activity. Furthermore, we obtained the first reliable magnetostratigraphic data from the volcanic section of the Tunguska syncline. Finally, we analyzed the available paleomagnetic and