

## **NEW FINDING OF GARNET BEARING PERIDOTITE XENOLITHS IN MESOZOIC DIKES FROM TUVA.**

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Mesozoic camptonite dikes cutting layered Tarlahkin massif (SE Tuva, Sangilen) contain abundant deep seated xenoliths highly varying between sites. Camptonites ( $mg' = 72-77$ ) vary in alkalinity ( $\sim 5-10$ ) and K/Na (0.8-2) ratio correlating with SiO<sub>2</sub> (36-44%). One of the dikes contain only Kaer, Ti-Bt, Ti-Mt megacrysts and their pegmatitic intergrowths. The other one include spinel lherzolites (880-1080°C) and gabbros (Pl-Cpx(Opx), Pl-Amph) with close temperatures representing layered complex near Moho. New dike found contain more various set of inclusions including large (up to 0.5m) complex and separate xenoliths of Garwebsterites and clinopyroxenites in Sp lherzolites, kaersutites, black and hybrid Ti-Mt-bearing websterites and their separate nodules and xenoliths similar to previous dike. Sp lherzolites often contain zones of very fine-grained mica occurring in shearing zones. Lherzolites, Gar-Pxt and black Mt-websterites represent practically the same TP (1050-1100°C, 18-20kbar) interval. The Sp-lherzolites are more oxidized ( $\sim -1.5$  and  $-3$  QFMLgFO<sub>2</sub> correspondingly). The thermal gradient close to 95mWt/m<sup>2</sup> is slightly higher than those for the other Central Asia localities (Shavaryn-Tsaram, Dariganga, Vitim, Hangai) and is close to that of the xenoliths from Minusa pipes. The pyroxenes from the layered Tarlachkin massif differ from the deep gabbroic xenoliths by their lower Na-Al concentrations though the Fe# and calculated temperatures are close. Together sets of camptonite dikes xenoliths represent highly metasomatized hydrous mantle intruded by hydrous and dry mantle melts subjected to mantle diapirism from Gar facies. Similarity with Minusa xenoliths allow to suggest the same mantle construction and composition beneath South Eastern Siberia.