

## VEINED AND LAYERED HYDRATED MANTLE BENEATH BARTOY VOLCANOES.

Ashepkov I.V, Karmanov N.S., Kanakin S.V., Melyakhovetsky A.A.1 UIGGM, SD RAS, Novosibirsk, Russia, garnet@; 2 GI SD RAS, Ulan-Ude, Russia, [angin@burnet.ru](mailto:angin@burnet.ru)

The sets of mantle inclusions - lherzolites (Lzh), layered and veined cumulates, composite nodules, megacrystalline intergrowths, from Bartoy volcanoes (Dzhida, TransBaikal) - highly vary between the sites being more hydrous and variable in the latest agglutinates suggesting the evolution of melts and several plume pulses. Mantle layering in 12-18 kbar interval is provided by intermediate polybaric mantle chambers with associating vein series and accompanying metasomatites: 1) 1200-1100°C (dry Fe-Lhz, black Gar-CPxt), 2) 1100-1020°C (Phl Lhz, black Gar megapyroxenites, Phl-Pxt veins), 3) 1020-950°C (Phl-Amph Lhz, black Gar-Pl Pxt, Phl-Kaer, Gar-websterites ( $mg'=87$ )), 4) 950-870°C (Amph Lhz, Kaers megacrysts, ariegites, Kaers-Pl- Pxt), 5) 800-920°C (low hydrous Lhz with rare Na-Amph, Pl-cumulates with titanite and apatite). Several trends imply separate melt pulses or splitting of magmatic systems. They are: megacrystalline cumulates precipitated in channels and pegmatite-like bodies; layered cumulates crystallized in small chambers and veins; hydrous fluid-rich melts produced the percolating-type lherzolites and hybrid vein cumulates, picrite and basaltic hydrous crystallization lines show two magmatic events. Picrite cumulates and LT Na-Cl metasomatites changed to HT and K-Ti-F rich. Preceding deep hydration could be related to Ordovician accretion. The first two "hot" zones give a geotherm inflection, while the others are nearly conductive, close to 95 mWt/m<sup>2</sup>. This is higher than the Vitim geotherms, but lower than those for rift shoulders. Lherzolite geothermal gradient corresponds to cold areas in tomographic models (Sobolev et al., 1997), while basalt PT path to hot ones. RBRF grants 94-05-17103, 99-05-65688.