Geophysical Research Abstracts,
Vol. 10, EGU2008-A-11590, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-11590
EGU General Assembly 2008

Geochemical features of mantle melts in lithospheric keel of Siberian craton.

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Siberian craton composed from Achaean terranes (Gladkochub et al., 2007) combined together. Original data base (>1000) LAM ICP analyses of Cpx, Gar, Ilm, Chr from t Devonian- Carboniferous kimberlites: used to find out the lateral and vertical variations TRE in peridotite mantle columns reveal systematic difference of ML from different regions. Parental liquids (PL) reconstructed by KD (Bedard et al., 2007; Hart, Dunn, 1993 etc) for minerals from the same associations s differ possibly reflecting various stages of minerals growth. In Daldyn PL for Opx and Gar with Sr, U, Pb, (Ba) peaks of in TRE patterns indicate subduction stage, PL for Cpx show smaller such peaks, wider HFSE variations and higher LILE influenced by metasomatism. PL for subcalcium Gar reveal U- shape in HMREE deeper with pressure. In Alakite PL for Gar sometimes show Y peaks coupled with Zr minima rare for Cpx's PL commonly displaying LILE enrichment typical for arc magmas and decoupling of Nb, Ta likely due to fluids. In Malobotuobinsky region PL for Gar how Nb-Ta deeper for low in REE varieties and CPx's PL sometimes display Y dips. In Nakyn field Th rise in Cpx's PL and Nb for Gar's PL with elevated Zr, Hf influenced likely by subducted sediments In most fields PL for CPx show Ta, Nb and Zr rising near 40 kbar marking pyroxenite lens. Minerals from set from Obnazhennaya xenoliths (Kuoyka) display Sr, U, Ba, Pb and less Nb- Ta peaks due to subduction related melts Thus in Malobotuobinsky

and Nakyn regions ML demonstrate signs of enriched mantle and number of eclogitic signs and associations. The Cpx PL herr tend decreas (La/Yb)n and REE rise with decreasing pressure and in Alakite and Daldyn (La/Yb)n and REE correlates negatively. The (Sm/Er)n of S-type garnet PL are correlating with the pressure everywhere what due to increase of Ga/Cpx in peridotites and melt percolation.

PL for the chromites reveal less inclined REE then for CPx and Gar suggesting Gar-low associations. Pl show Zr minima, Y peaks in Alakite and minima in Malobotuobinskoe field. PL for phlogopites display Y, Pb peaks and asynchrony in Ta-Nb and varying in LILE. In Prianabarie enrichment in LILE and subduction related TRE and pargasite metasomatism is typical for peridotites$<$40 kbar and hardly refractory peridotites in the lower mantle column.

The PM for ilmenites show 3 types correspondent to different levels in mantle columns. In base PL display flattened REE and high Ba,Th,U, HFSE due to melting of Ga-free metasomatites. In 60-40 kbar ilmenite PL's REE are close to kimberlites with Pb and Ba, Th, U peaks and Sr dips with the signs of fractionation. Most enriched PL ($\sim$1000 La/C1) have HFSE, Sr minima reflecting new low degree partial melting and possibly changing to carbonatites.

Disequilibrium in minerals TRE support multistage melts percolations by subduction in plume events and protokimberlites. Pervasive melt and fluid percolations in ML rapidly transform mantle peridotites.

RBRF grants 05-05-64718; 06-05-64416; 08-05-00524