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Deep seated inclusions in kimberlites from Kharamai field and some kimberlite fields of Prianabarie.

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The problem of the thickness of the lithospheric keel in the northern part of Yakutia is critical for the diamond grade. Reported delamination of the SCLM (Griffin et al., 2005)which is not supported by the geophysical methods (Koulakov et al ., 2011) was checked in number of localities in circum Anabar region. Pyropes, chrome-diopside, omphacites, enstatite, chromites and ilmenites from concentrate three kimberlitic pipes of the Kharamai field revealed compositional variations typical for thick SCLM: pyropes to 13% Of $cr2O_3$ in the association with chromites (to 60% Of $cr2O_3$.) low- Al - Cr diopsides and enstatite, omphacites, Cr-pargasite and K-Na richterite and picroilmenites (to 20% Of MgO). The pyropes belong to lherzolite filed (Sobolev et al., 1973) as those published only in the low-chromium part relate to Ca- Fe to pyroxenite magmatic trend (Tychkov et al., 2008) which is typical for the majority of Mesozoic (especially Jurassic) kimberlitic pipes in Prianabarie and other northern parts of Yakutia.
Thermo-barometric reconstructions using four methods of monomineral thermobarometry reveal the thickness of lithospheric keel not less than 200 km which coinsides with the determined thickness of the SCLM beneath nearest Ary- Mastakh filed (Khardakh pipe). Straya Rechka and Kuranakh fields (Universitetskaya, Tudovaya , Los kimberlites etc). But the pipes in Evenkiyskaya kimberlite group (including Malysh and Tuzic pipes) carry material dominantly from the upper part of the SCLM, sub-calcium garnets are rare. Relatively high oxidation state, determined according to chromite, pyroxenes and pyropes are in accord with the rather low diamond grades. However some other Jurassic pipes in northern part of the Siberian craton reveal sufficiently deep mantle roots evidencing about lack of the delamination of mantle keel after Siberian PT superplume. The trace elements determined for the pyropes show variations and belong to the melt metasomatized groups I the middle and lower part of the SCLM But those from upper part correspond to the LREE and LILE enriched melts. The chrome diopsides show dominantly the signs of the refertillization. The influence of the superplume melts for the SCLM in Kharamai field is higher then for the internal part of the Anabar region affected to the low Jurassic kimberlite magmatism. The Cretaceous pipes show the location of the magma derrivatio level near 130 km (Taylor et al ., 2003)
Alluvial diamonds in the northern part of Siberian craton can be associated with undiscovered kimberlite II or lamproites which, were carried from the mantle sections of those saturated by eclogite. The relatively small portion of pyropes from thee deep part of the mantle sections in Prianabarie and surroundings is explained by the general exhaustion of mantle peridotite substratum in this region (Griffin et al., 1998). Rare Cr rich pyropes, chromites, orange pyropes referred to the deep eclogitic associations support this idea.