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Maldzhangarsky rare metal carbonatite massif in the NE-part of the Anabar shield.

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In the SW part of the Anabar shield Th-anomaly was he drilled by ALROSA company by 6 bore holes to a depth of 100 m, which revealed a new Maldzhangarsky rare metal carbonatite massif (Vladykin 2008). It is oval-shaped and elongated NW to SE having dimensions 4.2 x 2.5 km.. and total square $\sim$ 10.5 km2 Carbonatites are from mean- to fine-grained light-colored. Mineral and chemical composition, tracery, dolomite are ankerite and carbonaties. Besides the carbonate it is composed by phlogopite, apatite, alkali amphibole, rarely magnetite and accessory minerals like pyrochlore, zircon, barito-celestine, rare earth carbonates and apatite, reaching 20-30%. In addition to the prevailing carbonatite the carbonatized pyroxenite xenoliths were found in the drilling cores. Geochemical study of the Maldzhangarsky massif carbonatites indicated the presence of significant quantities of typical carbonatite elements- Sr, Ba, Nb, Ta, P, Y, TRE, which is similar to the carbonatites of the Tomtor massif. Many parts of the massif are the ores for Nb, TR, Sr and P. The highest concentrations based on TRE 100 analyses of Nb-8000 ppm, Y-800 ppm; TRE-4%, Sr-10%,. The REE patterns of carbonanites are highly inclined with the r sharp prevalence of light REE on heavy with a rather steep slope., There are now Eu anomalies which is typical for the mantle carbonitetes, and which evidence for the early fractionation of alkaline carbonatite fluid orliquid from silicate melt. Pair correlation of rare earth elements in carbonatite shows their origin from a single source. The intrusive nature of the drilled carbonatites of Maldzhangarsky massif suggest them to be the top part of the unexposed massif. The belonging of this massif to any genetic type is unclear and needs more detail exploration. RBRF grant (15-05-01005).

Vladykin N.v. New rare metal ore karbonatitov province EAST of the Anabarskiy shield. In: Geochemistry of magmatic rocks, St. Petersburg, 2008, pp. 24-27.