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HYDRATED CO_3-BEARING ANALOG OF MANGANOEUDIALYTE FROM ALKALINE PEGMATITES OF THE KONDER MASSIF, KHABAROVSK KRAY

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Chemical composition, crystal structure and physical properties of a hydrated CO_3-bearing analog of manganoeudialyte from alkaline pegmatites of the Konder massif, Khabarovsk Kray, Russia, have been studied. Chemical composition corresponds to the empirical formula: $^{N}[Na_{6.94}H_2O_{5.13}(Y, REE)_{0.58} \cdot Pb_{0.31}K_{0.28}Ba_{0.08}]_{13.32}{}^{M1}[Ca_{5.09}Sr_{0.89}]_{5.98}{}^{M2}[Mn^{3+}_{1.52}Ti_{0.21}Mg_{0.04}Fe^{3+}_{0.03}Al_{0.02}]_{1.82}{}^{M3}(Si_{1.16}Nb_{0.47})_{1.63}{}^{M4}(Si)_{0.50} \cdot {}^{Z}[Zr_{3.04}Hf_{0.03}]_{3.07}(Si_3O_9)_2(Si_9O_{27})_2(CO_3)_{0.28}{}^{X}[(H_2O)_{4.45}OH_{0.04}Cl_{0.03}]_{4.52}$. Infrared spectrum contain the following bands (s — strong band, sh — shoulder): 455s, 475s, 655, 740s, 925s, 977s, 1010s, 1145, 1420sh, 1504, 1650, 2970sh, 3240sh, 3480 cm^{-1}. The crystal structure is refined in the space group $R\bar{3}m$, $a = 14.243(3)$, $c = 30.371(6)$ Å, $V = 5336(2)$ Å^3, with $R_1 = 0.065$ for 1393 independent reflections ($|F_o| > 4\sigma F$). The deficiency of sodium and chlorine, the presence of lead and barium, as well as a high degree of hydration of the mineral indicate natural ion exchange processes after crystallization, during the stage of hydrothermal alteration of aegirine-albite rocks of the Konder massif.

Key words: eudialyte, manganoeudialyte, Konder massif, crystal structure, IR, albite-aegirine rock.