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**GEOLOGIJA REŠAVA PROBLEME  
GEOLOGY SOLVES THE PROBLEMS**

**Divčibare, 01-04. jun 2022.**

# **XVIII Kongres geologa Srbije: Zbornik apstrakata**

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## MINERALOGICAL BACKGROUND OF ALINCI LOCALITY, NORTH MACEDONIA

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### Key words: Alinci, pegmatite, mineralogical

One of the most interesting aspects of Crn Kamen mineralogy is the presence of several oxide phases, some of which are extremely rare in nature. The first mentioned oxide found on this locality, apart from quartz, is davidite  $Ce(Y,U)Fe_2(Ti,Fe,Cr,V)_{18}(O,OH,F)_{38}$  which was described by Damjanović and Vukasović, (1961). Fragments of former larger crystals estimated up to 15 cm in size were found in a cavity of the crushed and weathered syenites. Bermanec et al., (1990) analyzed the samples of the same crystal samples and determined that it is actually a uranium rich metamictic senaite  $Pb(Mn,Y,U)(Fe,Zn)_2(Ti,Fe,Cr,V)_{18}(O,OH)_{38}$ . However, even that was not the correct determination. Wülser et al., (2005) found a mineral of a similar, uranium rich composition in the western Swiss Alps which was not metamictic. This enabled them to see that the uranium is a species defining cation and they named the new mineral cleusonite  $(Pb,Sr)(U^{4+},U^{6+})(Fe^{2+},Zn)_2(Ti,Fe^{2+},Fe^{3+})_{18}(O,OH)_{38}$ . It was mentioned that the samples from Crn Kamen also correspond to metamictic cleusonite, not senaite or davidite (Wülser et al., 2005; Biagioni et al., 2014). Brannerite  $UTi_2O_6$  was also found in the silicified parts of the fine-grained Quartz syenites in the direction of Topolčane (Vukasović and Mihajlović-Vlaić 1963). In addition to these rare phases, large rutile crystals as well as hematite, ilmenite and magnetite can be found (Barić, 1965). Possibly the most peculiar aspect of the Crn Kamen mineralogy is the mineral macedonite  $PbTiO_3$  which was first described here as well (Radusinović and Markov, 1971).