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# Volcanogenic rocks of the Kresta Bay (Chukotka): petrographic studies in the context of substantiating the nature of the paleomagnetic signal

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The paleomagnetic method has long been established as a powerful tool for solving tectonic and geodynamic problems. However, the presence of a paleomagnetic signal in the studied rocks does not guarantee successful resolution of the tasks at hand - it is necessary to prove the primacy of the discovered paleomagnetic record in the rock. Among other things, petrographic studies of rocks are often used to substantiate the primacy of magnetization.

In studying the history of the development of the Okhotsk-Chukotka volcanic-plutonic belt (OCVPB), the paleomagnetic method is indispensable. At the moment, only a few major works dedicated to the study of paleomagnetism in the OCVPB have been carried out [1], [2]. Within the framework of our research, work was carried out in the northern part of Kresta Bay near the settlement of Egvekinot, where a collection of volcanic and volcano-sedimentary rocks of the Nyrvakinot formation and intruding dykes of dolerites and granite masses was collected by us.Lying on the terrigenous rocks of the Olkhov formation, the Nyrvakinot strata is divided into two parts, where the lower one is represented by tuffs and tuff conglomerates of rocks of medium composition, and the upper one is represented by flows of andesite lavas with lenses of tuff sandstones, tuffoaleurites. The age of the sampled stratified formations was previously estimated based on plant remains as Albian-Rannessian [3], however, later dating of the base of the Nyrvakinot formation indicated its significantly younger age: 88.1±1.2 million years [4].

During reconnaissance studies of the volcanics of the Nyrvakinot formation, a fairly complex paleomagnetic signal recorded in them was discovered by us, allowing for a highly contradictory interpretation [5]. The studied samples of the Nyrvakinot formation consist of andesite lavas and tuffs with pronounced secondary alterations, such as carbonatization, chloritization. The dykes intruding them are highly chloritized and carbonatized dolerites. The samples of the studied granite massive demonstrate relatively good preservation, but they also exhibit secondary alterations.

The report will present preliminary results of the study of secondary alterations in rocks, especially in the context of the formation of secondary magnetic minerals as a potential cause of possible remagnetization. The results of electron microscopic studies, supported by results of thermo-magnetic analysis, will also be demonstrated.

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