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Mineral chemistry of mica and clinopyroxene in lamprophyre dykes in the south of Amlash

Salavaty, M., Darvishzadeh, B., Darvishzadeh, A

Department of Geology, Faculty of Sciences, Tehran University

Correspondence and reprints: Darvish@Khayam.ut.ac.ir

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Abstarct: Alkali lamprophyre dykes of southern Amlash have been injected into the upper Cretaceous limestones and pillow lavas without any special trend. Based on this research the following results obtained:

1- On the basis of Mg, Fe, Ti, Al contents, three different types of mica has been identified.

A: Mg enriched biotite as the first generation.

B: Ti enriched biotite as the second one.

C: Fe-Ti enriched biotite as the third generation.

2- The pyroxenes are diopside and they crystallized in three separate stages. The second generation of pyroxenes have high Ti, Fe, and they formed the fine matrix and the rims of pyroxenes of the first generation.

The abundance of large crystals of biotite within these dykes make them economically valuable and can be excavated as biotite mine. Probable reserve of the mineral deposit, with respect to surface discoveries is estimated to be 7500 tons. These dykes haven't been reorted in any other places of Iran and they studied in this area for the first time.