metamorphism and Alpine low-grade overprint, probably derive from intermediate volcanic rocks and are interpreted to have formed in a subduction-related environmant.

ZEOLITES IN OLIGOCENE VOLCANIC ROCKS, DADIA-LEFKIMI AREA, THRACE, NORTHERN GREECE: MINERALOGY AND CATION EXCHANGE PROPERTIES

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The diagenetic alteration of the Oligocene felsic volcanic rocks in the Dadia - Lefkimi area, Thrace, has led to a replacement of the parent glassy material from zeolite-bearing assemblages. The alteration is more intense in vitric tuffs forming pseudomorphic textures over the precursor glass shards. Mineralogical and petrographic investigation including thermal treatments, revealed that three authigenic mineral assemplages are present in these rocks:

a) Clinoptilolite + celadonite + cristobalite

b) Clinoptilolite ± mordenite + smectite + cristobalite

c) Heulandite 2 + smectite + cristobalite

The distribution of the authigenic assemblages is not systematic in both the horizontal and the vertical sense. This is probably due either to fault tectonism (destruction of the original lithostratigraphic sequence) or to the lack of recognizable marker horizons or both. The assemblage b is the predominant one, with the clinoptilolite occuring both in the form of pseudomorphic replacements of glass shards and as a pore filling mineral. The cation distribution of the heulandite - group minerals is characeristic of heulandites with thermal behaviour 2 and 3. Although a clear relationship between the clinoptilolite/heulandite and mordenite was not found, tectural features indicate that at least some mordenite might have been formed after clinoptilolite/heulandite.

The cation exchange capacity of the zeolite bearing rocks varies between 67 meq/100 gr and 136 meq/100 gr, with the highest values observed in the ash tuffs. The latter materials might find potential use as exchangers in both municipal and radioactive wastewater treatment.

