THE MAYARI-BARACOA OPHIOLITE COMPLEX, CUBA: PGE MINERALIZATION, PETROGENESIS AND TECTONIC SETTINGS

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The Mayari-Baracoa Ophiolite Complex, Eastern Cuba, is part of the northern Cuban ophiolite belt and includes two ophiolitic massifs, the Mayari and Moa massifs. The former consists of harzburgites and gabbro and pyroxenite dykes with abundant high-Cr podiform chromitites. The mantle transition section of the Moa massif, on the other hand, contains abundant gabbro and gabbro pegmatite dykes closely associated with high-Al podiform chromitite bodies. Chromitites from both the Moa and Mayari massifs have similar PGE patterns in mantle- normalized plots, exhibiting positive Ru- and negative Pt-anomalies. In the Mayari massif, a dunite has slightly positive Ru-anomaly and negative Pt-anomaly, whereas the harzburgites have relatively flat PGE patterns. In the Moa massif, both the dunites and harzburgites have similar PGE patterns and do not show Ru- and Pt-anomalies. One chromitite from the Mayari massif contains unusually high PGE's contents reaching ore grade. The data support that the high-Cr chromitites in the Mayari massif crystallized from boninitic magma, whereas the high-Al chromitites in the Moa massif formed from tholeiitic magmas. We suggest that the Mayari massif formed beneath the volcanic island arc and the Moa massif beneath a nascent spreading centre in a back-arc basin. Alternatively, the ophiolite in Eastern Cuba may have formed in a forearc setting where asthenospheric mantle intruded the lithospheric mantle.