

## PETROGRAPHIC AND GEOCHEMICAL STUDIES OF ULTRAMAFIC ROCKS OF THE OPHIOLITE BELT IN MANIPUR, NORTH-EAST INDIA

L. Romendro Singh<sup>1</sup>, Ch. Mangi Khuman<sup>1\*</sup> and Soibam Ibotombi<sup>2</sup>

<sup>1</sup>*Department of Geology, Nagaland University, Kohima*

<sup>2</sup>*Department of Earth Sciences, Manipur University, Imphal*

*\*E-mail: mangikhuman@yahoo.com*

### Abstract

The Ophiolite Melange Zone in Manipur is a part of the Nagaland-Manipur-Chin-Hills Ophiolite (NAMCHO) Belt. The Ophiolite Belt is part of a newly created oceanic floor suite of rocks emplaced as tectonic slices formed during the spreading regime on account of tectonic inversion during the subduction of the Indian plate beneath the Myanmar (Burma) microplate and the orogenesis of the Indo-Myanmar Ranges. The Manipur Ophiolite Melange Zone (MOMZ) is composed predominantly of an ultramafic rock suite (>90%), which is sandwiched in the host pelagic shale. The essential phases olivine, orthopyroxene and clinopyroxene in the ultramafic rocks show xenoblastic granular texture. Olivine is highly fractured and almost entirely transformed largely to serpentine having mesh texture fabric. Orthopyroxenes are more transformed to bastites than clinopyroxenes. From petrographic and geochemical studies, it is has been inferred that the ultramafics are principally metamorphosed harzburgite and metamorphic lherzolite, which are residues of upper mantle origin rocks, that have suffered partial melting.

*Keywords:* Manipur; Ultramafic; Mesh-texture; Harzburgite; Lherzolite; Mantle-origin.