# GEOLOGY OF EL PROGRESO QUADRANGLE
# NORTH OF THE MOTAGUA RIVER

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## ABSTRACT

The oldest rocks in El Progreso quadrangle are a complex Paleozoic metamorphic assemblage known as the Chuacús Group. Most of these rocks are meta-sediments which range in grade from the greenschist to the amphibolite facies. The uppermost formation of this group is the Jones Formation which consists primarily of mica schist and gneiss, and includes the San Lorenzo marble member in the upper portion of the assemblage. In the lower portion of the Jones Formation is a unique hornblende gneiss lithology restricted to a small region in the eastern part of El Progreso quadrangle. This unit is either a small stock or a separate formation within the Chuacús Group that has been transposed to a higher stratigraphic level. The uppermost unit in the Chuacús Group is a muscovite schist Formation.

The next major tectonic event in this region probably began in the late Mesozoic and is associated with faulting along the Motogua fault zone which also resulted in the emplacement of serpentinite intruded through and thrust over the Chuacús Group. Two distinct serpentinite belts cut across the map area. The first belt parallels the Motagua Valley and consists of two types of serpentinite. The first type is composed of unoriented antigorite and has a platy to sucrosic texture. The other variety has a bastitic texture. The second serpentinite belt bifurcates from the first belt in the western part of the quadrangle and has a more northeasterly trend. It is composed only of the sucrosic serpentinite.

Chuacús lithologies near the serpentinite belts exhibit secondary $M_2$ metamorphic overprinting. Also associated with the serpentinites and $M_2$ metamorphism is a complex tremolitic amphibolite formation. Overlying all of these rocks in low lying areas are deposits of volcanic ash and ignimbrites.

## INTRODUCTION

The location of El Progreso 10 X 15 minute quadrangle is on the southwestern side of the Sierra de las Minas Range (Fig. 1). The Motagua fault zone extends through the southern half of the quadrangle parallel to the Motagua River valley. The purpose of this report is to outline the geological relationships of the region north of the fault zone.

The first reconnaissance mapping in this area was done by McBirney (1963) in the northwestern part of the quadrangle. Later, Bosc (1971, unpublished) presented a map of the northeastern portion. The entire El Progreso quadrangle north of the Motagua River was remapped by the author in the summer of 1971. The map resulting from this investigation is presented in Fig. 2.

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