

Abstract

The research location is located in Muaro Panco Barat Village and its surroundings, Renah Pembarab District, Merangin Regency, Jambi Province. This study aims to determine the characteristics of the Sumatran basement on tantan granite and its relationship to the tectonic environment and magmatism in the study area. The research method was carried out by means of the survey method, this method was carried out in the form of surface geological mapping surveys carried out through field observations. Observations in the field carried out included terrain orientation, morphological observations, outcrop and rock observations, geological structure measurements, rock sampling. The parameters observed in the field are geological mapping parameters. It is the results of this mapping that will later be tested in the laboratory using XRF (X-ray Fluorescence) analysis to determine the main elements forming basement rocks in the study area, so that the petrogenesis of the rocks in the study area which includes the type and characteristics of the magma from which it originates can be determined. From the results of chemical analysis of the basement rocks in the study area, they show acidic, calc-alkaline, high K, metalluminous properties and are associated with subduction zones (orogens) on active continental margins. Granite in the study area has type I, associated with subduction of oceanic crust with continental crust or subduction of oceanic crust with oceanic crust. This tantan granite was formed due to the subduction of the Ngalau Ocean Plate against the edge of the West Sumatra Terrane which has been going on since the Early Jurassic.

Keywords: *Basement, Granit, XRF (X-ray Fluorescence), Kalk-Alkaline, Metaluminous, Active continental margin.*