ANALISIS SESAR NAIK SEBAGAI INDIKASI NAIKNYA BATUAN FORMASI TOTOGAN, STUDI KHUSUS : DAERAH SUKOHARJO DAN SEKITARNYA, KECAMATAN KANDANGSERANG KABUPATEN PEKALONGAN

SARI

Kehadiran batuan Formasi Totogan dengan pelamparan yang terbatas di daerah Sukoharjo dan sekitarnya, Kabupaten Pekalongan, Jawa Tengah menarik untuk dilakukan penelitian, karena diduga memiliki asosiasi dengan kehadiran struktur geologi yang menjadi batas pelamparannya. Tujuan penelitian ini adalah untuk mengetahui kondisi geologi, peran struktur geologi terhadap batuan Formasi Totogan, dan model sesar yang berkembang pada daerah penelitian. Metode yang digunakan dalam penelitian ini adalah pemetaan geologi dan analisis struktur geologi dibantu analisis stereonet dan pendekatan model struktur geologi. Hasil penelitian menunjukan bahwa daerah penelitian terdiri atas morfologi Pegunungan Gunung Api, Pegunungan Lipatan dan Pegunungan Sesar, tatanan stratigrafi tersusun atas sedimen melange sedimenter, batuan sedimen karbonat, batuan sedimen vulkaniklastik, dan batuan vulkanik yang dikontrol oleh struktur geologi berupa jajaran sesar naik dengan sistem *Trailing Imbricate* yang berasosiasi dengan lipatan, serta sesar mendatar. Sesar naik Sukoharjo 1 merupakan sesar naik yang memiliki displacement paling besar karena berada pada bagian belakang dalam sebuah *Trailing Imbricate System,* yang mampu mengangkat batuan Formasi Totogan. Daerah penelitian dikontrol oleh gaya utama berarah relatif timur laut-barat daya, mengakibatkan terbentuknya struktur geologi berupa sesar naik dan lipatan berarah barat-timur atau relatif barat laut-tenggara, sesar mendatar kiri sintetik berarah timur laut-barat daya, dan sesar mendatar antitetik berarah barat laut-tenggara. Selain itu, jajaran sesar naik pada daerah penelitian terbentuk dengan mekanisme *Thin-Skinned Tectonic*.

Kata kunci — Sesar Naik, Geologi, *Trailing Imbricate System, Thin-Skinned Tectonic*, Totogan

REVERSE FAULT ANALYSIS AS AN INDICATION OF THE RISE OF TOTOGAN FORMATION ROCKS, STUDY CASE: SUKOHARJO AND SURROUNDING AREA, KANDANGSERANG SUBDISTRICT, PEKALONGAN REGENCY

ABSTRACT

The presence of the rock of Totogan Formation with limited distribution in Sukoharjo and surrounding areas, Pekalongan Regency, Central Java is interesting to do research, because it is suspected to have an association with the presence of geological structures that are the limit of its distribution. The purpose of this study is to find out the geological conditions, the role of geological structures toward the rock of Totogan Formation, and the fault models that develop in the research area. The methods used in this research are geological mapping and geological structure analysis assisted by stereonet analysis and geological structure model approaches. The results showed that the research area consisted of the Volcano Mountains morphology, Fold Mountains morphology and Fault Mountains morphology, stratigraphic order composed of melange sedimentary rocks, carbonate sedimentary rocks, volcanic sedimentary rocks, and volcanic rocks controlled by geological structures in the form of thrust system with the Trailing Imbricate system associated with folds, as well as strike slip faults. The Sukoharjo 1 reverse fault is an reverse fault that has the most displacement because it located at the back of Trailing Imbricate System, which is able to lift the rocks of the Totogan Formation. The research area is controlled by the main force directed relatively northeast-southwest, resulting geological structures in the form of reverse faults and folds in the west-east or relatively northwest-southeast direction, synthetic sinistral faults in the northeast-southwest direction, and antitethic dextral faults directed northwest-southeast. Moreover, the thrust system in the research area formed by the Thin-Skinned Tectonic mechanism.

Keyword — Reverse Fault, Geology, Trailing Imbricate System, Thin-Skinned Tectonic, Totogan