SARI

Batugamping berwarna merah dengan penyebaran setempat-setempat dijumpai di Daerah Sawahan dan sekitarnya, Kecamatan Ponjong, Kabupaten Gunungkidul, Daerah Istimewa Yogyakarta. Keberadaan batugamping merah tersebut menarik untuk diteliti lingkungan pengendapannya, mineral pengontrol warna merah, serta proses yang menyebabkan terbentuknya warna merah pada batugamping tersebut. Lingkungan pengendapan batugamping merah diinterpretasikan berdasarkan analisis fasies dan paleontologi. Mineral pengontrol warna merah diketahui berdasarkan analisis petrografi, XRD, geokimia oksida mayor, dan mineralogi normatif. Proses pembentukan warna merah diinterpretasikan berdasarkan integrasi mineral pengontrol warna merah dan kondisi geologi daerah penelitian. Analisis lingkungan pengendapan menghasilkan lingkungan pengendapan *mound*, *fore reef*, *back reef*, dan *reef front*. Analisis mineral pengontrol warna merah menghasilkan mineral siderit dan titanit serta oksida FeO dan MgO. Berdasarkan asosiasi mineral pengontrol warna merah dan kondisi geologi daerah penelitian, diinterpretasikan bahwa warna merah pada batugamping di daerah penelitian terbentuk setelah pengendapan batugamping berakhir karena proses diagenesis. Proses diagenesis pada batugamping di daerah penelitian meningkatkan persentase unsur Fe dan Mg yang sifatnya tidak terlarut. Unsur Fe dan Mg tersebut selanjutnya mengalami oksidasi dan membentuk warna merah pada batugamping di daerah penelitian.

Kata kunci: Batugamping merah, Sawahan, Ponjong, Formasi Wonosari-Punung

ABSTRACT

Red limestone which is sporadically distributed is found in Sawahan and surroundings area, Ponjong Subdistrict, Gunungkidul District, Daerah Istimewa Yogyakarta. The existence of this red limestone is interesting to be researched on its depositional environment, mineral control the red colour, and process causing the formation of this red limestone. The depositional environment of the red limestone is interpreted from facies and paleontology analysis. Mineral control the red colour is determined from petrography, X-Ray Diffraction, major oxide geochemistry, and normative mineralogy analysis. The process causing the formation of this red limestone is interpreted from the association of mineral control the red colour and the geological condition of research area. Depositional environment analysis shows mound, fore reef, back reef, and reef front environment. The analysis of mineral control the red colour shows titanite and siderite minerals and FeO and MgO oxides. Based on the association of mineral control the red colour and the geological condition of research area, the formation of red colour is interpreted post-depositional of the limestone, caused by a diagenesis process. Diagenesis process on limestones in research area increase the Fe and Mg percentage which is unsoluble elements. Then, the Fe and Mg elements oxidized and form the red limestone in research area.

Keywords: Red limestone, Sawahan, Ponjong, Wonosari-Punung Formation