

## SARI

Daerah penelitian terletak pada lereng tenggara Gunung Raung, Kabupaten Banyuwangi, Provinsi Jawa Timur. Daerah penelitian merupakan kawasan industri sehingga diperlukan sumber air baku untuk pengembangan wilayah. Penelitian ini dilakukan untuk mengetahui sifat fisik dan kimia air tanah pada sumber air sebagai sumber air bersih. Metode yang digunakan pada penelitian ini adalah metode pemetaan geologi permukaan, pemetaan hidrogeologi, serta analisa XRF, Petrografi, dan analisis sifat kimia air tanah menggunakan *Ion Chromatography* (IC) untuk mengetahui kandungan ion mayor air tanah. Berdasarkan hasil pemetaan geologi permukaan, daerah penelitian terbagi menjadi 4 satuan geomorfologi yaitu satuan lereng gunungapi Raung, satuan medan lahar gunungapi Raung, satuan dataran kaki gunungapi Raung, dan dataran aluvial Muncar. Sedangkan urutan stratigrafi daerah penelitian dari tua ke muda yaitu satuan breksi andesit, satuan breksi piroklastik, satuan lava basalt, dan endapan aluvial. Berdasarkan hasil pemetaan hidrogeologi daerah penelitian, suhu air tanah berkisar  $22^{\circ}\text{C} - 29^{\circ}\text{C}$ , pH berkisar 6 – 7,8, DHL berkisar antara  $100\mu\text{s/cm} - 1350\mu\text{s/cm}$ , TDS  $50\text{ mg/L} - 680\text{ mg/L}$ , elevasi muka air tanah berkisar 3,85 – 755 meter diatas permukaan laut. Tipe air tanah daerah penelitian adalah *alkaline earth water with higher alkaline content (predominantly hydrocarbonate)* dan *alkaline earth water with higher alkaline content (predominantly sulphate and chloride)* yang berasal dari pelapukan mineral plagioklas, feldspar, piroksen, amfibol, dan silika serta penambahan air hujan dan faktor antropogenik. Air tanah daerah penelitian terbagi menjadi 3 sistem akuifer berdasarkan analisa menggunakan diagram Schöller. Kualitas air tanah pada daerah penelitian sebagian besar memenuhi standar kualitas air baku, namun terdapat beberapa sampel air tanah tidak memenuhi standar kualitas air baku berdasarkan parameter pH,  $\text{NO}_3^-$ ,  $\text{SO}_4^-$ , dan  $\text{Na}^+$ .

Kata Kunci: mata air, geokimia batuan, geokimia air tanah, kualitas air tanah.

### ***ABSTRACT***

The research area is located on the southeastern slope of Mount Raung, Banyuwangi Regency, East Java Province. The research area is an industrial area so that raw water sources are needed for regional development. This research was conducted to determine the physical and chemical properties of groundwater in water sources as a source of clean water. The method used in this research is the method of surface geological mapping, hydrogeological mapping, as well as XRF analysis, petrography, and analysis of the chemical properties of groundwater using Ion Chromatography (IC) to determine the major ion content of groundwater. Based on the results of surface geological mapping, the research area is divided into 4 geomorphological units, namely Raung volcanic slope units, Raung volcanic flow units, Raung volcanic foot plains, and Muncar alluvial plains. While the stratigraphic order of the study area from old to young is andesite breccia unit, pyroclastic breccia unit, basalt lava unit, and alluvial deposit. Based on the results of the hydrogeological mapping of the research area, the groundwater temperature ranges from 22°C – 29°C, pH ranges from 6 to 7.8, DHL ranges from 100  $\mu\text{S}/\text{cm}$  – 1350  $\mu\text{S}/\text{cm}$ , TDS 50 mg/L – 680 mg/L, groundwater elevation ranges from 3.85 – 755 meters above sea level. The type of groundwater in the research area is alkaline earth water with higher alkaline content (predominantly hydrocarbonate) and alkaline earth water with higher alkaline content (predominantly sulphate and chloride) derived from weathering of plagioclase, feldspar, pyroxene, amphibole, and silica minerals as well as the addition of rainwater. and anthropogenic factors. Groundwater in the study area is divided into 3 aquifer systems based on analysis using Schöller diagrams. Most of the groundwater quality in the study area met the standard water quality standards, but there were some samples of groundwater that did not meet the standard water quality standards based on the parameters of pH,  $\text{NO}_3^-$ ,  $\text{SO}_4^-$ , and  $\text{Na}^+$ .

**Keyword:** *spring, rock geochemistry, groundwater geochemistry, groundwater quality.*