

ABSTRAK

Daerah penelitian secara administratif berada pada Kecamatan Kretek dan Kecamatan Pundong yang meliputi Desa Parangtritis, Desa Donotirto & Desa Seloharjo yang berada di Kabupaten Bantul, serta Kecamatan Purwosari yang meliputi Desa Girijati, Kabupaten Gunung Kidul, Provinsi Daerah Istimewa Yogyakarta. Secara geografis, kavling penelitian terletak pada $110^{\circ} 18' 10,38''$ - $110^{\circ} 20' 53,71''$ BT dan $7^{\circ} 59' 10,65''$ - $8^{\circ} 1' 53,19''$ LS.

Berdasarkan pengamatan dan studi literatur, geomorfologi pada daerah penelitian terbagi kedalam 5 bentuk asal, yaitu bentuk asal karst, fluvial, *marine*, denudasional dan aeolian. Dari 5 bentuk asal tersebut terbagi lagi menjadi 8 bentuklahan, yaitu perbukitan karst (K1), dataran aluvial (F1), tubuh sungai (F2), gosong sungai (F3), gisik (M1), laut (M2), lereng terdenudasi (D1), dan gumuk pasir (A1). Stratigrafi pada daerah penelitian dari tua ke muda yaitu, Satuan lava andesit, Satuan breksi prikolastik dan Satuan lapili tuff yang termasuk kedalam Formasi Nglanggeran (Surono, 2009), diendapkan di lingkungan darat, lalu ditindih secara tidak selaras dengan Satuan batuan karbonat yang tergabung ke dalam Formasi Wonosari yang berumur N11 – N13 (Barker, 1960), diendapkan di lingkungan laut dan di atasnya ditindih secara tidak selaras endapan fluvial dan endapan vulkanik yang tergabung dalam Endapan Aluvial, memiliki umur Kuartar (Surono, 2009) dan diendapkan di darat. Struktur geologi yang berkembang pada daerah penelitian berupa kekar berpasangan (*Shear Joint*) dan 3 Sesar mendatar, yaitu sesar mendatar kanan turun 1 dan 2 yang memiliki arah Pola Jawa, dan sesar mendatar kiri turun 1 yang memiliki arah Pola Meratus.

Berdasarkan parameter fisika (*Total Dissolved Solids* & Daya Hantar Listrik) dan parameter kimia (kandungan anion Cl^- dalam mg/L) pencemaran air tanah berupa intrusi air asin pada daerah penelitian terbagi menjadi 2 zona, yaitu zona air tawar (pada CAT 109 & 119) dan zona air tawar – payau (pada CAT 109). Intrusi tersebut diakibatkan oleh air payau pada tambak udang di daerah penelitian yang masuk ke dalam akuifer dangkal berlitologi batuan karbonat (mudah larut & porositas besar) sehingga terjadi pencemaran air tawar pada daerah tersebut.

ABSTRACT

The research area administratively located in Kretek and Pundong sub-districts which include Parangtritis Village, Donotirto Village & Seloharjo Village located in Bantul Regency, and Purwosari District which includes Girijati Village, located in Gunung Kidul Regency, Special Region of Yogyakarta. Geographically, the research plots are located at $110^{\circ} 18' 10.38''$ - $110^{\circ} 20' 53.71''$ E and $7^{\circ} 59' 10.65''$ - $8^{\circ} 1' 53.19''$ S.

Based on observations and literature studies, the geomorphology in the research area is divided into 5 origin forms, which consist of karst, fluvial, marine, denudational, and aeolian origin forms. Based on the 5 original forms, it is further divided into 8 landforms, which consist of karst hills (K1), alluvial plains (F1), river bodies (F2), riverbanks (F3), beach ridge (M1), sea (M2), denuded slopes (D1), and sand dunes (A1). Stratigraphy in the research area from old to young, consist of andesitic lava unit, pyroclastic breccia unit, and lapilli tuff unit belonging to the Nglanggeran Formation (Surono, 2009), deposited in a terrestrial environment, then overlaid inconsistently with the carbonates rocks belonging to the Wonosari Formation, has an age of N11 – N13 (Barker, 1960), deposited in the marine environment, above Wonosari Formation were inconsistently superimposed on fluvial deposits and volcanic deposits belonging in the Alluvial Deposits, having a Quaternary age (Surono, 2009) and deposited in a terrestrial environment. The geological structures that developed in the research area are Shear Joints and 3 Faults, which consist of Normal Right Slip Fault 1 and 2 which has a "Jawa" pattern direction, and a Normal Left Slip Fault 1 which has a "Meratus" pattern direction.

Based on physical parameters (Total Dissolved Solids & Electrical Conductivity) and chemical parameters (CL- anions in Mg / L), the pollution zone caused by saline water intrusion of the area are interpreted into 2 zones, namely freshwater zones (on groundwater basin No. 109 and 119) and fresh - brackish water zones (on groundwater basin No. 109). The saline water intrusion was caused by brackish water on shrimp farming pond in the area that entered and penetrated the carbonates aquifer (easily dissolved & has a large porosity) which caused freshwater pollution in the area