

**“HUBUNGAN FASIES GUNUNGAPI DENGAN TIPE DAN KARAKTERISTIK AKUIFER KOTA BANDUNG DAN SEKITARNYA, KABUPATEN BANDUNG, JAWA BARAT”**

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**SARI**

Pulau Jawa memiliki banyak gunungapi. Secara umum sistem gunungapi memiliki cadangan airtanah yang penting. Di sisi lain kelimpahan cadangan airtanah yang terdapat pada sistem gunungapi tersebar secara tidak merata. Apakah litologi dari fasies gunungapi berpengaruh terhadap kelimpahan cadangan airtanah? Tujuan dari penelitian ini adalah untuk mengetahui ada tidaknya hubungan antara fasies gunungapi dengan tipe dan karakteristik akuifer lokasi penelitian. Penentuan fasies gunungapi dan model stratigrafi vertikal dilakukan melalui analisis data sekunder yaitu citra DEM, *cutting* dan *well logging*. Selanjutnya dalam penentuan karakteristik akuifer khususnya kuantitas dilakukan analisis *pumping test* menggunakan Metode Walton. Sedangkan kualitas airtanah diketahui dari hasil analisis kualitas airtanah dalam bentuk data sekunder. Berdasarkan hasil penelitian diketahui bahwa lokasi penelitian terbagi ke dalam dua fasies gunungapi, yaitu fasies medial dan fasies distal. Kedua fasies memiliki stratigrafi dan karakteristik akuifer yang berbeda. Fasies medial tersusun atas perselingan breksi dan tuf pasir. Nilai transmisivitas (T) fasies medial tergolong ke dalam kelas rendah hingga tinggi (kelas II – kelas IV), sedangkan nilai konduktivitas hidrolika (K) pada fasies ini sekitar  $10^{-6} - 10^{-3}$ . Fasies medial memiliki kualitas airtanah yang baik dikarenakan semua parameter terukur berada di bawah nilai ambang batas. Fasies distal tersusun atas Satuan batulempung sisipan batulempung pasir, Satuan perselingan batulempung dan batupasir, Satuan konglomerat, dan Satuan batupasir sisipan batulempung. Nilai transmisivitas (T) fasies distal tergolong sedang (kelas III), sedangkan nilai konduktivitas hidrolika (K) sama dengan fasies medial. Kualitas airtanah pada fasies distal kurang baik untuk konsumsi sehingga perlu dilakukan filter dengan pasir aktif terlebih dahulu. Secara keseluruhan lokasi penelitian memiliki tipe akuifer semi-tertekan. Berdasarkan penjelasan tersebut dapat disimpulkan bahwa terdapat hubungan antara fasies gunungapi dengan tipe dan karakteristik akuifer.

Kata kunci : airtanah, akuifer, fasies gunungapi, sumur pemboran.

***“THE RELATIONSHIP OF VOLCANIC FACIES WITH THE TYPE AND  
AQUIFER CHARACTERISTICS IN BANDUNG AREA, BANDUNG REGENCY,  
WEST JAVA”***

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**ABSTRACT**

*Java had many volcanoes. In general the volcanic system has an important groundwater supply. On the other hand the abundance of groundwater supply in the volcanic system is spread unevenly. Is the lithology of the volcanic facies affect the abundance of groundwater supply? The purpose of this study was to determine whether there is a relationship between the volcanic facies with the type and aquifer characteristics of the study site. Determination of volcanic facies and vertical stratigraphic model done through analysis of secondary data such as DEM image, cutting and well logging. Furthermore, in determining the characteristics of the aquifer especially for it's quantity done through pumping test analysis using the Walton Methods. While the quality of groundwater is known from the analysis of groundwater quality as a secondary data. Based on the survey results revealed that the study site is divided into two volcanic facies, that are medial facies and distal facies. Both of them have different stratigraphic and aquifer characteristics. Medial facies composed of breccia and sandy tuff interbedded unit. The transmissivity value (T) of medial facies classified into low to high grade (grade II - IV grade), while the value of hydraulic conductivity (K) in this facies around  $10^{-6}$  -  $10^{-3}$ . Medial facies have good groundwater quality because all the parameters measured were below the threshold value. Distal facies composed of claystone with sandy mudstone intercalation unit, claystone and sandstone interbedded unit, conglomerate unit, and mudstone with sandstone intercalation unit. The transmissivity value (T) of distal facies were moderate (grade III), while the value of hydraulic conductivity (K) equal to the medial facies. The quality of groundwater in the distal facies are not good for consumption so that needs to be filtered with active sand first. Overall the study site has a type of semi-confined aquifers. Based on the explanation can be concluded that there is a relationship between volcanic facies with the type and characteristics of the aquifer.*

***Keywords: groundwater, aquifers, volcanic facies, drilling wells.***