

## **INTISARI**

### **PENERAPAN METODE GEOMAGNETIK UNTUK MENEMUKAN PAGAR HALAMAN II TIMUR CANDI KEDULAN**

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Candi Kedulan berada di Dusun Kedulan, Desa Tirtomartani, Kecamatan Kalasan, Kabupaten Sleman, Propinsi Daerah Istimewa Yogyakarta. Candi yang dibangun sekitar abad ke-8 Masehi sempat hilang akibat terkubur oleh material vulkanik erupsi Gunung Merapi. Candi utama, perwara, dan pagar halaman I telah berhasil ditemukan tetapi pagar halaman II masih dalam tahap pencarian. Sampai sekarang penyusunan batuan candi masih terus dilakukan. Survei geofisika menggunakan metode magnetik diterapkan dalam pencarian pagar halaman II agar pencarian dapat dilakukan dengan efektif dan efisien.

Pengambilan data dilakukan selama 3 hari. Pengambilan data dilakukan pada area dengan luas sekitar 54 meter  $\times$  36 meter dengan jumlah lintasan survey sebanyak 13 lintasan. Jarak antar lintasan 3 meter dan jarak titik 2 meter. Pengambilan data dilakukan dengan menggunakan *Proton Precession Magnetometer Geotron* model G-5.

Pengolahan data dimulai dengan koreksi medan magnet utama bumi dilanjutkan dengan koreksi variasi harian sehingga didapatkan anomali medan magnet total. Pengolahan lanjut menggunakan filter kontinuasi ke atas dan reduksi ke kutub (RTP) bertujuan memperjelas anomali magnetik dilakukan menggunakan perangkat lunak *Oasis Montaj 6.4.2* dan *Surfer 13*. Interpretasi kualitatif dilakukan dengan peta hasil anomali residual setelah di RTP didapatkan anomali tinggi di tenggara area penelitian. Interpretasi kuantitatif menghasilkan model anomali yang memiliki nilai suseptibilitas 0,17 SI kedalaman 6,2 meter, panjang 3,5 meter dan tebal 2 meter bukan bagian pagar halaman II Candi kedulan tetapi kemungkinan merupakan bagian batu penyusun Candi Kedulan.

**Kata kunci:** Candi Kedulan, metode geomagnetik, kontras suseptibilitas, pemodelan 2,5 D

## ABSTRACT

### *APPLYING GEOMAGNETIC METHOD FOR DETECT EAST SECOND YARD WALL OF KEDULAN TEMPLE*

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Kedulan Temple is located in the Tirtomartani Village, Kalasan District, Sleman, Yogyakarta Special Province. The temple was built in 8<sup>th</sup> centuries and later buried by eruption materials of Merapi Volcano. The main temple, secondary temple and first wall were found but the second wall is still uncover. Renovation is still undergone to complete the temple. Geomagnetic survey was used to search the part of outer east wall more effectively and efficiently.

Field campaign was conducted in three days. The survey area was approximately 54 meters  $\times$  36 meters wide and consisted by 13 lines. The line spacing was approximately 3 meters and the measurement point spacing was 2 meters. The data were collected using proton precision magnetometer Geotron G-5.

Data processing was started with correction of earth magnetic field and correction of daily magnetic variation to obtain the total magnetic field anomaly. Further processing, upward continuation and reduction to pole, were applied to enhance anomaly magnetic which calculated with Oasis Montaj 6.4.2 and Surfer 13. Qualitative interpretation using residual anomaly map obtained from reduction to pole process resulted high anomaly magnetic from south east study area. Quantitative interpretation resulted an anomaly which has 0,17 SI susceptibility value, lies beneath depth 6,2 meters, with length 3,5 meters and thickness 2 meters. This anomaly is interpreted as not part of outer east wall but part of rock of Kedulan Temple.

**Keyword:** Kedulan Temple, geomagnetic method, susceptibility contrast, 2,5 D modelling