# Preliminary results of geoelectrical survey and water analysis of several hot springs in Peninsular Malaysia

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Geoelectrical survey was carried out at 20 locations of hot springs in Peninsular Malaysia together with water sampling for chemical analysis. The behaviour of geoelectrical curves and its relationship with water content and temperature were studied. Values of resistivity were found to be very low ranging from 1 to 100 ohm-meter with an average of about 10-20 ohm-meter. Depth of low resistivity zones were calculated to be between 1-40 meter. The low resistivity is probably due to a high concentration of dissolved salts as the result of high water temperatures (45-95$^{o}$C) observed in the area. Locations of the hot springs are found to be situated along a zone from North Johor to North Perak close to western boundary of Main Range Granite. The occurrence of the hot springs is probably related to seepage of geothermal waters along weak zones formed by small size faults trending northwest-southeast which are predominant along western zone of the Main Range Granite.



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Sebanyak 20 kawasan air panas di Semenanjung Malaysia telah dilawati dan dilakukan pengukuran duga dalam geoelektrik di kawasan sekitarnya. Disamping itu pensampelan air bagi analisis kimia juga telah dibuat. Sifat-sifat lengkung geoelektrik jasad batuan di kawasan ini serta hubungannya dengan kandungan kimia air dan suhu dikaji. Nilai kerintangan zon air panas berkisar dari 1 ohm-meter hingga 100 ohm-meter dengan purata sebesar 10-20 ohm-meter dan kedalaman zon kerintangan rendah itu adalah dari 1-40 meter. Nilai kerintangan yang rendah ini mungkin disebabkan oleh kepekatan kandungan garam-garam terlarut yang disebabkan oleh suhu air yang tinggi (45-95°C). Zon-zon air panas ini terletak di sepanjang satu garisan dari Johor utara ke Perak utara dan hampir selari dengan sempadan barat Granit Banjaran Besar. Ini memberikan satu petanda bahawa ada kemungkinan kewujudan mereka berkait rapat dengan pengeluaran air geoterma di sepanjang rekahan yang dibentuk oleh sesar-sesar kecil yang berarah barat laut-tenggara di sepanjang jalur barat Granit Banjaran Besar.