

INTISARI

IDENTIFIKASI BATUAN PEMBAWA MINERAL RADIOAKTIF THORIUM MENGGUNAKAN METODE *INDUCED POLARIZATION* (IP) DAN RADIOMETRI DI MAMUJU SULAWESI BARAT

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Penelitian untuk mengetahui keberadaan mineral radioaktif Thorium dilakukan di Mamuju Sulawesi Barat. Persebaran zona mineralisasi Thorium dilakukan menggunakan metode Radiometri dan *Induced Polarization* (IP). Persebaran zona mineralisasi Thorium diinterpretasikan berdasarkan distribusi nilai laju dosis radioaktifitas, nilai kadar Thorium, nilai resistivitas dan chargeabilitas. Data IP sebanyak 9 lintasan dengan konfigurasi Wenner Alpha dan 16 lintasan untuk radiometri.

Hasil penelitian menunjukkan peta laju dosis >1600 nSv/h dan kadar Th >650 ppm, tersebar dari Barat ke Timur pada bagian tengah daerah penelitian yang menunjukkan bahwa daerah tersebut zona akumulasi mineral Thorium. Penampang sayatan inverse 2D IP, menunjukkan dua zona mineralisasi, yaitu zona yang memiliki nilai resistivitas tinggi dan chargeabilitas tinggi sebagai zona mineral konduktif yang berada pada tubuh batuan kompak. Zona dengan nilai Resistivitas rendah dan chargeabilitas tinggi diinterpretasikan sebagai zona alterasi dengan kandungan mineral konduktif yang tersebar pada daerah penelitian. Dua zona mineralisasi tersebut diinterpretasikan mengandung mineral Thorium yang biasanya berasosiasi dengan mineral logam. keterdapatannya mineral radioaktif daerah penelitian sangat berkaitan dengan batuan vulkanik *intermediet* - basa penyusun batuan vulkanik adang yang didominasi oleh batuan ponolith.

Kata kunci : Radiometri, *Induced Polarization*, laju dosis, resistivitas dan chargeabilitas

ABSTRACT

HOST ROCK IDENTIFICATION OF THORIUM RADIOACTIVE MINERAL USING INDUCED POLARIZATION AND RADIOMETRIC AT MAMUJU DISTRICT, WEST SULAWESI PROVINCE

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Research to determine the existence of Thorium was done on Mamuju West Sulawesi. Distribution of mineralization zone thorium was conducted by radiometry method and induced polarization (IP). Distribution was interpreted based on dose rate distribution, radioactivity, thorium content grades, and resistivity and chargeability grades. IP data got 9 lines with Wenner Alpha configuration and 16 lines for radiometry.

Results shown the dose rate map >1600 nSv/h and the content >650 ppm, distribute from west to east from central part of research area which shown the accumulation zone of thorium. Cross section of 2D inverse IP, shown two mineralization zones which is high resistivity zone and high chargeability zone as conductive mineral zone that existed on compact rock bodies. Low resistivity and high chargeability was interpreted as alteration zone with conductive mineral spreaded throughout research area. Both of those mineralization zone interpreted got thorium that usually associated with metals. Availability of radioactive minerals is very connected with intermediate volcanic rocks-alkaline substance that made the adang volcanic rocks that dominated by ponolith.

Keyword : Radiometri, Induced Polarization, dose rate, resistivity and chargeability