

Seminar Calon Lepas Ijazah Jabatan-Jabatan Geologi Universiti Malaya dan Universiti Kebangsaan Malaysia

ABSTRACT OF PAPERS

The geological prospectivity of Malaysia (Potensi mineral di Malaysia berdasarkan geologi)

TEOH LAY HOCK

Jabatan Penyiataan Kajibumi Malaysia
Bangunan LUTH, Kuala Lumpur

The three main geographic regions of Malaysia, namely, Peninsular Malaysia, Sabah and Sarawak display contrasting geology and styles of mineralisation.

Mineralisation in Peninsular Malaysia is characterised by a central gold-base metal belt sandwiched between a western and an eastern tin belt. The western tin belt hosts some of the world's largest tin deposits and has traditionally been the major tin producing region. Several significant tin deposits are also found along the eastern side of the peninsula and hence the name. Recently there has been major gold discoveries within the eastern tin belt. Most of Peninsular Malaysia's major gold and base metal deposits are located within the Central Belt.

In Sabah, the major metalliferous mineral deposits are located along a 'central belt' stretching from the northern islands of Banggi and Malawali, through Taritipan, Gunung Kinabalu and the Labuk Valley to the upper Segama Valley-Darvel Bay area and Semporna Peninsula in the southeast. Precious metal (Au, Ag, PGM) and base metal (Cu, Pb, Zn, Ni, Cr) mineralisation is associated with four main groups of rocks, namely, the pre-Triassic metamorphic and igneous basement rocks, the Cretaceous ophiolitic rocks, the Late Tertiary volcanics and associated hypabyssal rocks and the Pliocene granitic intrusions. Outside the 'central belt' extensive coal seams have been located in the Tertiary basins in southern Sabah, specifically in Maliau and Melibau.

In Sarawak, two main metallogenic provinces separated by the Lupar Line can be recognised. The metalliferous deposits, mainly gold and base metals are generally confined to west Sarawak. In central-north Sarawak, the mineral deposits are mainly sedimentary in nature. Large reserves of coal are found in the Tertiary basins at Balingian, Merit-Pila and Bintulu.

Geologically, there is good potential for the discovery of economic deposits of gold and base metals in the Central Belt of Peninsular Malaysia, the 'central belt' of Sabah and in west Sarawak. Prospects for the development of coal is promising with the best areas located in the Tertiary basins in central-north Sarawak and southern Sabah. There are also good prospects for the development of non-metallic mineral resources especially limestone, ball clay, kaolin, silica sand, rock aggregate, and sand and gravel.

Ketiga-tiga wilayah utama Malaysia berasaskan geografi, iaitu Semenanjung Malaysia, Sabah dan Sarawak menunjukkan perbezaan dalam geologi dan gaya pemineralan.

Pemineralan di Semenanjung Malaysia dicirikan oleh Jaluran Tengah Emas-Logam bes yang terapat di antara Jaluran Timah Barat and Jaluran Timah Timur. Jaluran Timah Barat mengandungi beberapa mendapan timah yang terbesar di dunia dan secara tradisi adalah pengeluar timah utama di negara ini. Beberapa mendapan timah bernilai juga dijumpai di sepanjang bahagian timur Semenanjung Malaysia, oleh yang demikian telah diberikan nama Jaluran Timah Timur. Walau bagaimanapun, baru-baru ini beberapa kewujudan emas yang ketara telah dijumpai di dalam jaluran ini. Kebanyakan mendapan emas dan logam bes di Semenanjung Malaysia terletak di sepanjang Jaluran Tengah.

Di Sabah, longgokan utama mendapan mineral berlogam terletak di sepanjang satu 'jaluran tengah', menganjur daripada bahagian utara Kepulauan Banggi dan Malawali, ke Taritipan, Gunung Kinabalu dan Lembah Labuk ke bahagian atas Lembah Segama, kawasan Teluk Darvel dan tenggara Semenanjung Semporna. Pemineralan logam berharga (Au, Ag, PGM) dan logam bes (Cu, Pb, Zn, Ni, Cr) adalah berkait rapat dengan empat kumpulan batuan utama iaitu batuan metamorf Pra-Trias dan batuan igneus dasar, batuan ofiolit Kretas, batuan vulkanik Tertiar Lewat dan persekutuan di antara batuan hipabisal dengan perejahan granit Pliosen. Di bahagian luar 'jaluran tengah', terdapat lapisan batu arang yang luas, terletak di dalam Lembangan Tertiar di selatan Sabah iaitu di Maliau dan Melibau.

Di Sarawak, dua wilayah metalogeni utama boleh dikenalpasti di mana keduanya dipisahkan oleh Garis Lupar. Secara umumnya, mendapan berlogam, terutamanya emas dan logam bes terbatas di barat Sarawak. Di bahagian tengah utara Sarawak, kebanyakan longgokan mineral adalah asalan sediman. Rezab batu arang yang luas dijumpai di Lembangan Tertiar iaitu di Balingian Merit-Pila dan Bintulu.

Dari segi geologi, terdapat potensi yang baik bagi menemui longgokan emas dan logam bes berekonomi di Jaluran Tengah Semenanjung Malaysia, jaluran tengah Sabah dan barat Sarawak. Prospek bagi perkembangan batu arang adalah cerah dengan kawasan terbaik terletak di Lembangan Tertiar di bahagian tengah utara Sarawak dan selatan Sabah. Terdapat juga prospek yang baik bagi perkembangan sumber mineral bukan logam terutamanya batu kapur, lempung bebola, kaolin, pasir silika, batu agregat, pasir dan batu kerikil.
