

Geology, structure, mineralisation and geochemistry of the Penjom gold deposit, Penjom, Pahang

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The Penjom Gold Mine lies within Permian rocks dominated by tuffs and sediments of the Padang Tengku Formation striking E-W with a 30° dip south, close to eastern boundary with the Triassic. A series of early intruded felsite sills have helped unravel the complex structural history of the mine.

The thrusting and assymmetric folding of the Penjom Thrust cut by a series of N-S faults together with intense graphite alteration have controlled gold mineralisation. The favourable gold depositional sites are diverse and comprise dilational, chemical contrast and competency contrast sites. The diverse styles of mineralisation give rise to diverse widths, grades and orientations of individual ore zones.

The gold mineralising episode, which is associated with and overprints an earlier deposition of pyrite and arsenopyrite, was accompanied by quartz, carbonate and minor amounts of galena and sphalerite. EPMA analyses of the gold show slight variations in fineness from the three main centres of mineralisation, namely, Kalampong East/Hill Six, Jalis and Manik. EPMA study also revealed a gold-bearing graphite-ankerite-quartz intrusive rock.
