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FAULTS AND RELATED FEATURES IN THE EASTERN PART OF KUALA LUMPUR AREA, PENINSULAR MALAYSIA

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The eastern part of Kuala Lumpur area, underlain by granitic and metasedimentary rocks is cut by several major faults. Faults and related features including joints, dikes and veins are conspicuous in the granitic rocks but are less apparent in the metasediments. The dominant strikes of the photolineaments are NW-SE, N-S and NE-SW. The Bt: Tinggi fault zone and Kuala Lumpur fault zone are delineated as NW trending lineament bands.

Field studies show that most of the mesoscopic faults are steeply dipping. The dominant strikes are NW-SE (mode=316^{O}) and N-S (mode=8^{O}). Faults are also striking in the NE-SW, E-W and WNW-ESE directions. The majority of the faults are strike-slip with minor dip-slip components. The NW-SE striking faults are mainly sinistral while both sinistral and dextral displacements are recorded in the N-S and NE-SW trending faults.

Diverse fault-rocks with microstructures indicative of brittle brittle-ductile and ductile deformation are observed. It suggests that there are several episodes of faulting developed under various P-T conditions.

There are 4 sets of steeply dipping regional joints in the granites. The dominant strikes are NW-SE (mode=320^{O}), N-S (mode=10^{O}), E-W (mode=88^{O}) and NE-SW (mode=56^{O}). A cogenetic relationship between the joints and regional faults is deduced.

Microgranite and aplite dikes are common in the granites. They show strong preferred orientation. Dips are high and about 70% of the dikes strike between 310^{O} to 330^{O}. Major quarz reefs are striking between 280^{O} to 320^{O}. In the granites quartz veins are mainly steeply dipping and the dominant strikes are N-S (mode=8^{O}) and NW-SE (mode=314^{O}).

Many of the observed geometric relationships of the faults and related features can be explained by two models of simple shear. An earlier N-S striking sinistral Y-principal shear with corresponding NW-SE striking T-fractures occupied by dikes and quartz reefs. It is followed by a NW-SE striking sinistral Y-principal shear with corresponding dextral NE-SW R-shears and dextral N-S X-shears. Further studies are required to explain faults and related features that do not fit into the above models, in particular the sinistral NE-SW faults.

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