

ZON SESAR ALUR LEBEY

The Alur Lebey fault zone

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Zon sesar Alur Lebey yang selari dengan sebahagian daripada Sungai Lebey, tersingkap di km 22.5 Kota Bharu Lebuhraya Timur-Barat. Panjang singkapan keratan di timur jalan di sekitar 155 m, manakala di barat jalan pula 105 m. Morfologi sesar ditunjukkan oleh barisan susuh bukit berfaset di sepanjang lembah. Di lapangan dan di peta geologi, sesar ini ditafsir sebagai sempadan di antara metavulkan di baratnya dan metaklas di timurnya. Lanjutannya ke utara ditafsirkan bahawa sesar tersebut memotong sepanjang sempadan di antara pelit bersilika di barat dan rijang serta pelit bersilika di timur. Tja menafsirkan zon sesar tersebut sebagai zon sesar sinistral. Sungguhpun gerakan mendatar ke kiri terpamer dalam milonit, namun pergerakan mendatar ke kanan boleh dicerap dalam zon tersebut. Dalam arca Landsat 3 bertarikh 10 Januari 1979 lineamen berjurus 355° yang mewakili zon sesar Alur Lebey dapat dikesan sepanjang 55 km.

Singkapan sesar tersebut terdiri daripada milonit terluluhawa yang mengandungikekanta kuarza dan tuf. Selain berbentukkekanta asimetri, kuarza juga berbentuk koma dan ramping ampul. Klas yang berbentuk tersebut digunakan untuk menentukan hala pergerakan dalam zon sesar.

Umumnya milonit menjurus ke utara dengan kemiringan curam hingga tegak. Satah-satah sesar mendatar memotong foliasi milonit pada sudut tirus atau dan ada pula yang selari dengannya. Selain sesar mendatar terdapat pula sesar songsang yang kemiringannya landai hingga sederhana ke barat. Gerakan umumnya menyongsang ke timur tenggara.

Foliasi milonit yang menjurus ke utara mengandungi tanda-tanda pergerakan ke kiri dan ke kanan, manakala foliasi yang menjurus ke baratlaut hanya pergerakan mendatar ke kiri. Sebilangan lipatan

yang berkait-rapat dengan sesar menunjam ke utara baratlaut, selatan baratdaya dan ke arah timur di cerap di dalam zon sesar tersebut.

Gabungan cerapan lapangan dan analisis struktur akhirnya sampai kepada penafsiran sejarah canggaan yang berlaku di dalam zon sesar tersebut.

The Alur Lebey fault zone, which is parallel to part of Sungai Lebey, is exposed along the East-West Highway at km 221.5 to Kota Bahru. The outcrop is about 155 m wide on the east and 105 m wide on the west side of the road. Fault morphology can be recognised from the faceted hill spurs along the valley. The fault zone has been interpreted as a geologic contact between metavolcanic in the west and metaclastic in the east. The northern extension of the fault was interpreted as the contact between siliceous pelite in the west and chert-siliceous pelite in the east. Tjia interpreted the fault movement as sinistral. On the landsat 3 imagery, a lineament in the direction of 335° representing the Alur Lebey fault zone could be traced for some 55 km from the east-west highway to the middle of east Khlong Pattani. Even though left lateral motion is exhibited within the zone, evidences of right lateral motion were observed in the fault zone.

The outcrop at the east-west highway comprises medium indurated mylonite containing lenses of quartz and tuff. Other than asymmetric lenses, quartz are also in the form of a comma, and pinch-and-swell structures. These forms of clasts are used to determine the sense of movements along the fault.

In general, steeply to vertically dipping foliation strikes towards the north. Fault planes with horizontal senses cut the foliation at an acute angle. Some of these fault planes are parallel to the foliation. There are also reverse fault planes with medium to gentle dips to the west. General motions of the fault were toward the east southeast.

The mylonite foliation which strikes toward the north contains evidences of both left and right lateral motions, whereas the northwest striking foliation exhibits a left lateral motion. Several fault-associated folds plunging towards the north northwest, south southwest and east were observed in the fault zone.

The combination of field observations and structural analysis are used to arrive at the interpretation on the history of the fault zone.
