

## **Deformational style of the Kudat Formation, Kudat Peninsula, Sabah (Gaya Canggaan Formasi Kudat, Semenanjung Kudat, Sabah)**

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Landsat image of Kudat Peninsula clearly shows several major lineaments which run in the WNW and NNE directions. Apparently, these major lineaments also divide this area into three zones or domains, each one having a different structural style and regional trend. The domains are Tajau Domain in the north, Sikuati Domain in the centre and Mampilis Domain in the southeastern part of the area. The boundary between the Tajau and the Sikuati Domains is marked by the existence of several outcrops of the Chert-Splite Formation which run more-or-less in the WNW direction, while the boundary between the Sikuati and Mampilis Domains is less clear, but is interpreted as representing a wrench fault.

Tajau Domain is characterised by the existence of refolded asymmetrical folds and imbricated thrust faults. The imbricated thrust faults and asymmetrical folds were probably formed by 'break-back' mechanism. The general trend of the early folds and thrusts are about NNE while the later are about ESE direction. Sikuati Domain is characterised by the thrust faults and folds which were trending about WNW direction. The wrench faults which are present in certain parts of this domain, complicate the overall structure of the domain. Mampilis Domain show the most simple structure among the three domains. The rocks in this domain are folded and thrusted, trending about NNE direction but are not refolded as in Tajau Domain. As a whole, the structure of the Kudat Formation is simpler as compared to the Crocker Formation, since in this formation, no inclined and overturned folds are present.

Imej Landsat kawasan Semenanjung Kudat jelas menunjukkan beberapa lineamen utama yang berarah BBL dan TTL. Kelihatannya, lineament utama tersebut juga membahagikan kawasan yang terdiri daripada batuan Formasi Kudat kepada tiga zon atau mandala, setiap satu mempunyai gaya struktur dan tren rantau yang berbeza. Mandala-mandala tersebut dikenali sebagai Mandala Tajau di bahagian utara, Mandala Sikuati di bahagian tengah dan Mandala Mampilis di bahagian tenggara Semenanjung Kudat. Sempadan antara Mandala Tajau dan Mandala Sikuati ditandakan oleh kehadiran beberapa singkapan Formasi Rijang-Splilit yang berjajar pada arah hampir BBL, manakala sempadan antara Mandala Sikuati dan Mampilis agak kurang jelas tetapi ditafsirkan mewakili satu sesar rengkuh.

Mandala Tajau dicirikan oleh kehadiran lipatan tidak simetri dan sesar sungkup imbrikasi yang terlipat semula.. Sesar sungkup imbrikasi dan lipatan tak simetri mungkin telah terbentuk secara mekanisme 'break-back'. Sesar dan lipatan awal mempunyai tren am sekitar UTL manakala yang kemudian mempunyai tren sekitar TTG. Mandala Sikuati pula dicirikan oleh sesar sungkup dan lipatan yang mempunyai tren sekitar BBL. Sesar-sesar mendatar yang terdapat dibeberapa tempat, merencamkan struktur keseluruhan mandala ini. Mandala Mampilis mempamerkan struktur yang paling mudah di antara ketiga-tiga mandala. Batauan dalam mandala ini terlipat dan tersungkup ke arah UTL tetapi tidak terlipat semula seperti Mandala Tajau. Secara keseluruhan, struktur dalam Formasi Kudat adalah lebih mudah jika dibandingkan dengan struktur Formasi Crocker, memandangkan dalam formasi ini tidak terdapat lipatan terbalik dan lipatan rebah.