

Geological Society of Malaysia — Petroleum Geology Seminar 1990

AIRBORNE GEOPHYSICAL SURVEY AS AN AID TO HYDROCARBON EXPLORATION IN ONSHORE SARAWAK

**WEE ENG SWEE & LAI SOO KHUAN
OVERSEAS PETROLEUM & INVESTMENT CORP.**

An airborne gravity and magnetic survey over SK-12, Onshore Sarawak involved some 3232 km of aerogravity data and 6349 km of aeromagnetic data. The main objective of the survey was to identify the regional structural pattern within the surveyed area to aid further exploration activities.

Airborne gravity and magnetic surveying can be performed with a single forward motion of the aircraft. Data is processed and quality controlled to determine its acceptance. Colour Relief Images for both data types were generated to aid the interpretation which was carried out using residual maps of aerogravity and aeromagnetic data at a scale of 1:250,000.

A good correlation was observed between the orientation of the aerogravity anomalies and the known regional geological trends in north central Sarawak. Several basinal areas namely the Balingian Basin, Igan-Oya Half Graben, Mukah Graben and Bawan Basin were identified in the central part of the block. The basins contain considerable thickness of sediments and may be potential kitchen areas for hydrocarbon generation. The aeromagnetic data shows a deep seated magnetic basement in the central part of the block and a northwest-southeast trending fault in the western part.

The results of the quantitative interpretation can be evaluated based on their agreement with both well and seismic data.