This highly disturbed area is probably due to near surface basalts. Since this disturbance was recorded on three lines on this sheet as well as on shore, it appears that, unlike further west in sheet 13, these basalts are almost continuous across the southwestern quarter of sheet 14.

Sheet 20

To judge from the limited coverage available, the northwestern quarter of this sheet is magnetically undistrubed apart from a northwest striking regional of about 8 gammas/mile. No depth estimate can be made, but by comparison with the results obtained elsewhere in the Otway Basin, basement is probably fairly deep; certainly greater than 5000 feet.

Towards the south the basin appears to shallow. The source of anomaly 20.4 is at a depth of the order of 3000 feet (?). The sources of anomalies 20.1, 20.2 and 20.5 are much shallower. This, when considered with the marked swing in the strike of the magnetic anomaly contours between lines ER-52 and EP-35 indicates a possible west side down north-south striking fault between these two lines.

Sheet 15 The Anglesea Sub-basin

Within the very small area surveyed a number of anomalies occur. Anomaly 26.1 is almost certainly produced by a near surface source, but in no case is any great depth to basement indicated.

Sheet 26 The South King Island Sub-basin.

Anomaly 26.1 has a source at a depth of about 3000 feet which appears to be the deepest basement in this area. Anomalies 26.2, 26.3, 26.4 and 26.5 are not fully delineated, but would appear to be due to sources at much shallower depths, probably intrusives within the sedimentary sequence.

References Listed

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CONCLUSIONS AND RECOMMENDATIONS

The Offshore Otway ER-68 Seismic and Magnetic Survey fulfilled its purpose in detailing specific structual anomalies, and in providing structural leads in areas of reconnaissance shooting. The Encounter Bay area was proven to be underlain by shallow basement and devoid of hydrocarbon prospects. Digital reprocessing in association with the ER-68 Survey in Victoria and Tasmania, plus stratigraphic information gained from the Esso Prawn A-1 and Nautilus A-1 wells, made possible for the first time the construction of seismic structure maps on Pre Tertiary markers in Victoria and Tasmania. The shipborne ER-68 Magnetometer Survey, when used with the EP-67 magnetometer results provided a loose grid to help define gross basin structure, and to help pinpoint shallow igneous activity.

Interpretation of the ER-68 Survey with old data has provided a substantial prospect inventory and some new geological thoughts concerning the architecture of the Otway Basin. The validity of the concepts expressed in this report will be best tested by further exploratory drilling.

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