

were measured in the Permian rocks of the Sydney Basin onshore (op. cit. page 20, 26) and the sequence is thought to have a planar surface but an irregular base. Evidence of a thick Permian section was not found in the present survey.

The geologic history of the southeast part of the Sydney Basin contains numerous periods of intrusions and extrusions. Hypothetically, it may be surmised that basaltic flows which occurred in Permian and Miocene - Pliocene time may have overlain considerable thickness of Permian deposits. This would have adversely affected the interpreted data in two respects. Firstly, reflections from beneath the basalt may be masked, and secondly, falsely shallow indications of economic basement could result from magnetic data.

The areas of maximum interpreted sedimentary thickness are from reflections found from the northern permit boundary to about 35°45'S and from 36°30'S to the southern boundary of the permit. Within these zones sedimentation thickness approaches 3,500 feet along the present hinge line. In the middle part of the permit between 35°45' and 36°30'S the same wedge-like basinal form was noted but having a maximum thickness of about 1,500 feet.

2. Structure

Plate I, a structure contour map of Basement, could also be (in the northern part) a mid-Tertiary or Top of Permian map depending on possible basaltic flows in Miocene-Pliocene and Permian times. In the latter case the rolling aspect of Line T-1 is of particular interest. Structural leads are seen at 0300, 0430, 0520 and 0615. The first may be related to a possible turnover on Line M1S, SP 80 and the second to an anomalous high area in the vicinity of SP 60, Line M41S. Possible turnover is also seen at SP 115,