(b) Previous Geophysical Work

The area of this survey has been covered by seismic surveys by Hematite in 1962-63, 1964-65 and 1972, and by Esso in 1966-67, 1967, 1968 and 1969. The early Hematite shooting used single coverage with some 3 CDP, analogue recording, and dynamite energy source. The 1966-67 survey introduced 6 CDP shooting and digital recording, although this was not digitally processed until a year later. The 1968 and 1969 surveys used a gas exploder energy source with 48 CDP recording (processed 12 CDP), but this resulted in no significant improvement in record quality.

In 1972, the Portland-King Island Seismic Survey was shot using an airgun energy source, 48 CDP recording, 48 trace, using a longer (3200 metres) streamer, and processed 24 fold using velocity analysis on alternate traces with an automatic picking programme. In addition, about 250 miles of Esso records were reprocessed, using similar methods.

Results of Previous Surveys

The early Hematite surveys covered the area with a regional grid to which the later Esso Surveys added, giving a 5 x 10 to 5 x 5 mile grid with closer coverage in some locations. Record quality was fair to good down to the Upper Cretaceous/Tertiary uncomformity, but relatively poor to very poor on the Esso records, and unusable on the early Hematite records, below this level.

The 1972 survey provided a single line extending across most of the area, with two cross lines. The improvements in technique with this survey offered for the first time the possibility of mapping within the Mesozoic section with some degree of confidence. The reprocessing of old data resulted in an improvement, but much less that than from the new shooting.

(c) Survey Objectives

The objectives of the survey were:

1) To map on a regional basis the structure within The Mesozoic Section.

2) To follow up leads from the previous survey.

3) To map the section in deep water out to the boundaries of permits.