

- iv) Temperature Surveys: No individual temperature surveys were run however thermometers were run on Schlumberger logs.
- v) Other Well Surveys: None.
- vi) Velocity Surveys: A velocity survey was run at 8200 feet on March 9, 1968. The survey was run by United Geophysical Corporation and the results are included as an appendix.

5. 5. Testing None performed.

IV. GEOLOGY

(1) Summary of Previous Work:

a) Petroleum Indications:

Commercial accumulations of oil and/or natural gas have not yet been discovered in either the onshore or offshore portions of the Otway Basin. Numerous oil and gas shows have been recorded in wells from Upper and Lower Cretaceous sediments. Frome-Broken Hill Pty. Ltd. Port Campbell No. 1 for example, had a strong initial gas flow (4.2 MMCD) with condensate from the Upper Cretaceous Waarre Formation, however the pressure declined rapidly and the interval proved to be non-commercial.

b) Existing Geophysical Data:

The following is a summary of the offshore geophysical surveys completed by both Hematite and Esso.

c) Hematite Petroleum Pty. Ltd.

- 1) Aeromagnetic Survey completed in 1962.
- 2) 743 miles of single fold seismic coverage in 1963.
- 3) 1554 miles of 3-fold CDP and 321 miles of single fold seismic coverage completed in 1965.

d) Esso Exploration and Production Aust. Inc.

2364 miles of 6-fold seismic coverage completed in 1966 and 1967.
970 miles of 6-fold seismic coverage September 67-January 68

e) Existing Geological Work

A considerable amount of geological work has been done onshore in the Otway Basin (see list of selected references). Offshore information has been compiled primarily from seismic control in conjunction with geological and geophysical data from the Pecten 1A, Nerita 1A and Voluta 1A wells drilled by Shell Development (Aust.) Ltd. and the Esso Crayfish A-1 well.

(2) Regional and Historical Geology

The Otway Basin, of Mesozoic and Cainozoic age, is located in the southern part of the old Paleozoic Tasman Geosyncline and encompasses about 33,000 square miles. The Paleozoic sequence probably exceeds 25,000 feet in thickness in the Mornington Peninsula on the southeast side of the Otway Basin. The strata range in age from Cambrian to Carboniferous and consist of complexly folded, faulted, metamorphosed sedimentary, extrusive and intrusive igneous rocks. The Tasman Geosyncline was terminated in late Carboniferous