

SOURCE AND QUALITY OF DATA

The EC-67 marine seismic reflection survey was conducted by Geophysical Services International (G.S.I.) under contract to Esso Exploration and Production Australia, Inc. Field operations commenced on September 1, 1967 and finished November 24, 1967. In the area covered by this subsidy report, six-fold common depth point (C.D.P.) data was digitally recorded from Nitro-Carbo-Nitrate explosive derived signals. Shots were fired from the center of a 6900 foot streamer every 600 feet to obtain the C.D.P. coverage. Esso supervisory personnel were on board the recording boat throughout the field operations.

Digital field data was processed at the G.S.I. Digital Processing Center in Sydney, N.S.W., Australia with time varying deconvolution (TVD) applied. Final presentation is on V.D.F. sections using a 10 to 50 CPS filter range. In general, the quality of data ranged from good to very good. Esso process interpreters derived velocity functions and supervised all processing at the G.S.I. center.

OBJECTIVES OF SURVEY

On previous seismic surveys in the area covered by this report, indications of basin sediments onlapping shallow basement were observed. This onlapping sequence associated with irregular basement features would afford excellent stratigraphic trap possibilities. The EC-67 survey was programmed to better define the possibility of stratigraphic or structure traps on the southwestern margin of the Gippsland Basin. Through the efforts of this survey, a good grid of control has been established, and the presence of Eocene and younger sediments wedging out against the basement complex has been confirmed.

RESULTS OF SURVEY

A. Interpretation Parameters

An effort was made to tie known seismic events from the Dolphin A-1 well and the Kingfish wells into the area covered by this report. From these wells the reflections mapped for this report have been identified as follows:

- 1) Lakes Entrance Formation (Oligocene)
This event is recognized over the whole basin and is found in a rather massive mudstone sequence that ranges from a soft calcareous shale and marl at the top to a glauconitic sandstone at the base. Depositional environment of the Lakes Entrance formation was marine. Some difficulty was encountered in following the continuity of this reflection where faulting is present and where Miocene channel cuts have eroded away most of the formation.
- 2) Latrobe Delta Topographic Surface (Eocene-Paleocene-Upper Cretaceous).
The reflection mapped as the Top of the Latrobe Delta Topographic Surface was carried from well ties at Dolphin A-1 and Kingfish field into the area covered in this report. The Latrobe Delta event can be mapped with good continuity over the entire area to the point of truncation against the Basement complex.