

traces are displayed as a function of moveout applied to the end trace. Maximum stack amplitudes are output from the computer as a print out of average velocity versus 2 way reflection time. The locations of Automated Velocity Scans are shown on Plates 11 (a, b) and the scans plus the computer print outs are submitted with this report.

2. Previous Surveys

425 miles of the EO-67 Survey that was shot by G.S.I and digitally recorded were processed digitally for the first time under BMR subsidy. Plate 1 shows the program. Digital processes of True Amplitude Recovery, Normal Moveout Correction, 6 fold stack, Time Variant Deconvolution, Time Variant Filter and Digital A.G.C. were applied. Velocity control was maintained from T delta T analysis of single fold records, and Automated Velocity Scans were not run.

Results were very good, and a large improvement over previous analog processing.

C. INTERPRETATION METHODS AND PARAMETERS

Seven offshore wells were used to identify reflecting horizons. These include the Esso wells, Crayfish A-1, Argonaut A-1, Nautilus A-1, Prawn A-1 and the Shell wells Voluta 1-A, Pecten 1-A and Nerita 1-A. The following horizons were identified and mapped.

1. Economic Basement (plates 2(a,b,c,d,e,f)) is not tied to any well, but is tied by projection from King Island and from refraction identification of shallow Basement in Encounter Bay.
2. Top Crayfish Sand (plates 3(a,b,c)) has been tied to Esso Crayfish A-1. The reflection was identified as the "Pretty Hills Unconformity" in the EP-67 Subsidy report.
3. Top Otway (plates 4 (a,b,c)) has been tied to Shell Pecten 1-A and Esso Prawn A-1.
4. Senonian Marker (plates 5(a,b,c)) does not tie to any geologically identifiable marker bed. However, it is tied at two wells, Argonaut A-1 and Voluta 1-A, to approximately the Base of the Paaratte.
5. Base of Tertiary (plates 6 (a,b,c,d,e,f,g,h,i)) has been tied to all the offshore wells in the basin. Within the Gambier Sunklands, the Base of Tertiary is an excellent reflection. In the Victorian area of Prawn-Pecten-Nautilus, the Base of Tertiary is at the base of south clinoforming Tertiary units. Within the Anglesea Sub-basin, the Base of Tertiary has been tied to the bottom of the Eastern View Coal Measures at Nerita 1-A, and therefore the mapped seismic marker may be partly within the Upper Cretaceous. At the basin margins, the mapped horizon no longer is Top of Upper Cretaceous, but becomes Top Otway and the Economic Basement.
6. Top Eocene Sandstone (plates 7 (a, b, c)) has been tied to all offshore wells except Crayfish A-1. It is a good reflecting horizon that marks the top of Tertiary coarse clastics. The reflection may be partly lower Oligocene, since the Mepunga, Nelson and Kingston Green Sand Formations fall below the mapped horizon, and are thought to be Lower Oligocene. In the Anglesea Sub-basin, the reflection is tied to the top of the Demon's Bluff Formation at Nerita 1-A.
7. Lower Miocene Marker (plates 8 (a, b)) has been tied to Nautilus A-1, Prawn A-1 and by projection to Pecten 1-A. It is a reflecting horizon within the Gellibrand Marl of Lower Miocene age, probably a time-rock unit.

The identified reflections were mapped in two way reflection time at the scale and contour interval necessary to illustrate anomalous conditions. A suite of time-depth curves (figure 4) is submitted to assist the reader in converting from time to depth maps.