b) Structure

Prior to drilling Pelican-4 the Pelican prospect was remapped using data from the HB77A Seismic Survey which was shot in December 1977 with a grid spacing as close as 1 km in parts. Time structure maps were prepared on Green Horizon (within the Torquay Group), Yellow Horizon (top Eastern View Coal Measures), Red Horizon (within the upper Eastern View Coal Measures), and the structure was mapped in depth on Blue 1 Horizon which is correlated with the top of the major reservoir sands (base Yellow Sand) in Pelican-1 and Pelican-2.

As with previous mapping, difficulties were experienced because of the deterioration of seismic data below the coaly section of the upper Eastern View Coal Measures. Uncertainties in correlations across faults and the regional development of the unconformity, identified by the drilling of Pelican-3, between the coal measures and the reservoir section lowers confidence in the seismic interpretation and geological predictions based thereon.

After lag corrections to times from seismic sections, depths in the well were predicted using the velocity curve from Pelican-1, the nearest well. For the reservoir interval, depths were derived by assuming the stratigraphic section at Pelican-1 would occur at Pelican-4 and at the same structural elevations above or below the Blue-1 seismic horizon.

The depths to formation tops/zones are presented in Table 1. The tops of the Demons Bluff Formation and the Eastern View Coal Measures were penetrated 18 m (58 ft) and 15 m (48 ft) low to prediction. This discrepancy can be attributed to a slight error in the velocity assumed for depth calculations. At the level of the reservoir sands the section is structurally higher than was predicted (up to 42 m (139 ft) on the Yellow Sand). This is interpreted to