

We consider this horizon to be very reliable, in the area of the C.D.P. control. Definite structural closure has been established on anomalies (B) (C) (D) (E) and (F).

Faulting appears on most of the C.D.P. sections to die out within or just above this unit (horizon "B" to horizon "C"). No reliable fault closure for this horizon has been mapped.

(c) Structure Contour Map: Horizon "C" (Postulated Eocene Unconformity) Plate III

Our previous interpretation of Haematite seismic data indicated the presence and general stratigraphic position of an Eocene unconformity which has now been mapped in detail with the C.D.P. control.

This unconformity surface has proved to be in many cases fairly rugged. Probably the most startling result to come out of the C.D.P. shooting is a very obvious canyon found running north-south just east of anomaly (B). The canyon ranges from 500 to 2500 feet in depth, is postulated to be filled with marine sediment, and breaches the underlying stratigraphic section well into the predicted Mesozoics.

Several different types of anomalies may be seen on this horizon:

- (i) Anticlines - Where the unconformity is fairly parallel to underlying beds, the structural map generally presents postulated Latrobe structure. Such anomalies are (A-1) (A-2) (C) (D) (E) (F) (H).
- (ii) Topographic Highs - In at least two instances, B and G, erosion provides the closure on at least one flank. Anomaly B was an anticline of horizon "C" age and was breached by canyon erosion, producing the east flank closure. Anomaly (G) appears to have been a regionally west plunging nose prior to erosion. Subsequently the canyon erosion cut across the nose producing the east closure. In both these cases additional favourable stratigraphic conditions must be present before they would be considered prospective and drillable anomalies. In the case of (B) we predict very porous reservoir rocks, Latrobe formation, to be surrounded by probable Lakes Entrance source beds. This stratigraphic and structural relationship resembles a reef in general geometric effect. (See line EG 39).
- (iii) Fault Closure - Two regional fault systems may be seen on this horizon. One system trends almost east-west, is immediately north of the (A) anomaly trend, and is downthrown to the north. This fault produces no prospective structural closure.

The other major fault trend is along the southwest flank of the basin, and is downthrown to the northeast. This fault was most active during the pre-horizon "D" deposition, but extends up through horizon "C" and in some cases appears to have broken horizon "B" (see line EG 28). There is good seismic evidence that the fault system is an echelon. This offset pattern has proved detrimental to structural closure; detailed shooting would be necessary to find good lateral closure on the individual faults.