

A 624 foot section of sediments higherto unknown either on Tasmania or on the southeastern mainland, was encountered at 4272 feet. These beds which are tentatively referred to as "red beds", are composed of conglomerate, composed of vari-coloured siltstones ranging from pebble to cobble in size, in a brick-red siltstone matrix and also unbedded brick-red siltstone.

Both core samples and thin-sections of the material were examined by various authorities in an attempt to identify and age date this material. Their findings are included in Appendix 2 of this report. The general opinion is that they are of Paleozoic origin and that the constituents are derived from Pre-Cambrian metamorphosed siltstones prevalent in northwestern Tasmania. Further evidence is given by P.R. Evans (verbal communication) who postulates a Pre-Permian origin based on the total absence of plant cuticle material which is normally found in younger beds. The most important orogenic movement in Paleozoic times was the Tabberabberan Uplift during Middle Devonian. It is quite possible that this thick sequence was associated with that event.

(d) Lower Paleozoic Siltstone - 4896-5053'

Overlying the Pre-Cambrian Rocky Cape Group, 157 feet of light to medium grey, medium hard stilstone was penetrated differing from Rocky Cape Group only in its induration. It is assumed that this section represents a post Pre-Cambrian erosional surface occurring possibly during lowermost Paleozoic times. This zone is also devoid of fossil remains, thus dating is uncertain.

(e) Pre-Cambrian

Rocky Cape Group - 5053' +

Low grade metamorphic phyllite with associated pyrite and thin veins filled with carbonate were encountered at 5053'. This material was identified by workers in Tasmania as belonging to the Pre-Cambrian Rocky Cape Group.

5. Structure

Clam-1 was drilled on the southeastern flank of a large basement "high" and tested simultaneously basal Tertiary structural closure and a thick wedge of sediments pinching out updip against basement. Pre-drilling prognosis indicated Tertiary closure of approximately 60 square miles with vertical relief of 40 square miles. Drilling results show that the structural framework prognosed prior to drilling were correct.

6. Relevance to the Occurrence of Hydrocarbons

During the drilling of Clam-1 no significant shows of hydrocarbons were encountered. Figure 6 presents, in the form of Magnolia plot, the results of resistivity vs. porosity.

7. Porosity and Permeability of the Section Penetrated

In the Tertiary section of Clam-1 a total of 1478 feet of porous and permeable sands were penetrated. These include the following:

1. Brown's Creek (Eocene) with porosities calculated from the sonic log far in excess of 30%. Two cores were attempted in this formation, but due to the unconsolidated nature of the sand there was no discovery.
2. Dilwyn (Paleocene) with the average porosity calculated from the formation density log at 30%.

In the Upper Cretaceous section, a total of 977 feet of porous sands were penetrated.

1. Conglomerate with the average density log calculated porosity of 18-19%. A core was cut in this section between 2846 and 2849 feet in which the pebble and cobble grains were recovered in a totally unconsolidated state.
2. Undifferentiated Curdies and Paaratte Formation porosities (calculated