

Cretaceous; 2328.0m to 3104.0m (TD); thickness >776.0m**2328.0m to 2907.0m**

There are no obvious indications on the rate of penetration curve or in the lithology descriptions for the top of the Cretaceous. Palynology shows that the lower L. balmei zone gives way to the T. longus zone somewhere between 2268.0m and 2370.0m. A major sand is indicated on the wireline logs at 2328.0m and this has been taken as the top of the Late Cretaceous.

Lithologies remain essentially the same as for the lower Paleocene, a sequence of sandstones, claystones and coals, with a predominance of claystones.

2907.0m to 3010.0m

The rate of penetration curve becomes quite flat and low through this section. Three sandstone drilling breaks are seen which correspond to sand indications on the electric logs, but apart from these the logs show that the lithologies are mainly claystones and siltstones.

The claystones are medium to dark brown, predominantly hard and brittle but occasionally soft to firm. They are silty, carbonaceous and contain swelling clays in varying amounts. Occasionally the claystones grade to siltstones and very fine sandstones. There are also light green soft to firm siltstones which grade into very fine to fine sandstones. The sandstones in this section vary from grey, friable to hard, fine-grained sandstones with occasional lithic fragments to brown, very fine-grained, firm, sandstones with argillaceous matrices which grade to siltstones. The brown sandstones contain variable amounts of carbonaceous material while calcareous cement is seen in the grey sandstones.

Cretaceous Volcanics; 3010.0m to 3104.0m (TD); thickness 94.0m

The rate of penetration curve shows little variation from 2980.0m to TD so the top of the volcanics has been picked from the lithology change. Electric logs show the top of the volcanics as a decrease in the delta T curve and a slight decrease in the gamma ray curve at 3010.0m. This corresponds on the lithology log to a change to a white siltstone which is probably a result of alteration of sediments associated with the weathering of the volcanics. Consequently the top of the volcanics has been put at 3010.0m.

The section consists of a sequence of weathered and fresh basalt. The weathered basalt is light green, soft and friable, with a translucent, clayey matrix with firmer, white and dark green grains in it. There are heavy traces of associated calcite. With depth the basalt becomes fresher and harder. At its freshest it is dark to very dark grey speckled with black and white, it is glassy, very hard and occasionally shows a sub-conchoidal fracture. Below 3063.0m the volcanics are interbedded with light greyish green soft to firm, slightly calcareous siltstones. These are clastic sediments