

silty and more argillaceous as the section also consisted of very finely interlaminated sandstones and shales. The other sandstone type ranged from fine to very coarse grained, with medium to coarse grain sizes dominant. It was completely unconsolidated, with angular to rounded, clear to milky quartz occasionally exhibiting minor quartz overgrowths. Relict feldspar crystals were recorded in trace amounts.

Abundant coal was penetrated between 1878 m and 2732 m, especially between 2150 m and 2350 m. The coals were of bituminous grade, black, glossy, hard and brittle with a conchoidal, blocky and lamellar fracture. Occasionally embedded in the coals were fine pyrite blebs and streaks, white calcite veinlets and microlaminations of fine grained sand. Locally, the coals became argillaceous and graded into lignitic shales.

Interbedded with the coals and sandstones were dark brown to black shales that were generally moderately soft to hard, fissile, non-calcareous and relatively brittle. They contained variable amounts of carbonaceous and coaly material, silt, sand, mica and pyrite, whilst many fragments exhibited microlaminations of sandstone and coal.

Between 2207 m and 2780 m, several thin stringers of reddish-brown, very hard and brittle, arenaceous, microcrystalline dolomite were penetrated. These occurred entirely within the Early Eocene and may prove to be marker beds for this part of the EVCM.

Palynological analyses suggest that the depositional environments for the interval 1898 m to 2801 m are dominantly marginal marine with occasional nearshore marine influences, especially within the Early Eocene Upper M. diversus. The Middle Eocene P. asperopolus zone is very coaly and was deposited in a non-marine lagoonal environment.

The next package of sediments from 2801 m to 3031 m ranged in age from Late to Early Paleocene, the boundary between the two being placed at 2885 m. The sequence consists of interbedded sandstones, shales and siltstones with minor thin coals and interbedded clayey sandstone and pyroclastics at the base. Two distinct types of shale were present, one lighter coloured and very silty with moderate amounts of organic material, the other darker coloured, less silty and very organic rich, occasionally grading lignite. The lighter shales often graded into siltstones which were very argillaceous, micaceous and contained abundant carbonaceous material as finely disseminated particles and wispy, coaly bands. Occasionally the siltstones contained abundant fine sand and graded to argillaceous sandstones.

The sandstones ranged fine to very coarse grained but were dominantly medium grained and well cemented with white and tan clays and contained relict feldspars, mica and abundant carbonaceous matter.

The coals were rare and typically thin and of lignitic to sub-bituminous grade, with abundant finely disseminated pyrite and bands of resinous material.

The pyroclastics were mottled light grey and white and very soft, consisting of mostly clays and relict feldspars in a flow banded texture.

Palynological determinations suggest that the depositional environment for the bulk of the section is non-marine lacustrine, based on the lack of dinoflagellates other than Morkallacysta.