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At an unknown time in the late Tertiary, probably Miocene or Pliocene, the rift system initiated a phase of vulcanism in the Conara-Epping and Evandale areas. Olivine rich basaltic lava emanated, presumably from fissures associated with the tensional faults.

This gave rise to a continuous sheet of uniform, vesicular basalt in the area from Campbell Town through Conara, almost to Epping with a thickness of up to 150 ft. The base of the flow appears to have been more or less level, at about 600 ft. ASL in the area around Conara (vide Sections B, C) lower at 550 - 600 ft. near Cleveland and higher, 600-620 ft. SE of Epping.

Near Evandale, the sheet, presumably contemporaneous with the southern one, has a base around 400-450 ft. and a thickness of up to about 300 ft

There appears to be no evidence of pyroclastic materials in the basin area and no volcanic centres have been located.

Following the basalt outpouring, a period of warm wet-dry seasonal conditions in the Pliocene caused deep weathering of the basalt sheet resulting in kaolinisation and in situ bauxitisation of at least the upper 50 ft. A lateritic crust was precipitated on the surface, this also forming in areas where no basalt was present.

Remnants of this surface are extensive around the Conara-Cleveland area and are marked in places by a number of depressions with internal drainage and perched water tables which exist as swampy lagoons at about 650 ft. ASL. Similar lagoons occur west of Longford-Cressy at 550-600 ft. ASL.

Late in the Pliocene, scouring again took place, removing part of the basalt decomposition products in places (Sections B, C, D, W) and elsewhere all of the basalt (Sections C, D, F).

There is little evidence of life other than plants, indicated by the Tertiary sediments, the only other form being possibly foraminifera siliceous tests which appear common at depth in the Cressy-Bishopsbourne area. Some fragments of hard, white, bonelike material, which turned deep blue on exposure, were occasionally encountered in drilling. This is possibly vivianite, an iron phosphate which may represent altered, remobilised organic material.

Paleo drainage throughout the Tertiary would appear to have been to the north as is the case at present. The South Esk River, which enters the basin near Conara, appears to have been in existence as evidenced by Tertiary sediments overlain by basalts in the valley section near Avoca. It was probably successively rejuvenated by uplift throughout the Tertiary as were the other rivers. The thalweg of the Tamar Trough extends to the north and it can only be assumed the ground water drainage has been likewise (Appendix II).

(j) Quaternary

During the Pleistocene and possibly associated with fluvio-glacial activity, there was a considerable period of sedimentation which extended in height of 700 ft. in the Conara-Epping area, burying the scoured kaolinized basalt (Sections C, D, F).