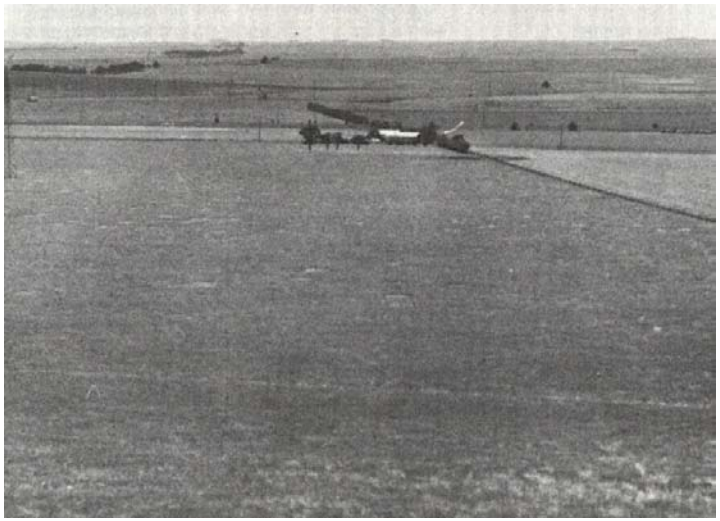
7.9 Birregurra Land System

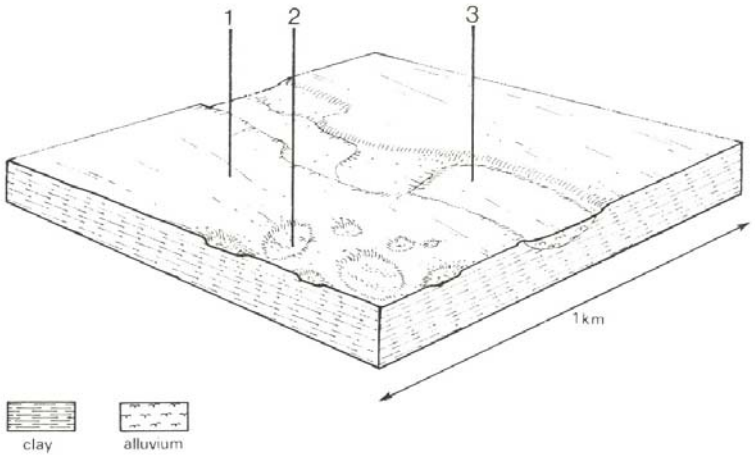
Lying between the basalt plains to the north and dissected lateritized landscapes to the south, much, if not all, of this flat plain apparently marks the eastern extent of a large former lake in western Victoria. The landscape slopes very gently to the east with increasing dissection as the height above the Barwon River flood plain increases from 10 m to about 40 m.

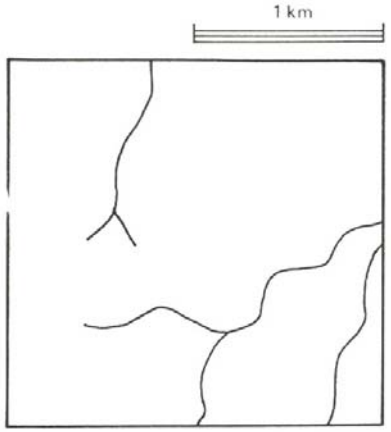
The lacustrine deposits appear to be mainly calcareous and have formed soils with alkaline reaction trends. Dissolution of calcium carbonate has led to the development of sink holes in some areas, although levelling of paddocks has made these less apparent.

The native vegetation has been almost completely removed for agricultural use and its original structure and composition are difficult to determine. In the east there is some evidence of a former woodland, but further west the soils are less well drained and possibly the communities were more stunted.



The western parts of the land system show very little dissection and form a flat plain between the Tertiary sediments in the south and the basalt in the north.





BIRREGURRA Area: 81 km^2	Component and its proportion of land system		
	1 80%	2 10%	3 10%
CLIMATE Rainfall, mm Temperature, 0°C Seasonal growth limitations	**Annual**: 600 – 650, lowest January (30), highest February (75) **Annual**: 13, lowest July (8), highest February (19) **Temperature:** less than 10°C (av.) June - August **Precipitation**: less than potential evapotranspiration October – late April		
GEOLOGY Age, lithology	Pleistocene clay, silt and some sand		
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2 Land form Land form element Slope (and range), % Slope shape	Flat plain bordering the present flood plain of the Barwon River 110 – 130 10 Dendritic 0.8 Flat plain Flat plain 1 (0-3) Linear	 Sinkhole 0 (0-1) Concave	 Younger terrace 2 (1-3) Linear
NATIVE VEGETATION Structure Dominant species	Woodland *E. viminalis, E. ovata*	Sedgeland *Carex* spp. *Scirpus calocarpus, Schoenus apogon, Juncus* spp. *Ranunculus* spp.	Woodland *E. ovata, E. camaldulensis*
SOIL Parent material Description Surface texture Permeability Depth, m	Calcareous clay Yellow-brown calcareous duplex soils, coarse structure Fine sandy loam Very low >2	Sedgeland Grey calcareous sodic clay soils, uniform texture Clay Very low >2	Woodland Grey gradational soils Clay loam Very low >2
LAND USE	Sheep and beef cattle grazing; dairy farming; cropping.		
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Dispersible clay subsoils of low permeability and prone to gully and tunnel erosion. Seasonally high water tables lead to soil salting.	High water tables and low permeability lead to waterlogging, soil compaction and soil salting.	High seasonal water table, low permeability and saline groundwater lead to waterlogging, soil compactions and soil salting.