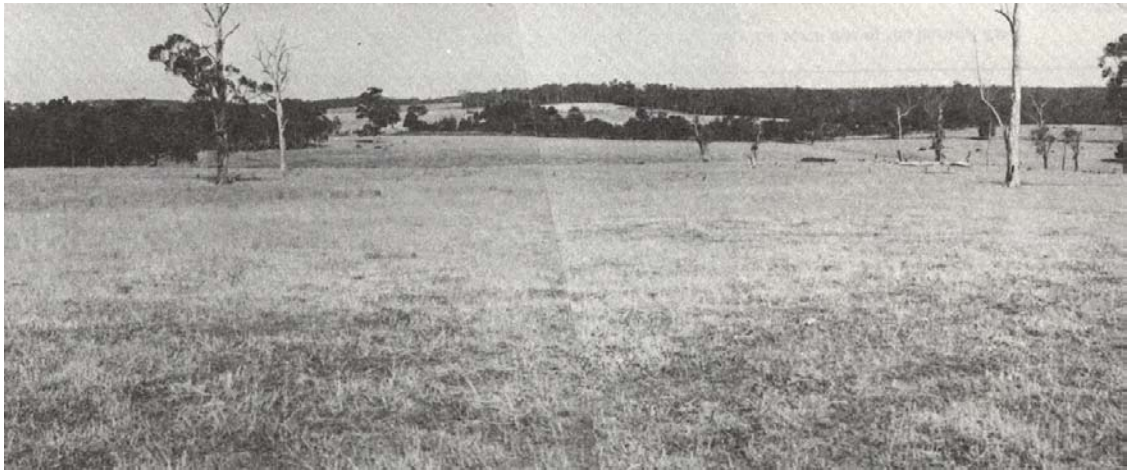
7.41 Wonga Land System

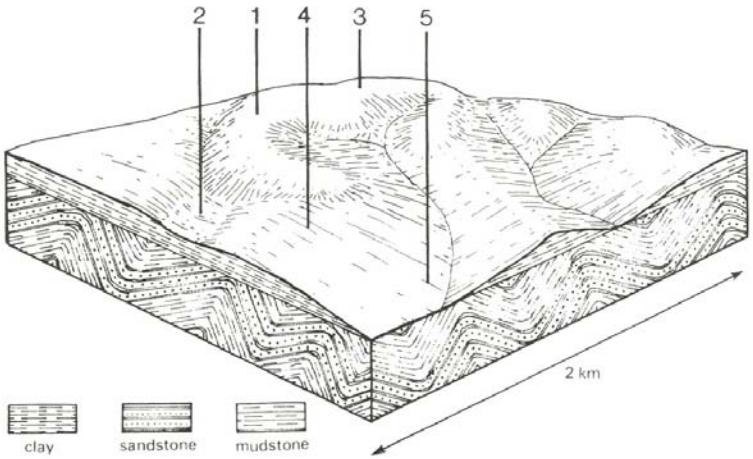
Adjacent to the lateritic plateau around Simpson and at a similar elevation, a gently undulating plain without lateritic ironstone extends eastwards towards Barongarook. The parent material is mainly Tertiary sand and clay, with some minor redistribution on sand veneers in some parts and outcrops of deeply weathered Cretaceous sandstone along the sides of some of the drainage lines.

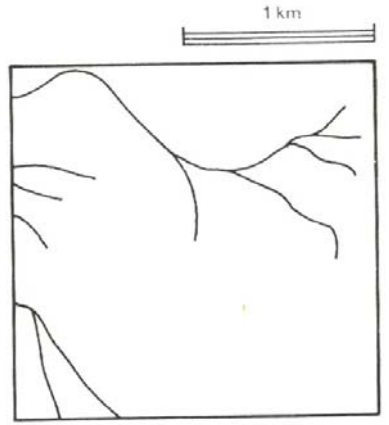
The soils exhibit similar mottling and deep weathering to those found in the Simpson land system, and are prone to nutrient deficiencies and phosphate fixation. Open forests of *Eucalyptus obliqua* occur over most of the landscape, although *E. baxteri* tends to dominate on the polygenetic soils with hardpans. *Acacia mucronata* acts as a strong indicator of the presence of Cretaceous outcrops.

Most areas remain uncleared and are selectively logged for hardwood timber, although most timber is of insufficient size to provide good sawlogs.



The cleared area in the foreground contrasts with the native hardwood forests.





WONGA Area: 72 km^2	Component and its proportion of land system				
	1 45%	2 7%	3 25%	4 15%	5 8%
CLIMATE Rainfall, mm Temperature, 0^{o}C Seasonal growth limitations	**Annual**: 850 – 950, lowest January (40), highest August (120) **Annual**: 13, lowest July (8), highest February (18) **Temperature**: less than 10^{o}C (av.) June – August **Precipitation**: less than potential evapotranspiration late October – March				
GEOLOGY Age, lithology	Paleocene marine unconsolidated clay, silt and sand				Lower Cretaceous feldspathic sandstone and siltstone
TOPOGRAPHY Landscape Elevation, m Local relief, m Drainage pattern Drainage density, km/km^2 Land form Land form element Slope (and range), % Slope shape	Undulating plain in the north part of the Gellibrand River catchment 120 – 340 30 Parallel and dendritic 1.2 Undulating plain Crest, upper slope 7 (0-12) Convex	Colluvial fan, depression 4 (0-7) Concave	Slope 7 (1-16) Convex	Lower slope 10 (4-14) Linear	Lower slope, drainage line 10 (4-14) Linear
NATIVE VEGETATION Structure Dominant species	Open forest *E. obliqua, E. radiata, E. baxteri,* occasionally *E. ovata, E. viminalis, E. aromaphloia*	Open woodland *E. baxteri, E. ovata, E. nitida*	Open forest *E. baxteri, E. radiata, E. ovata, E. obliqua*, occasionally *E. aromaphloia*	Open forest *E. obliqua, E. radiata, E. ovata, E. baxteri*	Open forest *E. obliqua, E. ovata, E. radiata, E. aromaphloia*
SOIL Parent material Description Surface texture Permeability Depth, m	Clay, silt and sand Mottled yellow and red gradational soils Sandy loam Moderate >2	Colluvial sand on sand, silt and clay Grey sand soils, weakly structured clay underlay Sandy loam Low >2	Colluvial sand on sand, silt and clay Grey sand soils, structured clay underlay Sandy loam Low >2	Clay, silt and sand Yellow-brown gradational soils, coarse structure Sandy loam Low >2	In-situ weathered rock Yellow-brown gradational soils, coarse structure Fine sandy clay loam Low 1.5
LAND USE	**Uncleared areas:** Hardwood forestry for sawlogs, posts and poles; water supply; nature conservation; gravel extraction. **Minor cleared areas:** Beef cattle grazing; dairy farming				
SOIL DETERIORATION HAZARD Critical land features, processes, forms	Low inherent fertility and phosphorus fixation lead to nutrient decline.	Low permeability and perched water tables lead to seasonal waterlogging and soil compaction.	Low inherent fertility and leaching of permeable surfaces lead to nutrient decline. Low permeabilities lead to seasonal waterlogging and soil compaction.	Dispersible clay subsoils of low permeability are prone to gully erosion. Steeper slopes are prone to sheet erosion.	Dispersible subsoils receiving run-off from adjacent areas are prone to gully erosion.