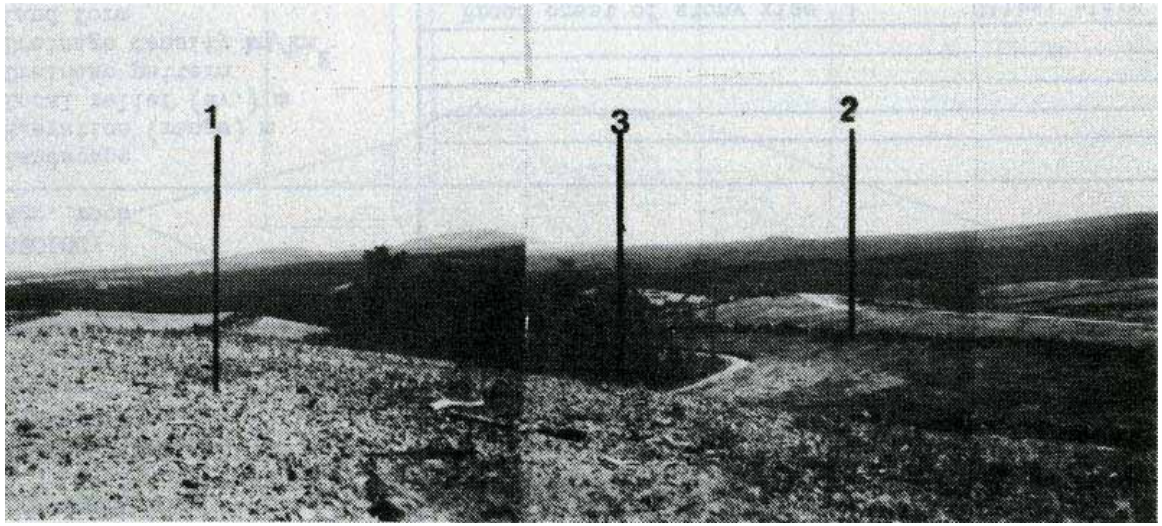
6.29 Wombat Land System



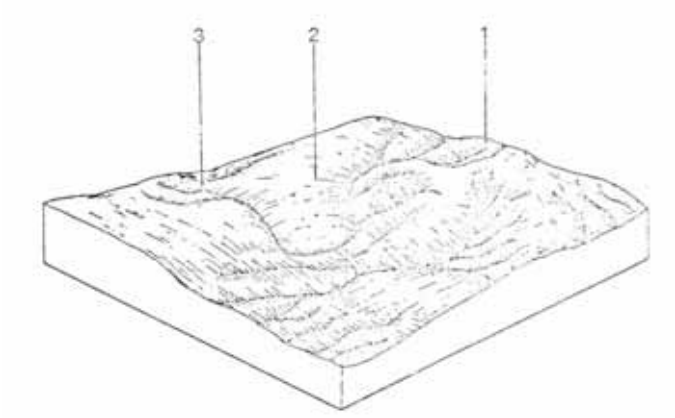
It is situated in the west of the study area and covers 115.4 km^2 or 4.5% of the survey area.

The parent material is Ordovician sediments though there is a small area of Tertiary gravels which have not been studied in this survey. The topography consists of broad crests separated by steep slopes.

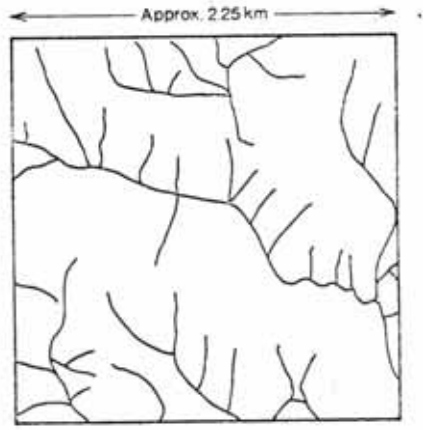
The crests and steeper slopes have shallow gradational soils; these have a light textured weakly structured topsoil grading into heavier, more structured subsoil. On less steep slopes, the soils are often deeper and a similar but duplex soil has developed, often with a mottled B horizon'. The swales have dark gradational soils.

Vegetation is mainly open forest, though it is lower and more open in exposed situations. The predominant species of the tree layer are Narrow and Broad-leafed Peppermints and Messmate on shallow soils and Manna Gum, Messmate, Swamp Gum and Narrow-leaf Peppermint in protected areas with deeper soils.

The Wombat State Forest occurs within this land system. If cleared sheet erosion is likely to occur in steep areas and gullying along depression lines.



Schematic Block Diagram



Drainage Pattern

COMPONENT	1	2	3
Proportion %	40	50	10
CLIMATE			
Rainfall (av.)	Annual: 870-900 mm (monthly range: September 80 mm – January 45 mm)		
Temperature (av.)	Annual: 11^{0}C (monthly range: January 18^{0}C – July 6^{0}C)		
Seasonal growth limitations	Temperature: less than 10^{0}C May - September Precipitation less than potential evapotranspiration November – March		
GEOLOGY			
Age, rock	Ordovician thinly bedded shale and sandstone, some Tertiary gravel		
TOPOGRAPHY			
Landscape	Broad ridges		
Elevation (range) m	460-670		
Local relief (av.) m	100		
Drainage pattern	Dendritic		
Drainage density km/km^2	3.8		
Land form	Crest	Slope	Drainage Line
Slope (av.) %, slope shape	9; Convex	27; Straight	3; Concave
NATIVE VEGETATION			
Structure	Open forest		
Dominant species	*E. radiata, E. obliqua, E. dives*	*E. dives, E. radiata, E. viminalis*	*E. ovata, E. radiata, E. viminalis*
SOIL			
Parent Material	In situ weathered rock		
Description	Shallow stony brown gradational soils	Variable, depending on steepness. Shallow stony yellow or red gradational soils. Yellow or red duplex soils (deeper soils)	Mottled yellow, brown gradational soils
Factual Key	Gn 2.24	Gn 2.34	Gn 2.84
Surface Texture	Loam – Clay loam	Loam – Light clay	Clay loam – Light clay
Permeability	High	Moderate	Moderate – Low
Depth (av.) m	0.3	0.5	1.0
LAND USE	Forestry, recreation, nature conservation, water supply		
SOIL DETERIORATION HAZARD			
Critical land features	Slope gradient	Slope gradient	High watertable, moderate permeability, dispersibility
Processes	Overland flow, leaching	Overland flow, leaching	Overland and subsurface flow, periodic waterlogging
Forms	Sheet and rill erosion, nutrient decline	Sheet and rill erosion, nutrient decline	Gully erosion, surface compaction