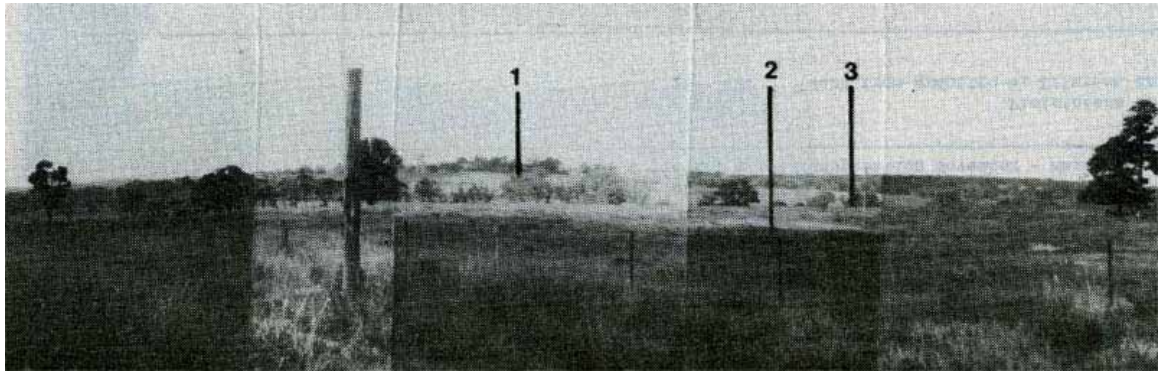
6.8 Greenvale Land System

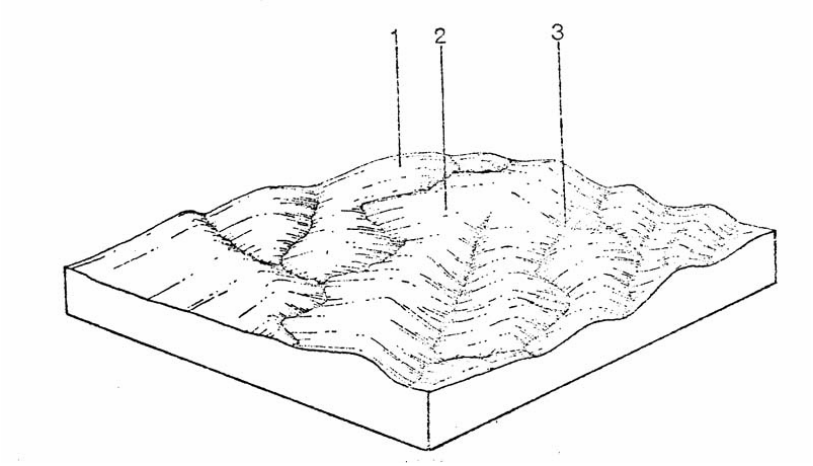


This land system has three occurrences in the south; together they cover 51.6 km^2 and represent 2.0% of the study area.

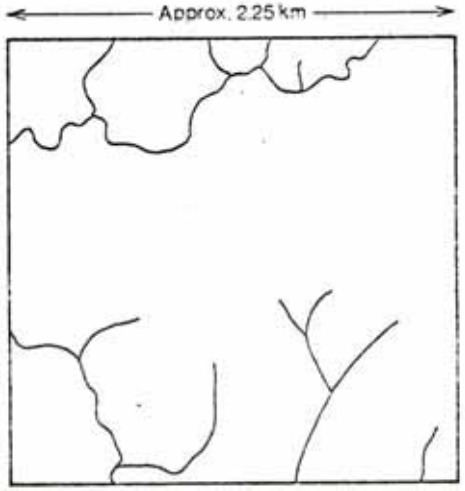
The areas belonging to this land system mostly have granodiorite bedrock and low hills, often with outcropping tors. It would seem that the granodiorite of all these areas, except for that in the Parish of Sprang, is from the same intrusion and that this intrusion was subject to considerable weathering so that subsequent lava flows have covered these dissected parts. Several deep cores are necessary to prove this theory. A small area east of Tullamarine with Silurian bedrock has been included because f the similarity of soils, probably due to wash from granodiorite to the north.

The soils are mainly brown duplex with a sandy topsoil and a yellow mottled subsoil. Near the basalt, the subsoil becomes a grey heavy clay, similar to the soil on the basalt.

Compared with the surrounding basalt, this area naturally has more vegetation, usually an open forest. River Red Gum is the dominant tree species although Narrow-leaf Peppermint and Grey Box also occur, with Yellow Box and Acacias in low lying areas.



Schematic Block Diagram



Drainage Pattern

COMPONENT	1	2	3
Proportion %	80	10	10
CLIMATE			
Rainfall (av.)	Annual: 500 – 620 mm (monthly range: 60 mm – July 40 mm)		
Temperature (av.)	Annual: 14^{0}C (monthly range February 21^{0}C – July 9^{0}C)		
Seasonal growth limitations	Temperature: less than 10^{0}C June – August Precipitation: less than potential evapotranspiration November – March		
GEOLOGY			
Age, rock	Devonian granodiorite	Silurian sandstone and shale	Quaternary alluvium and colluvium
TOPOGRAPHY			
Landscape		Low hills	
Elevation (range) m		90-180	
Local relief (av.) m		30	
Drainage pattern		Dendritic	
Drainage density km/km^2		1.7	
Land form	Crest	Slope	Drainage line
Slope (av.) %, slope shape	16; Convex	7; Straight	3; Concave
NATIVE VEGETATION			
Structure		Open forest	
Dominant species	E. camaldulensis, E. radiata, E. microcarpa	E. camaldulensis, E. melliodora, Acacia spp.	
SOIL			
Parent Material		In situ weathered rock	
Description	Brown, sodic duplex soils, coarse structure	Mottled yellow, brown sodic duplex soils, coarse structure	Mottled yellow, brown sodic duplex soils, coarse structure
Factual Key	Dy 2.31	Dy 3.42, Dy 3.43	Dy 3.42, Dy 3.43
Surface Texture	Sandy loam	Sandy loam	Sandy loam
Permeability	Moderate – Low	Moderate – Low	Low
Depth (av.) m	1.7	1.0	1.5
LAND USE	Grazing, occasional cropping, water supply		
SOIL DETERIORATION HAZARD			
Critical land features	Slope gradient, hard setting surfaces	Hard setting surfaces, slope gradient	Hard setting surfaces, dispersibility, seasonal high watertable
Processes	Overland flow	Overland flow	Periodic waterlogging, overland flow
Forms	Sheet erosion	Sheet erosion	Gully and sheet erosion, surface compaction