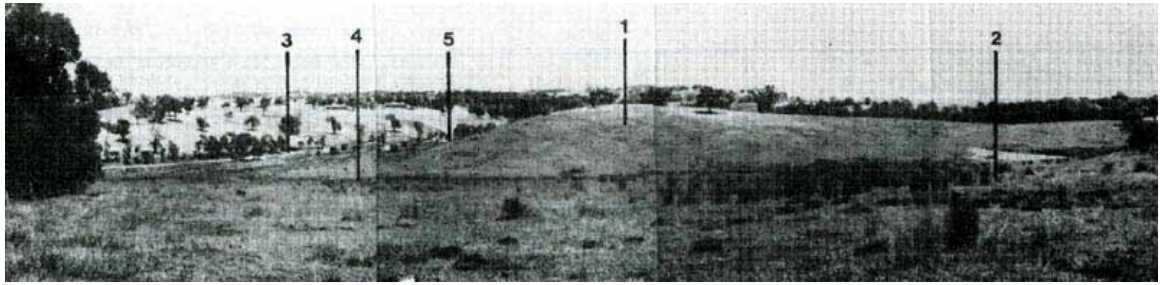
### *6.6 Doreen Land System*



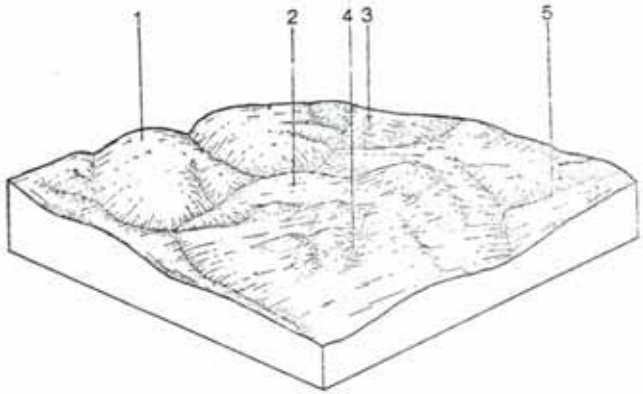

This land system occupies 106.5 $km^2$ south of the Yan Yean Reservoir. It represents 7.1% of the total survey area.

The topography is hilly with gradients ranging from 25% on the slopes to *3%* and 1% on the crests and swales respectively.

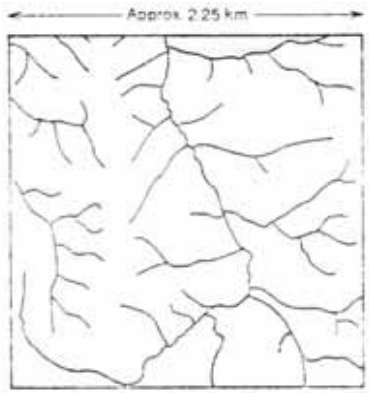
The natural vegetation varies with aspect; Red Stringy-bark and Yellow Box, woodlands occur on exposed aspects, while open forests with !arrow-leaf Peppermint and Candlebark occur on the protected slopes. Swamp Gum and Manna Gum grow in the swales and along drainage lines.

The soils are similar to those in other land systems on similar parent material. Shallow gradational coils are found on the crests and upper slopes and a similar but duplex soil occurs on the lower slopes. These duplex coils usually have a gravelly loam topsoil overlying a structured, often, nettled, medium clay.

These soils have dispersible clay subsoils so that the erosion hazard on this :and system is high. Planting of deep rooted species is recommended to help reduce this erosion by decreasing the amount of water reaching these subsoils.




**Schematic Block Diagram**




**Drainage Pattern**

| **COMPONENT**<br>Proportion % | **1**<br>50 | **2**<br>23 | **3**<br>9 | **4**<br>13 | **5**<br>5 |
|---|---|---|---|---|---|
| **CLIMATE**<br>Rainfall (av.)<br>Temperature (av.)<br>Seasonal growth limitations | Annual: 620-750 mm (monthly range: 80 mm – February 40 mm)<br>Annual: 13$^0$C (monthly range: February 12$^0$C – July 9-0$^0$C)<br>Temperature: less than 10$^0$C June – August<br>Precipitation: less than potential evapotranspiration December – March | | | | |
| **GEOLOGY**<br>Age, rock | Silurian sandstone, mudstone and shale | | | | |
| **TOPOGRAPHY**<br>Landscape<br>Elevation (range) m<br>Local relief (av.) m<br>Drainage pattern<br>Drainage density km/km$^2$<br>Land form<br>Slope (av.) %, slope shape | Hills<br>100 – 300<br>45<br>Dendritic<br>4.6<br>Crest<br>14; Convex | Lower slope<br>11; Straight | Upper swale<br>5; Concave | Lower swale<br>5; Concave | Drainage line<br>3; Straight |
| **NATIVE VEGETATION**<br>Structure<br>Dominant species | Open forest<br>*E. goniocalyx, E. melliodora, E. radiata, E. macrorhyncha* | *E. rubida* | *E. rubida, E. melliodora* | *E. rubida, E. melliodora* | *E. ovata, E. viminalis* |
| **SOIL**<br>Parent Material<br>Description<br>Factual Key<br>Surface Texture<br>Permeability<br>Depth (av.) m | In situ weathered rock<br>Shallow stony brown gradational soils<br>Gn 3.11<br>Gravelly clay loam<br>High<br>0.5 | Yellow sodic duplex soils, coarse structure<br>Dy 3.32<br>Gravelly loam<br>Low<br>1.0 | Mottled yellow, brown gradational soils<br>Gn 4.8<br>Clay loam<br>Low<br>2.0 | Mottled grey, yellow duplex soils<br>Dy 5.22<br>Clay loam<br>Low<br>2.0 | Mottled, grey yellow gradational soils (variable)<br>Gn<br>Fine sandy loam<br>Moderate<br>2.0 |
| **LAND USE** | Grazing | | | | |
| **SOIL DETERIORATION HAZARD**<br>Critical land features<br>Processes<br>Forms | Slope gradient, hard setting surfaces<br>Overland flow<br>Sheet erosion | Slope gradient, hard setting surfaces<br>Overland flow, movement of salts<br>Sheet erosion | Hard setting surfaces, dispersibility, periodic high watertable<br>Overland flow, subsurface flow, seasonal waterlogging<br>Gully erosion, surface compaction | Dispersibility, hard setting surfaces, periodic high watertable<br>Overland flow, subsurface flow, seasonal waterlogging<br>Gully erosion, salting, surface compaction | Dispersibility, hard setting surfaces, periodic high watertable<br>Overland flow, seasonal waterlogging<br>Gully erosion, salting, surface compaction |