7.16 Ferguson Hill Land System

Most outcrops of Tertiary sediments to the west of the Otway Range are either deeply dissected or deeply weathered soils. However, some ridges and spurs are only mildly dissected and their soil profiles are only weakly developed. These areas are found at Ferguson Hill, just south of Simpson, along Pipeline Road and in an additional small area near Cape Otway.

The parent material is Tertiary sand, silt and clay, with some minor areas of lateritic ironstone. The soils vary according to the nature of the outcropping beds, but in general their structure is weak and often the A and B horizons are not clearly differentiated. Profile drainage is good on all but those areas with hardpans, and these are the only areas prone to waterlogging despite the high annual rainfall.

Eucalyptus obliqua and *E. baxteri* colonize most areas and often reach heights in excess of 30 m on the betterdrained soils. However, these stands are decreasing in areas as much of the land is being cleared for agriculture. The soils are naturally quite stable and the major problems are likely to arise from nutrient decline.



Along Pipeline Road the dissection is only mildly developed on these comparatively youthful soils. In the foreground E. nitida grown on grey sand soils, while in the distance tall open woodlands occur on red gradational soils with weak structures.





FERGUSON HILL	Component and its proportion of land system							
Area: 52 km ²	1	2	3	4	5	6	7	8
	15%	20%	25%	5%	8%	15%	10%	2%
CLIMATE								
Rainfall, mm	Annual: 1,000 – 1,100, lowest January (40), highest August (130)							
Temperature, 0°C	Annual: 13, lowest July (7.5), highest February (19)							
Seasonal growth	Temperature : less than 10°C (av.) June - August							
limitations	Precipitation: less than potential evapotranspiration mid November – March							
GEOLOGY								
Age, lithology	Paleocene marine sand, clay and silt; some Pleistocene lateritic ironstone							
TOPOGRAPHY								
Landscape	Undulating hills and ridges							
Elevation, m	30-230							
Local relief, m	40							
Drainage pattern	Dendritic							
Drainage density,	2.4							
km/km ²								
Land form		Н	ill		Drainage line	Broad	ridge	Scarp
Land form element	Lower slope	Slope	Crest	Midslope	-	Crest, upper slope	Crest	-
Slope (and range), %	4 (1-7)	14 (5-37)	5 (2-9)	11 (3-15)	4 (2-9)	4 (0-11)	4 (0-7)	29 (25-37)
Slope shape	Straight	Straight	Convex	Straight	Concave	Convex	Straight	Concave
NATIVE								
VEGETATION								
Structure	Open forest	Open forest	Low woodland (variable)	Open forest	Open forest	Open forest	Tall woodland	Open forest
Dominant species	E. obliqua, E. ovata	E. baxteri, E. nitida, E.	E. nitida, E. baxteri	E. baxteri, E. radiata,	E. obliqua, E. baxteri	E. baxteri, E. obliqua	E. baxteri, E. obliqua	E. obliqua, E. baxteri,
		obliqua		E. obliqua, E.				E. ovata, Acacia
				cypellocarpa				melanoxylon
SOIL	CI 1 11							
Parent material	Clay and silt	Clay, silt and sand	Sand	Sand, silt and clay	clay	lateritic remnants	lateritic remnants	ironstone
Description	Grey-brown	Yellow gradational	Grey sand soils with	Red sandy loam soils	Grey gradational soils	Mottled yellow and	Red gradational soils,	Stony red gradational
	gradational soils	soils, weak structure	hardpans, uniform	uniform texture		red gradational soils	weak structure	soils
			texture					
Surface texture	Fine sandy loam	Sandy loam	Loamy sand	Sandy loam	Sand loam	Sandy loam	Sandy loam	Gravelly loamy sand
Permeability	Moderate	High	Very low	Very high	Low	Moderate	High	Very high
Depth, m	>2	>2	>2	>2	>2	>2	0.9	>2
LAND USE	Uncleared areas: Hardwood forestry for sawlogs, posts and poles; water supply; nature conservation; gravel extraction.							
	Cleared areas: Sheep and beef cattle grazing; dairy farming; water supply							
SOIL	Minor hazards.	Weakly structured	Weakly structured	Low inherent fertility	High seasonal water	Low inherent fertility,	Low inherent fertility	Steep slopes with
DETERIORATION		surfaces on steeper	sands on hardpans are	and high permeability	table lead to soil	phosphorus fixation	and high permeability	weakly structured
HAZARD		slopes are prone to	pone to sheet erosion	lead to nutrient	compaction.	and permeable	lead to leaching of	surface soils of low
Critical land features,		sheet erosion. Low	and seasonal	decline.		surfaces lead to	nutrients.	water holding capacity
processes, forms		inherent fertility and	waterlogging.			nutrient decline.		are prone to sheet
		high permeability lead	Permeable surface					erosion.
		to nutrient decline.	sands of high acidity					
			and low inherent					
			fertility are prone to					
		1	nutrient decline.					