

ro

ROBERTSON

Residual



**Landscape**—undulating to rolling hills with flat-topped ridges on basalt and basanite. Relief 30–100 m. Slopes 5–15%. Remnant knolls and small rounded flat-topped crests. Extensively cleared with isolated stands of low woodland and closed-forest.

**Soils**—deep (>150 cm) red Krasnozems (Gn4.11) occur on upper slopes, brown Krasnozems (Gn4.31) and Red Earths (Gn2.11) occur on midslopes and Xanthozems (Gn4.31) occur on lower slopes.

**Limitations**—steep slopes (localised), high permeability, hardsetting and sodicity, low available water-holding capacity (topsoil).

## LOCATION

Undulating to rolling low hills with flat-topped ridges on basalts and basanites on Moss Vale Tableland. Examples include Robertson, Bells Hill and Knapsack Hill.

## LANDSCAPE

### Geology

Robertson Basalt—tertiary alkaline olivine basalts and basanites.

### Topography

Undulating to rolling low hills. Relief 30–100 m.

Slopes 5–15%. Remnant knolls and small rounded flat-topped crests; short moderately inclined upper slopes (15–30%) grading into a complex of gently to moderately inclined mid and lower slopes with broad open valleys.

### Vegetation

Extensively cleared with isolated remnants of low woodland with closed-forest. Common woodland species include coastal grey box (*Eucalyptus bosistoana*), cabbage gum (*Eucalyptus amplifolia*), thin-leaved stringybark (*Eucalyptus eugenioides*), ribbon gum (*Eucalyptus viminalis*), long-leaved box (*Eucalyptus goniocalyx*), small-leaved gum (*Eucalyptus panifolia*) and black sallee (*Eucalyptus stellulata*). Forest red gum (*Eucalyptus tereticornis*) grows in poorly drained areas. Small-leaved fig (*Ficus obliqua*) is the common closed-forest species.

### Land Use

Dairying and beef production on improved pastures, vegetable growing (potatoes), isolated towns—for example, Robertson.

### Existing Erosion

Local occurrences of sheet erosion occur on slopes >5% developing into extensive rilling unless well grassed. Minor gully erosion on upper drainage lines.

## SOILS

### Dominant Soil Materials

#### ro1—Friable reddish brown clay loam (topsoil)

<b>Colour</b>	reddish brown (5YR 4/6) to brown (7.5YR 4/4)
<b>Texture</b>	sandy clay loam to clay loam
<b>Structure</b>	moderately pedal, 10–20 mm polyhedral peds
<b>Fabric</b>	rough-faced, porous
<b>pH</b>	6.0
<b>Stones</b>	nil
<b>Roots</b>	few, in-ped

#### ro2—Hardsetting dark brown silty clay loam (topsoil)

<b>Colour</b>	dark brown (10YR 3/4)
<b>Texture</b>	clay loam to silty clay loam
<b>Structure</b>	weakly pedal, 2–5 mm crumb peds
<b>Fabric</b>	rough-faced, porous
<b>pH</b>	6.0
<b>Stones</b>	nil
<b>Roots</b>	abundant, ex-ped

#### ro3—Yellowish brown strongly pedal light clay (subsoil)

<b>Colour</b>	yellowish brown (10YR 4/3) to brown (7.5YR 4/3)
<b>Texture</b>	light clay to light medium clay

<b>Structure</b>	strongly pedal, 50–100 mm sub-angular blocky peds
<b>Fabric</b>	rough-faced, porous
<b>pH</b>	5.5
<b>Stones</b>	nil
<b>Roots</b>	few, ex-ped

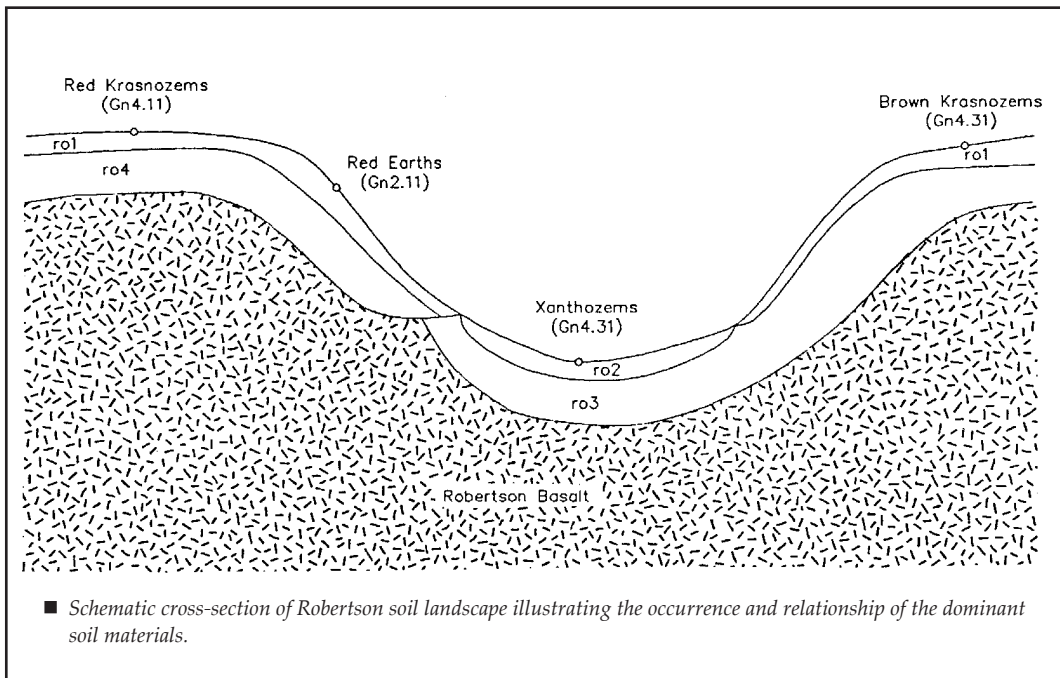
#### ro4—Dark reddish brown strongly pedal light medium clay (subsoil)

<b>Colour</b>	dark reddish brown (2.5YR 3/6, 2.5YR 3/4)
<b>Texture</b>	light medium clay to light clay
<b>Structure</b>	strongly pedal, 50–100 mm sub-angular blocky peds
<b>Fabric</b>	rough-faced, porous
<b>pH</b>	5.0
<b>Stones</b>	nil
<b>Roots</b>	nil

### Occurrence and Relationships

**Crests and upper slopes.** Up to 5 cm reddish brown moderately pedal clay loam (**ro1**) overlies <200 cm of dark reddish brown clay (**ro4**). Boundary is gradual [red Krasnozems (Gn4.11)]. Total depth is >300 cm.

**Midslopes.** Up to 20 cm **ro1** overlies <150 cm yellowish brown strongly pedal light clay (**ro3**). Boundary is gradual [brown Krasnozems (Gn4.31)].



(Gn4.31)]. Occasionally >50 cm friable reddish brown sandy clay loam (**ro1**) overlies <150 cm **ro4**. Boundary is gradual [Red Earths (Gn2.11)]. Total depth is >150 cm.

**Lower slopes.** Up to 20 cm of dark brown silty clay loam (**ro2**) overlies <80 cm **ro3**. Boundary is gradual [Xanthozems (Gn4.31)]. Total depth is approximately 100 cm.

## LIMITATIONS TO DEVELOPMENT

### Soil Limitations

- ro1** High organic matter  
High permeability  
Low available water-holding capacity  
Sodicity (localised)
- ro2** Sodicity (localised)  
Hardsetting  
High organic matter
- ro3** High permeability  
Sodicity (localised)
- ro4** Acid

### Fertility

General fertility is moderate to high. The soils are deep, well structured, freely draining with no impermeable clay layers. Soil materials have a moderate to high CEC and are moderately to strongly acid.

### Erodibility

The topsoils (**ro1**, **ro2**) have low erodibility because of high organic matter. The subsoils (**ro3**, **ro4**) have moderate erodibility as they have relatively stable aggregates.

### Erosion Hazard

Erosion hazard for non-concentrated flows is high. The calculated soil loss for the first 12 months of urban development ranges up to 100 t/ha for topsoils and 20 t/ha for exposed subsoils. The erosion hazard for concentrated flows is low.

### Surface Movement Potential

Generally the well-drained soils are stable.

### Landscape Limitations

Steep slopes (localised)

### Urban Capability

Generally low limitations for urban development. High to severe limitations on steep slopes (localised).

### Rural Capability

Generally low to moderate limitations for regular cultivation and grazing with high to severe limitations on steep slopes (localised).