

bg

BARRENGARRY

Depositional



Landscape—moderately inclined to steep 10–30% slopes with broad (100 m) benches on Berry Formation. Relief <300 m. Scattered rock outcrops similar to tors. Extensively cleared with scattered stands of tall open-forest.

Soils—deep (>150 cm) Krasnozems (Gn4.11) occur on benches and midslopes and Xanthozems (Gn3.71) occur on lower slopes. Lithosols (Um2.64) occur on steeper slopes.

Limitations—water erosion hazard, mass movement hazard (localised), run-on (localised), stoniness, high organic matter, high water-holding capacity, strongly acid.

Topography

Moderately inclined to steep slopes with hummocky sideslopes. Relief to 300 m. Slopes 10–30% locally ranging to 45%. Scattered broad colluvial benches up to 100 m wide with hummocky sideslopes that have occasional slumps and terracettes. Occasional gently inclined footslopes and narrow deeply incised drainage lines. Scattered rock outcrops resembling tors.

Vegetation

Extensively cleared with scattered stands of tall open-forest. Common tree species include sydney peppermint (*Eucalyptus piperita*), lemon-scented gum (*Eucalyptus citriodora*), rough-barked apple (*Angophora floribunda*), blue-veined stringybark (*Eucalyptus agglomerata*) and bangalay (*Eucalyptus botryoides*).

LOCATION

Moderately inclined to steep slopes with broad benches on siltstone in the Kangaroo Valley. Examples occur at Barrengarry and along the Upper Kangaroo Valley Road.

LANDSCAPE

Geology

Berry Formation—light grey to dark grey micaceous siltstones, mudstones and shales with basaltic dykes.

Land Use

Mostly cattle grazing on improved pastures.

Existing Erosion

Stable except for minor terracettes on the benches (localised) and rock fall from the benches after heavy rainfall. Occasional minor gully along drainage lines.

Included Soil Landscape

Small areas of Wattamolla Road (wt) soil landscape occur.

SOILS**Dominant Soil Materials****bg1—Moderately pedal dull reddish brown sandy clay loam (topsoil)**

Colour	dull reddish brown (5YR 4/3)
Texture	sandy clay loam
Structure	moderately pedal, 2–5 mm granular peds
Fabric	rough-faced, porous
pH	5.0
Stones	<2% 2–6 mm angular, dispersed
Roots	common, ex-ped

bg2—Dark reddish brown silty clay loam (subsoil)

Colour	dark reddish brown (5YR 3/3)
Texture	silty clay loam
Structure	weakly to moderately pedal, 2–5 mm crumb to polyhedral peds
Fabric	rough-faced, porous
pH	5.0
Stones	nil
Roots	common, ex-ped

bg3—Reddish brown silty clay (subsoil)

Colour	reddish brown (2.5YR 4/6)
Texture	silty clay to light clay
Structure	moderately pedal, 5–10 mm sub-angular blocky to angular blocky peds

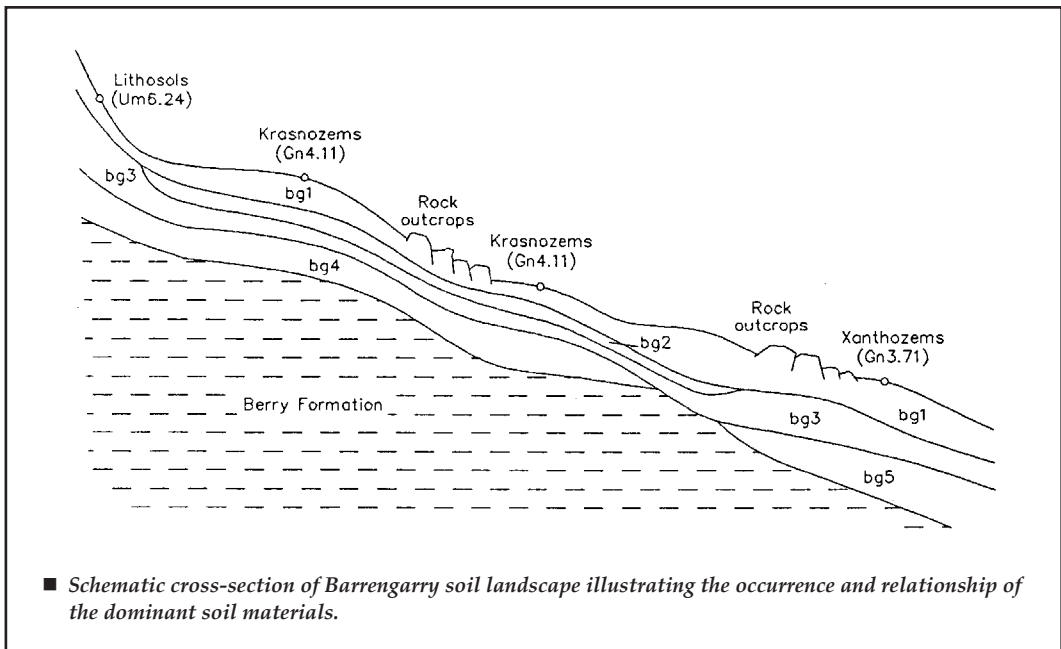
Fabric	rough-faced, porous
pH	4.5
Stones	nil
Roots	few

bg4—Reddish brown medium clay (subsoil)

Colour	reddish brown (2.5YR 4/6)
Texture	medium clay
Structure	strongly pedal, 10–20 mm angular blocky peds
Fabric	rough-faced, porous
pH	4.0
Stones	nil
Roots	nil

bg5—Mottled bright brown medium clay (subsoil)

Colour	bright brown (5YR 5/8) yellowish brown (10YR 5/6) red yellow and grey mottles (25%)
Texture	medium to heavy clay
Structure	strongly pedal, 10–20 mm angular blocky peds
Fabric	rough-faced, porous
pH	3.5
Stones	10–20% 6–60 mm sub-angular to angular, dispersed
Roots	nil



Occurrence and Relationships

A very complex geology pattern occurs within this landscape. The following soils materials sequences have been described.*

Benches. Up to 10 cm moderately pedal sandy clay loam (**bg1**) overlies <40 cm dark reddish brown silty clay loam (**bg2**). Up to 40 cm reddish brown silty clay (**bg3**) overlies <40 cm reddish brown medium clay (**bg4**). Boundaries are gradual [Krasnozems (Gn4.11)]. Total depth is <150 cm.

Steep slopes. Up to 40 cm **bg1** overlies bedrock [Lithosols (Um6.24)].

Midslopes. Up to 50 cm **bg1** overlies <70 cm **bg2** which overlies <50 cm **bg3**. Boundaries are clear to gradual [Krasnozems (Gn4.11)]. Total depth is 170–200 cm.

Lower slopes. Up to 50 cm **bg1** overlies <100 cm **bg3** which overlies <30 cm mottled bright brown medium clay (**bg5**). Boundaries are gradual [Xanthozems (Gn3.71)]. Total depth is >180 cm.

LIMITATIONS TO DEVELOPMENT

Soil Limitations

- bg1** Stoniness
 - High organic matter
 - High available water-holding capacity
 - Shrink-swell
- bg2** High organic matter
 - High available water-holding capacity
 - Shrink-swell
- bg3** Strongly acid
- bg4** Strongly acid
- bg5** Low permeability
 - Low wet bearing strength
 - Strongly acid
 - Stoniness

Fertility

General fertility is moderate to high. The soils are deep except on steep slopes, well structured and well drained. The soils have a moderate CEC and are moderately to strongly acid.

Erodibility

The erodibility of the topsoil (**bg1**) is low and for the subsoils (**bg2** to **bg5**) is moderate.

Erosion Hazard

Erosion hazard for non-concentrated flows is ex-treme. The calculated soil loss for the first 12 months of urban development ranges up to 350t/ha for topsoils and 500 t/ha for exposed subsoils. The erosion hazard for concentrated flows is high.

Surface Movement Potential

bg1 and **bg2** are moderately reactive. **bg3** and **bg5** are slightly reactive.

Landscape Limitations

Steep slopes (localised)
 Mass movement hazard (localised)
 Water erosion hazard
 Run-on (localised)

Urban Capability

Generally high to severe limitations for urban development with moderate limitations on benches.

Rural Capability

Generally high to severe limitations for regular cultivation. Low to moderate limitations for grazing but high to severe on steep slopes.

* Where the parent material is entirely shale and siltstone, highly dispersible Red and Brown Podzolics often occur.