

bo

BOMBO

Erosional



Landscape—rolling low hills with benched slopes and sea cliffs with extensive rock platforms on Bombo Latite. Relief 40–100 m. Slope gradients 15–25%. Extensively cleared with stands of closed-forest and tall open-forest.

Soils—shallow (<50 cm) Structured Loams (Um6) occur on crests, moderately deep (50–100 cm) Krasnozems (Gn4.11) on upper slopes and benches. Brown Podzolic Soils (Db1.11, Db1.21) and Red Podzolic Soils (Dr2.21) occur on mid and lower slopes.

Limitations—rock fall hazard, wave erosion hazard, rock outcrop, hardsetting, low wet bearing strength, sodicity.

LOCATION

Rolling low hills with benched slopes and sea cliffs with extensive rock platforms on latite and basalt on the Coastal Plain. Examples include Bombo, Dunmore and extensive areas within Jamberoo Valley.

LANDSCAPE

Geology

Bombo Latite Member—alphanitic to porphyritic latite.

Topography

Rolling low hills. Relief 40–100 m. Slope gradients 15–25%. Crests are narrow. Convex ridges are long and gently inclined. Moderately inclined slopes with isolated steep (25–40%) slopes. Scattered benches and terracettes on upper slopes. Narrow incised drainage lines. Coastal headlands with cliffs and extensive rock platforms. Springs may occur on the mid and footslopes—for example, Rose Valley.

Vegetation

Extensively cleared with remnant stands of closed-forest and tall open-forest. Common closed-forest species include cabbage tree palm (*Livistona australis*), bastard rosewood (*Synoum glandulosum*), red cedar (*Toona australis*), brush cherry (*Syzygium australe*), bolly gum (*Litsea reticulata*), white cedar (*Melia azedarach* var. *australasica*), northern boobialla (*Myoporum acuminatum*), smooth mock olive (*Notelaea venosa*), snow-wood (*Parachidendron pruinosum*), celery wood (*Polyscias elegans*), black apple (*Planchonella australis*), plum pine (*Polocarpus elatus*), yellowwood, moreton bay fig (*Ficus macrophylla*), port jackson fig (*Ficus rubiginosa*) and flintwood (*Scolopia braunii*).

Common tall open-forest species include turpentine (*Syncarpia glomulifera*), grey ironbark (*Eucalyptus paniculata*), pittosporum (*Pittosporum* spp.) and sydney blue gum/bangalay (*Eucalyptus saligna/botryoides*). Forest red gum (*Eucalyptus tereticornis*) and prickly-leaved paperbark (*Melaleuca styphelioides*) are found in poorly drained areas.

The vegetation on the associated soil material includes coastal tea-tree (*Leptospermum laevigatum*), coastal banksia (*Banksia integrifolia*), swamp oak (*Casuarina glauca*), bracelet honey-myrtle (*Melaleuca armillaris*) and drooping she-oak (*Allocasuarina verticillata*).

Land Use

Dairying, grazing and hobby farms on improved pasture, recreation areas including Jamberoo Recreation Park and quarrying of latite at Bombo and Dunmore.

Existing Erosion

Evidence of minor mass movement (terraces) on moderately steep lower slopes. Moderate rill erosion on batters of footslopes where soils have been disturbed.

Included Soil Landscapes

Small areas of Fountaindale (**fo**) and Jamberoo (**ja**) soil landscapes occur.

SOILS

Dominant Soil Materials

bo1—Friable reddish brown sandy clay loam (topsoil)

Colour	reddish brown (5YR 4/6)
Texture	sandy clay loam
Structure	apedal massive to weakly pedal, <2 mm crumb peds
Fabric	earthy and rough-faced, porous
pH	5.5
Stones	nil
Roots	abundant, ex-ped

bo2—Hardsetting brownish black sandy loam (topsoil)

Colour	brownish black (5YR 3/1) to dark reddish brown (5YR 3/3) occasionally at depth
Texture	sandy loam
Structure	weakly pedal, <2 mm crumb peds
Fabric	rough-faced, porous

pH	6.0
Stones	2–10% 2–6 mm angular, dispersed
Roots	abundant, ex-ped

bo3—Reddish brown light medium clay (subsoil)

Colour	reddish brown (2.5YR 4/8)
Texture	light medium clay
Structure	moderately pedal, 5–10 mm polyhedral peds
Fabric	rough-faced, porous
pH	4.0
Stones	nil (but can be localised rounded basalt or latite stones 20–60 mm 2–10% dispersed)
Roots	few, ex-ped

bo4—Reddish brown sandy clay (subsoil)

Colour	reddish brown (2.5YR 4/6)
Texture	sandy clay
Structure	moderately pedal, 5–10 mm polyhedral peds
Fabric	rough-faced, porous
pH	5.0
Stones	nil
Roots	many, ex-ped

bo5—Brown strongly pedal medium clay (subsoil)

Colour	brown (7.5YR 4/6)
Texture	medium clay
Structure	strongly pedal, 5–10 mm polyhedral and crumb peds
Fabric	rough-faced, porous
pH	4.0
Stones	nil
Roots	nil

Associated Soil Materials

Very shallow (<50 cm) indurated beach and fine grey Quaternary sands occur (Bass Point).

Occurrence and Relationships

Crests. Up to 15 cm friable reddish brown sandy clay loam (**bo1**) overlies bedrock [Structured Loams (Um6)].

Upper slopes and benches. Up to 15 cm **bo1** overlies <50 cm reddish brown sandy clay (**bo4**) which overlies <60 cm reddish brown light medium clay (**bo3**). The boundaries are gradual [Krasnozems (Gn4.11)]. Total soil depth is <120 cm.

Midslopes and lower slopes. Up to 10 cm hardsetting brownish black sandy loam (**bo2**) overlies <15 cm **bo4**. Up to 40 cm brown strongly

pedal medium clay (**bo5**) is overlain by <35 cm **bo3**. The boundaries are clear to gradual [Brown Podzolic Soils (Db1.11, Db1.21), Red Podzolic Soils (Dr2.21)]. Total depth is <120 cm.

LIMITATIONS TO DEVELOPMENT

Soil Limitations

- bo1** High organic matter
Low wet bearing strength
High shrink-swell
Sodicity
High aluminium toxicity
- bo2** Stoniness
Hardsetting
Low permeability
Sodicity
- bo3** Strongly acid
Sodicity
- bo4** Sodicity
- bo5** Strongly acid
Sodicity

Fertility

General fertility is moderate to low. The topsoil (**bo1**) is friable. The soils are deep, well structured, freely drained on crests and upper slopes. They are strongly acid with low to moderate CEC.

Erodibility

bo1 has high erodibility. **bo2** has moderate erodibility, and the strongly structured subsoils (**bo3**, **bo4** and **bo5**) have low erodibility.

Erosion Hazard

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

Surface Movement Potential

These soils are generally stable; however, there are localised occurrences of moderately reactive soils.

Landscape Limitations

- Steep slopes (localised)
- Mass movement hazard (localised)
- Rock fall hazard
- Wave erosion hazard (coasts)
- Rock outcrop
- Run-on (localised)

Urban Capability

Generally moderate limitations for urban development. High to severe limitations on slopes greater than 20%.

Rural Capability

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

