bau	BURRA	Erosional (Transferral)



Landscape— Undulating to rolling low hills and alluvial fans on Silurian volcanics in the central and northern ACT. Slopes 5 - 32%, local relief <90 m, elevation 440 - 900 m, with common localised terracettes. Almost completely cleared woodland.

Soils— Complex soil distribution. Shallow to moderately deep (<60 cm), well-drained Tenosols (Lithosols/Earthy Sands), Red Kurosols (Red Podzolic Soils) and minor Red Kandosols (Red Earths) on crests and upper slopes. Moderately deep (50 - 100 cm), well - drained Red and Brown Chromosols (Red and Yellow Podzolic Soils) on midslopes. Moderately deep (50 - 150 cm), imperfectly drained, mottled Brown Kurosols (Yellow Podzolic Soils) and Brown Kandosols (Yellow Earths) on lower slopes and moderately deep (up to 100 cm), moderately to imperfectly drained Static Rudosols (Alluvial Soils) and Sodic Brown Dermosols and Chromosols (Grey Brown Podzolic Soils, Solodic Soils) in drainage lines.

Qualities and limitations— localised shallow soils, localised poor moisture availability, localised non-cohesive soils, localised rock outcrop hazard, localised mass movement hazard, localised foundation hazard, localised dieback, widespread recharge zone, localised discharge zone, localised salinity hazard, localised wind erosion hazard, localised gully erosion hazard, widespread sheet erosion hazard, localised high run-on, widespread seasonal waterlogging.

LOCATION AND SIGNIFICANCE

Undulating to rolling low hills and alluvial fans on Silurian volcanics in the lowlands around Canberra. This extensive soil landscape occurs on many footslopes in urban areas of the ACT, such as the Tuggeranong, Woden and Western Creek districts. Occurrences in rural areas of the ACT include rolling low hills of the Molonglo Valley from Scrivener Dam to the Murrumbidgee River and the Uriarra region. Type location is along Uriarra Road (MGA grid reference 675679E, 6095599N, grid zone 55).

Variants

Areas marked as baua on the map are characterised by alluvial fans with deeper, less stony soils, but otherwise with similar landscape features to this soil landscape.

Included landscapes

None.

LANDSCAPE

Landform

Undulating to rolling low hills and alluvial fans with generally long (>300 m), gently to moderately inclined waning slopes (5 - 30%). Local relief is <90 m; elevation 650 - 900 m. Landform elements include hillslopes, footslopes and fans. Localised terracettes are common.

Geology

Silurian felsic extrusive rocks including the Colinton Volcanics, Laidlaw Volcanics, Uriarra Volcanics and Mount Ainslie Volcanics. Lithology is mainly ignimbrite from sub-aerial volcanic eruptions, with minor areas of tuff and sedimentary rocks such as sandstone, siltstone and occasional limestone lenses.

Source: DMR 2002

Vegetation

Almost completely cleared (>90%) open-woodland. Remaining trees include Eucalyptus bridgesiana (apple box), E. melliodora (yellow box) and E. pauciflora (snow gum). Shrubs include Acacia dealbata (silver wattle) and A. mearnsii (black wattle). The introduction of exotic grasses such as Phalaris aquatica (phalaris) has substantially altered the understorey. Remaining areas of native grasses contain Themeda australis (kangaroo grass), Stipa spp. (spear grasses) and Poa spp. (snow grasses).

Localised patches of E. blakelyi (Blakely's red gum) occur, showing evidence of dieback.

Land use

Includes much of the urban areas of southern Canberra. In rural areas, sheep and some beef production, occasionally on improved pastures.

Land degradation

Extensive disturbance and alteration of landscape, soils and drainage networks has taken place in suburban areas. Minor sheet erosion and moderate gully erosion is widespread on rural lands. Localised dryland salinity hazard between Tharwa and Royalla.

Erosion hazard

Land use	Non-concentrated flows	Concentrated flows	Wind
grazing	moderate	moderate	moderate
urban	slight	moderate	slight
voluntary/native pasture	moderate	moderate	slight

SOILS

Soil variation and distribution

Soils are complex due to steeply dipping strata, and although general patterns are evident some soils can occur anywhere in the landscape.

Texture-contrast soils are common on crests and slopes, including moderately deep (50 - 100 cm), moderately well-drained Red Kurosols (Red Podzolic Soils) and Red and Brown Chromosols (Red and Yellow Podzolic Soils). Gradational soils (comprising Red and Brown Kandosols) may also occur, with many intergrades between the two. Depth and drainage status are more variable in areas of fan deposits.

On some lower slopes, moderately deep (50 - 150 cm), imperfectly drained, mottled Brown Kurosols (Yellow Podzolic Soils) and Brown Kandosols (Yellow Earths) replace the Brown Chromosols due to lithological variations in the steeply dipping bedrock and/or the input of alluvial/colluvial fans.

On steeper upper slopes and crests, comprising about 5% of the landscape, shallow to moderately deep (<60 cm), well-drained Tenosols (Lithosols/Earthy Sands) are found, whilst in drainage lines moderately deep (up to 100 cm), moderately to imperfectly drained Static Rudosols (Alluvial Soils) and Sodic Brown Dermosols and Chromosols (Grey Brown Podzolic Soils, Solodic Soils) are found.

QUALITIES AND LIMITATIONS

Land capability

Urban Capability	B	**Soil Regolith Class**	R3 (R1)

Limitations to land use

Grazing	moderate to high	**Cultivation**	moderate to very high
Urban	moderate to high		

Landscape

Steep slopes	not observed	**Mass movement hazard**	localised
Rock outcrop	localised	**Rockfall hazard**	not observed
Foundation hazard	localised	**Complex terrain**	not observed
Productive arable land	not observed		
Soils			
Shallow soils	localised	**Complex soils**	not observed
Poor moisture availability	localised	**Non-cohesive soils**	localised
Hydrology			
High run-on	localised	**Poor drainage**	not observed
Permanently high watertables	not observed	**Permanent waterlogging**	not observed
Seasonal waterlogging	widespread	**Flood hazard**	not observed
Erosion			
Wind erosion hazard	localised	**Wave erosion hazard**	not observed
Gully erosion hazard	localised	**Sheet erosion hazard**	widespread
Streambank erosion hazard	not observed		
Salinity			
Recharge zone	widespread	**Discharge zone**	localised
Salinity hazard	localised	**Seepage scalds**	not observed
Salt stores	moderate		

FACETS

bau(1)— Crest and upper slopes

Soils	Shallow (< 50 cm) well-drained Leptic Tenosols (Lithosols) and moderately deep (50 -100 cm) well-drained Red and Brown Kurosols (Red and Brown Podzolic Soils)
Type Profile(s)	Bleached-Leptic Tenosol (Lithosol): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 131 (Master Type Profile)
	Red Kurosol (Red Podzolic Soil): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 129 (Master Type Profile)
	Red Kandosol (Red Earth): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 436 (Associated Type Profile)
HGL Reference	Typically corresponds with: HGL 25 (Uriarra Road) MA1. Also corresponds with HGL 07 (Gungahlin) MA 1, HGL 08 (Hall) MA1, HGL 22 (South Canberra) MA 1, HGL 13 (Lanyon) MA 1, HGL 24 (Symonston) MA 1, HGL 11 (Kambah Pools) MA1 and HGL 14 (Majura Road) MA 1.

bau(2)— Midslopes

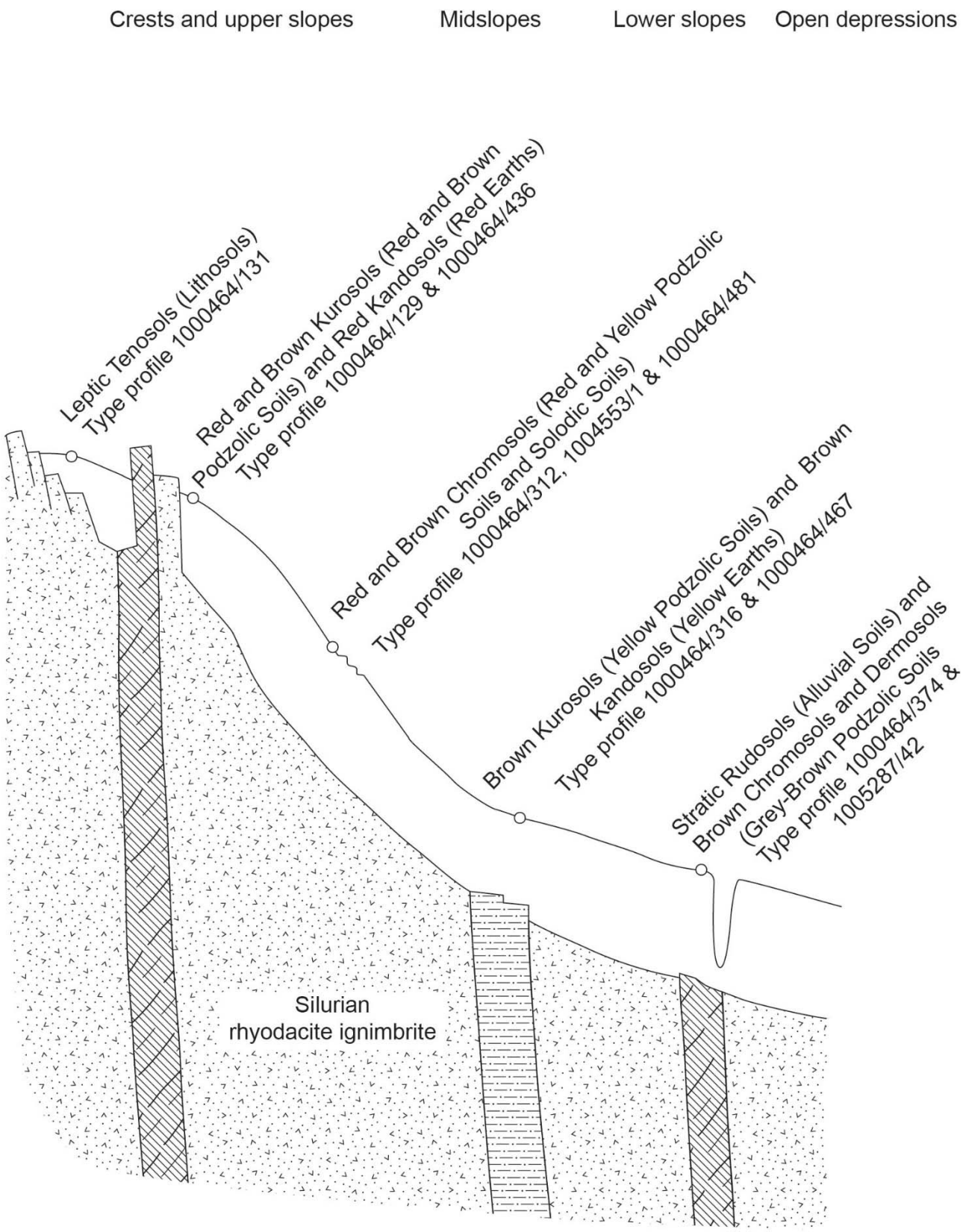
Soils	Moderately deep (50 - 150 cm), well-drained Red and Brown Chromosols (Red and Yellow Podzolic Soils).
Type Profile(s)	Red Chromosol (Red Podzolic Soil): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 312 (Master Type Profile)
	Brown Chromosol (Yellow Podzolic Soil): MSBP - Brindabella Soils Benchmarking Project (1004553) profile 1 (Associated Type Profile)
	Brown Chromosol (Solodic Soil): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 481 (Associated Type Profile)
HGL Reference	Typically corresponds with: HGL 25 (Uriarra Road) MA 2/3 Also corresponds with HGL 07 (Gungahlin) MA 2/3, HGL 08 (Hall) MA 2 and MA 3, HGL 22 (South Canberra) MA 2/3, HGL 13 (Lanyon) MA 2, HGL 24 (Symonston) MA 2, HGL 11 (Kambah Pools) MA 2, HGL 22 (Sulli

bau(3)— Lower Slope

Soils	Moderately deep (50 - 150 cm), imperfectly drained, mottled Brown Kurosols (Yellow Podzolic Soils) and Kandosols (Yellow Earths)
Type Profile(s)	Brown Chromosol (Yellow Podzolic Soil): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 316 (Master Type Profile)
	Brown Kandosol (Yellow Earth): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 467 (Associated Type Profile)
HGL Reference	Typically corresponds with: HGL 25 (Uriarra Road) MA 4/5. Also corresponds with HGL 11 (Kambah Pools) MA 3/5, HGL 22 (South Canberra) MA 4, HGL 24 (Symonston) MA 3/4, HGL 8 (Hall) MA 3 and HGL 7 (Gungahlin) MA 4.

bau(4)— Open Depression

Soils	Moderately deep (50 - 100 cm), moderately to imperfectly drained Static Rudosols (Alluvial Soils) and Sodic Brown Dermosols and Chromosols (Grey-brown Podzolic Soils).
Type Profile(s)	Stratic Rudosol (Alluvial Soil): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 374 (Master Type Profile)
	Grey Dermosol (Grey-brown Podzolic Soil): ACT Soil Landscapes (1005287) profile 42 (Associated Type Profile)
HGL Reference	Typically corresponds with: HGL 25 (Uriarra Road) MA 9/10.



Schematic cross-section of the Burra (bau) soil landscape, showing facets and soil types

REFERENCES

DMR 2002. New South Wales Statewide Geology coverage – 1:250 000 scale. Department of Mineral Resources, Sydney.

NOTES

(1) This report describes reconnaissance soil landscape information mapped at 1:100,000 scale and does not negate the need for site assessment at a scale suitable to the land use or development under consideration.

(2) 'Not observed' means unlikely to be found. 'Localised' means observed to a level considered significant for land management. 'Widespread' means prevalent and significant over most of the landscape. 'None recorded' means no occurrence has been recorded. 'Not assessed' means no result has been recorded for this attribute and it may or may not be present in the soil landscape.

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