luy	LUXOR	Transferral



Landscape— Waning lower slope fans on colluvium east of central Canberra. Slopes <20%, local relief <30 m, elevation 580 - 670 m. Cleared woodlands with a few remaining scattered trees.

Soils— Moderately deep (50 - 150 cm), well-drained Red Kandosols (Red Earths) and deep (>100 cm), imperfectly drained, often bleached, Red and Brown Chromosols (Red and Yellow Podzolic Soils) and Magnesic-Natric Brown Kurosols (Yellow Podzolic Soils and Soloths).

Qualities and limitations— localised shallow soils, localised complex soils, widespread non-cohesive soils, localised rock outcrop hazard, widespread mass movement hazard, localised foundation hazard, widespread complex terrain, widespread discharge zone, localised salinity hazard, localised gully erosion hazard, widespread sheet erosion hazard, widespread high run-on, widespread poor drainage, localised permanently high watertables, localised permanent waterlogging, widespread seasonal waterlogging.

LOCATION AND SIGNIFICANCE

Waning colluvial deposits of the Canberra Lowlands east of Canberra city centre, occurring on the western and eastern footslopes of Mount Ainslie. This soil landscape has been previously described in Jenkins (2000). Type location is road batter 500 m north-east of 'Luxor' homestead (MGA grid reference 688650E, 6114450N, grid zone 55).

Variants

Drainage lines have been incised through colluvium in near parallel and closely spaced alignment. Subsequent infilling of the drainage lines with mottled stony yellow and grey clays has left a distinct pattern. These areas are mapped as Luxor variant a (luya).

In some instances, small spur lines of in situ hillslope protrude through areas of colluvium. The spur line areas are generally too small to map individually at the scale of this study. Areas with this combination of spur line and colluvial lenses have been mapped as Luxor variant b (luyb).

Included landscapes

The colluvial deposits that comprise the Luxor (luy) soil landscape are draped over what would otherwise be the Burra (bau), Williamsdale (wiw) and Ginninderra Creek (gcv) soil landscapes. Small areas of these landscapes (which are to small to map at 1:100 000 scale) occur as ridges and folds within areas marked as Luxor (luy) soil landscape. Some overlap between Luxor (luy) soil landscape and Burra (bau), Williamsdale (wiw) and Ginninderra Creek (gcv) soil landscapes occurs at the lower margins of Luxor (luy) soil landscape, where the colluvial deposits are thinnest.

LANDSCAPE

Landform

Waning lower slope fans with slopes <20%, usually <10%. Local relief is <30 m and elevation varies between 570 – 660 m elevation. Drainage is sluggish. There are no rock outcrops, although some surface rock and exposed pans are occasionally found.

Geology

Colluvium, consisting of poorly-cemented conglomerate and fan deposits, gravel and sand. It is thought that the colluvial deposits are a relict feature, having been formed under colder periglacial conditions. A number of colluvial deposits in the region have been dated with an average age of about 30,000 years before present. This was a period of colder temperatures.

Source: Abell 1991, Costin & Polach 1973; Coventry & Walker 1977; Walker & Gillespie 1978)

Vegetation

Extensively cleared tall grassy woodland dominated by Eucalyptus melliodora (yellow box) and E. bridgesiana (apple box). Some scattered individual trees remain.

Source: Office and Environment and Heritage (2011).

Land use

To the east of Mount Ainsley, improved or voluntary pasture for sheep or beef grazing. To the west of Mount Ainslie, urban development in the suburbs of Ainslie, Braddon and Reid.

Land degradation

Localised sheet and gully erosion and localised salinity observed on some breaks of slope. Inland Acid Sulfate Soils have been observed in this landscape.

Erosion hazard

Land use	Non-concentrated flows	Concentrated flows	Wind
grazing	high	very high	slight
urban	moderate	high	slight

SOILS

Soil variation and distribution

Soils are highly variable, and tend to be stony where developed on mostly colluvial material. Less stony soil have been developed where the fans have had more alluvial input. Soil materials have been in place long enough for soil development with the exception of minor crests they are usually strongly texture-contrast. They consist of moderately deep (50 - 150 cm), well-drained Red Kandosols (Red Earths) on crests and deep (>100 cm), imperfectly drained, often bleached, Red and Brown Chromosols (Red and Yellow Podzolic Soils) and Magnesic-Natric Brown Kurosols (Yellow Podzolic Soils and Soloths) on lower slopes. Soil material and profile depth are highly variable due to the variations in the depth of the colluvial parent material. Soils are generally moderately well to poorly drained.

In drainage depressions, soils are often deeper, have poorer drainage and are less stony. Red Earths may have developed in more freely draining sites. In some areas, such as the western footslopes of Black Mountain, the colluvial material has been gullied. Subsequent infilling with finer materials has left a distinct pattern of yellow mottled clay lenses.

A pan has developed in the colluvial material at the footslopes of Mount Ainslie. Due to the high variability in the age and type of parent materials, a range of soil types may be found (up to 40% of the landscape) in the same slope position as occupied by Magnesic-Natric Kurosols.

QUALITIES AND LIMITATIONS

Land capability

Urban Capability	D	**Soil Regolith Class**	R4 (R3)
Limitations to land use			
Grazing	slight to moderate	**Cultivation**	moderate to high
Urban	high		
Landscape			
Steep slopes	not observed	**Mass movement hazard**	widespread
Rock outcrop	localised	**Rockfall hazard**	not observed
Foundation hazard	localised	**Complex terrain**	widespread
Productive arable land	not observed		

Soils

Shallow soils	localised	**Complex soils**	localised
Poor moisture availability	not observed	**Non-cohesive soils**	widespread

Hydrology

High run-on	widespread	**Poor drainage**	widespread
Permanently high watertables	localised	**Permanent waterlogging**	localised
Seasonal waterlogging	widespread	**Flood hazard**	not observed

Erosion

Wind erosion hazard	not observed	**Wave erosion hazard**	not observed
Gully erosion hazard	localised	**Sheet erosion hazard**	widespread
Streambank erosion hazard	not observed		

Salinity

Recharge zone	not observed	**Discharge zone**	widespread
Salinity hazard	localised	**Seepage scalds**	localised
Salt stores	moderate		

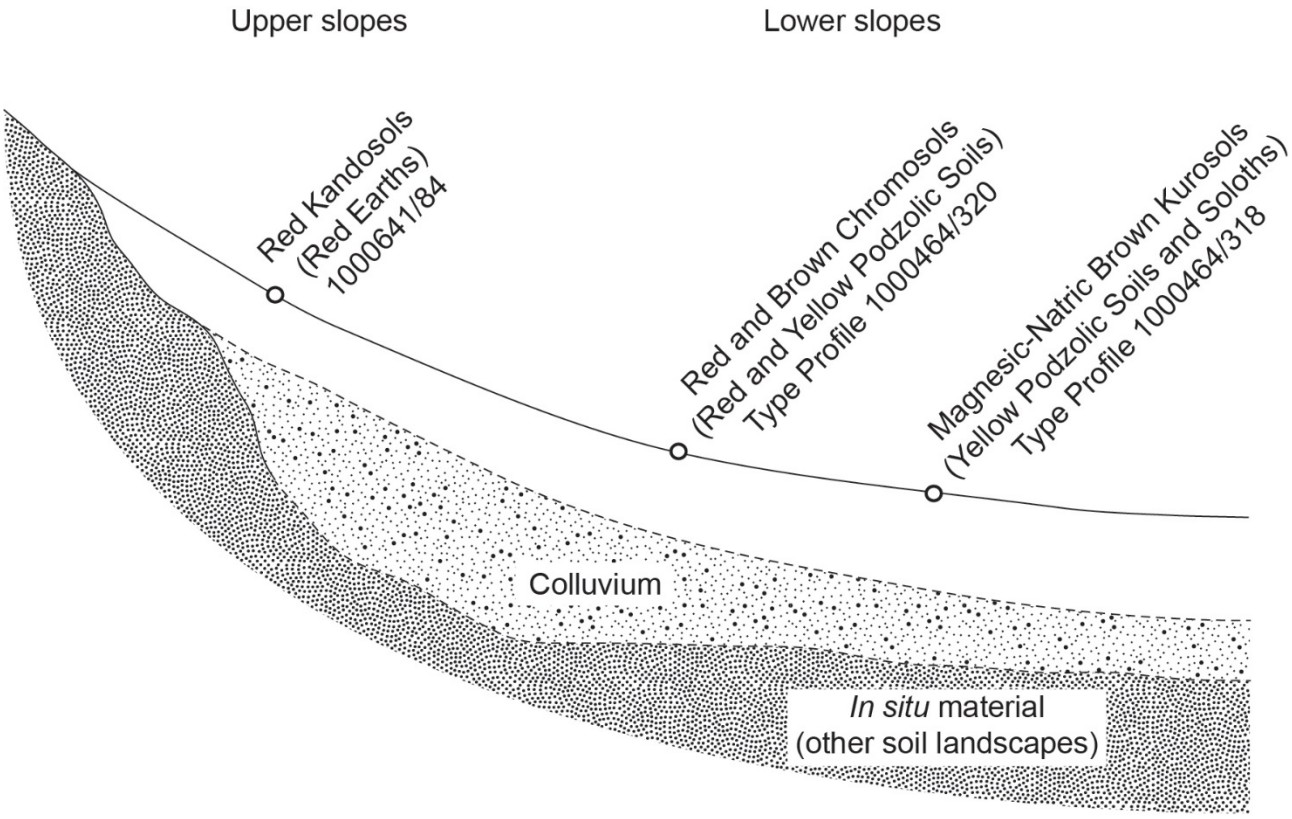
FACETS

luy(1)— Upper slopes

Soils	Moderately deep (50 - 150 cm), well - drained Red Kandosols (Red Earths)
Type Profile(s)	Red Kandosol (GSG not recorded): MOLONGLO RESOURCE (1000641) profile 84 (Master Type Profile)
HGL Reference	Typically corresponds with: HGL 23 (Sillivan's Creek) MA 3/4 and HGL 14 (Majura Road) MA 3/4.

luy(2)— Lower slopes

Soils	Deep (> 100 cm), imperfectly drained, often bleached, Red and Brown Chromosols (Red and Yellow Podzolic Soils) and Magnesic-Natric Brown Kurosols (Yellow Podzolic Soils and Soloths)
Type Profile(s)	Brown Kurosol (Yellow Podzolic Soil): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 318 (Master Type Profile) Red Chromosol (Red Podzolic Soil): Soil Landscapes of the Canberra 1:100 000 Sheet (1000464) profile 320 (Associated Type Profile)
HGL Reference	Typically corresponds with: HGL 23 (Sillivan's Creek) MA 9/10 and HGL 14 (Majura Road) MA 9/10.



Schematic cross-section of the Luxor (luy) soil landscape, showing facets and soil types

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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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