



GENERAL: This soil landscape is south-west of Orange on hills surrounding Mount Canobolas. Krasnozems (Gn4.11, Gn4.14) which occur on the upper to midslopes are dominant. Red Podzolic/Krasnozem intergrades (Dr4.11) are found on upper slopes, with Yellow Podzolic/Solodic Soils (Dy3.43) in drainage depressions.

ASSOCIATED SOIL LANDSCAPES: Spring Hill (K—sh), Canobolas (SL—cn) and North Orange (RE—no).

CLIMATIC ZONE: 10A

LANDFORM: Undulating hills to rolling low hills, from 980–1 080 m in elevation. Local relief varies from 40–60 m, with some to 100 m. Slopes are between 6–10% but can be up to 20%. Slopes in drainage depressions range from 8% on higher areas to 1–2% in the lower lands. Drainage lines are fixed and moderately spaced, flowing north to Molong and Heifer Station Creeks.

NATIVE VEGETATION: Savannah woodlands with yellow box communities. Blakely's red gum, grey box, apple box, bastard box and broad-leaved peppermint on lower areas.

GEOLOGY:

Geological Unit: Tertiary volcanics derived from Mount Canobolas.

Parent Rock: Basalt flows which are separated by layers of volcanic ash. Basalts are alkaline olivines, with trachytes and some shales and slates.

Parent Material: *in situ* and colluvial-alluvial materials derived from parent rock. Commonly 1–10 m deep but may be up to 90 m deep in drainage depressions.

GENERAL SOIL DESCRIPTIONS:

KRASNOZEMS

Topsoil: Dark reddish brown loam with weak to moderate fine crumb

structure; pH 6.5; to 25 cm depth.

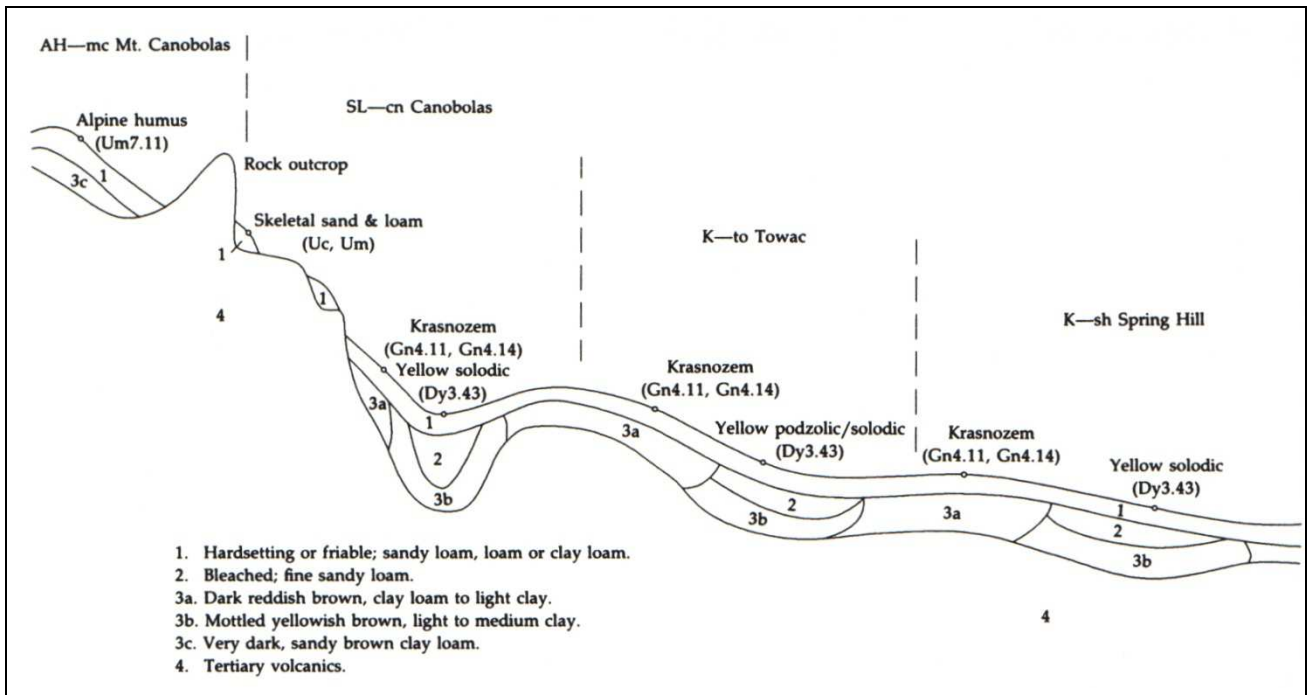
Subsoil: Gradual change to dark reddish brown clay loam with moderate fine crumb structure; signs of subplasticity; pH 6.0. Gradual change to light clay with strong subangular blocky structure; pH 5.5–6.0.

Additional Comments: No erosion hazard. Manganese and ironstone nodules may occur in subsoils.

YELLOW PODZOLIC/SOLODIC SOILS

Topsoil: Greyish yellow to dull brown fine sandy loam with weak structure; pH 5.5–6.5. Overlies greyish brown to dull yellow-orange (bleached) fine sandy loam with weak structure; pH 6.0–7.0; subplastic when moist. Overlies medium clay with strong structure.

	Krasnozems	Yellow Podzolic/Solodic Soils
Dominance	Dominant	Common
Landform element	Upper slope	Drainage depressions
Surface condition	Friable	Hardsetting
Drainage	Well-drained	Imperfectly drained
Soil permeability	Moderately permeable	Slowly permeable
Watertable depth	+150 cm	+150 cm
Available water-holding capacity	High	High
Depth to bedrock	100 cm	+100 cm
Flood hazard	Nil	Nil
pH (topsoil)	6.5	5.5–6.0
Fertility (chemical)	Moderate	Low
Known nutrient deficiencies	-	N, P
Soil salinity	Low	Low
Erodibility (topsoil)	Moderate	Moderate
Erodibility (subsoil)	Low	Low to moderate
Erosion hazard	Moderate	Moderate
Structural degradation hazard	Moderate	Moderate
Land capability classification	III, IV, VI	III, IV
USCS (subsoil)	ML, CL, CH	CL, CH
Shrink-swell potential	Moderate	Moderate to high
Mass movement hazard	Nil	Nil
Existing land use	Orchards, dairying, improved pasture; state forest (pine)	Improved pasture
Soil Erosion	Little evident	Clearing may result in some gully erosion
Comments	Dams often leak	Buildings may have foundation problems; suitable for water retention structures.



Distribution diagram of the Towac soil landscape showing the occurrence and relationship of dominant soil materials