

Soil Geology Association

Association 1

Soils Associated with Cambrian Rocks

Geology

Cambrian rocks of approximately 570 m.y. of age occurring on Mount William and northern slopes in the west of the study area. To the east the area abuts the Mount William fault and the Silurian Devonian sediments and to the north it stops at the Cobaw granodiorite intrusion.

Lithology

The Cambrian materials include black shale, chert and ash with marine fossils.

Soils

Typically moderately deep to deep, well structured, red friable, generally whole coloured duplex soils which usually lack A₂ horizon development. On the lower slopes, a pale A₂ horizon may occur. On crest components soils may be very shallow with some exposure of parent rock. Within slope components profiles are generally greater than 80 cm deep and seldom reach depths beyond 120 cm.

Soil surface is usually smooth and soft. The A horizons are usually moderately organic. 10-20 cm thick and are dark brown to dark reddish brown loams. Soil material is generally well structured with strong, friable, rough-faced crumb peds. The friable nature is maintained in the dry state. Some roadside cuttings exhibited a gritty texture in the surface material, whilst others contained small clay nodule inclusions. There is usually a gradual wavy boundary to the clayey subsoil.

The B horizons are usually moderately deep (to 50 cm), neutral, dark reddish brown to dark red, well structured, light medium to medium clay. Downslope, the upper 20 cm of the B horizon may take on a paler red and yellowish red colouring.

Some mottling can also occur. Structure is strongly developed subangular blocky or polyhedral with rough-ped fabric. Although rough-ped fabric is common, with increasing depth, fabric tends to be smooth-ped at depth. Some profiles which were faintly mottled also occurred.

Deep sub soil materials often were unstable and field tests indicated rapid slaking and unstable peds. Although permeability problems may exist in the deep subsoils the excellent infiltration rates of the upper 50-60 cm (due to the stable, strong, friable structure) has limited any overland sheet erosion on either upland or lowland terrain.

Soils are generally considered fertile but agriculture is restricted due to locality and slope. Good pastures exist on the lower slopes with the areas being suitable for grazing cattle and sheep.

Summary of Soil Features: Soils Associated with Cambrian Rocks

Classification		Texture		Structure		Permeability		Depth to Bedrock	Subsoil Slaking Tendency	Inclusions		
PPF	USC	Surface	Subsoil	Surface	Subsoil	Surface	Subsoil			Gravel	Stone	Other
Dr4 Dr5 Minor Dy 4,5 in gentler slopes	CL	(Organic) Loam	Light medium to medium clay	Friable crumb	Strong sub-angular blocky	Good to fair	Poor to very poor (Moderate slopes) Typically <120 cm (Gentle slopes)	Generally <80 cm	Rapid	Minor <1% (Some gentler slopes <5%)	Rare >5%	-