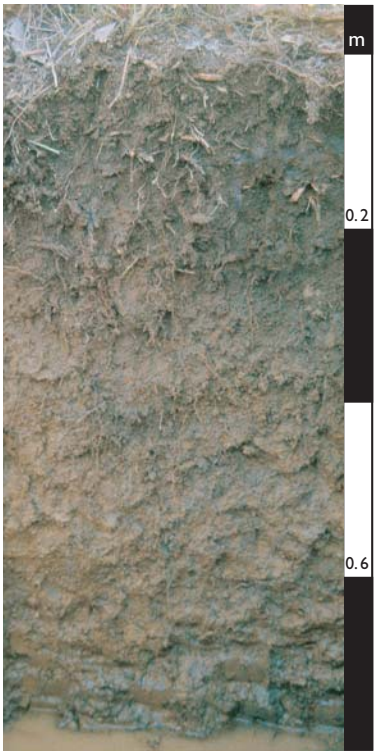
HY7: Acidic, Dermosolic, **Redoxic Hydrosol**



Subalpine site in Bago State Forest, southern New South Wales

General description of the soil

A seasonally wet, mottled, structured, clayey soil that is strongly acid in the major part of the B2 horizon.

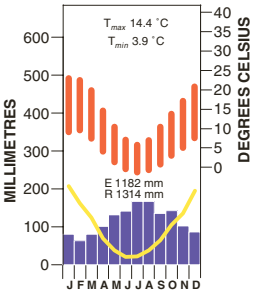
Distribution:	Known to commonly occur in seasonally wet drainage depressions in the wetter parts of southern Australia.
Typical land use:	Commonly reserved land in State Forests or National Parks.
World Reference Base:	Humic Acrisol.

Environment and location of the example profile

Landform:	Drainage depression.
Parent material or substrate:	Substrate is granodiorite.
Drainage class:	Poorly drained.
Surface condition:	Firm.
Site disturbance:	Sparse grazing.
Native vegetation:	Closed heathland.

Site location

Site climate



Soil morphology

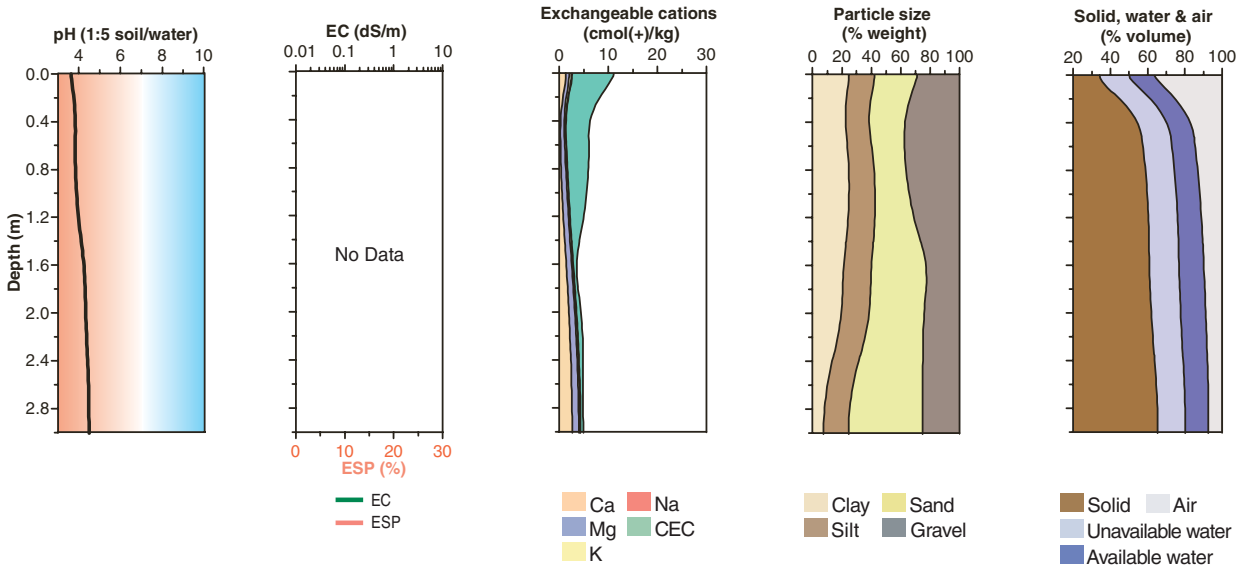
Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.13	dark reddish brown (5YR 3/2)	20–50% dark reddish brown (5YR 3/3) faint	silty clay loam	moderate	polyhedral	10–20 mm	weak (wet)	10–20% granodiorite gravels	–	clear smooth
B21	0.13–0.52	brown (7.5YR 4/4)	20–50% dark greyish brown (10YR 4/2) distinct	light clay	moderate	polyhedral	20–50 mm	weak (wet)	10–20% granodiorite gravels	–	diffuse smooth
B22	0.52–1.40	strong brown (7.5YR 4/6)	20–50% greyish brown (10YR 5/2) distinct	light clay	moderate	polyhedral	10–20 mm	weak (wet)	10–20% granodiorite gravels	–	clear smooth
B31	1.40–1.80	light grey (10YR 7/1)	20–50% brown (10YR 5/3) distinct and 10–20% brownish yellow (10YR 6/6) distinct	medium sandy clay loam					10–20% granodiorite gravels	–	gradual smooth
B32	1.80–2.35	yellowish brown (10YR 5/4)	20–50% light grey (10YR 7/1) distinct and brownish yellow (10YR 6/6) distinct	medium sandy clay loam					10–20% granodiorite gravels	–	diffuse smooth
B33	2.35–3.00	yellowish brown (10YR 5/4)	20–50% light grey (10YR 6/1) distinct and 10–20% brownish yellow (10YR 6/6) distinct	medium sandy clay loam					2–10% granodiorite gravels	2–10% soft manganese (6–20 mm) and 2–10% manganiferous root linings (6–20 mm)	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O	pH $CaCl_2$[C]	Elect. Cond. dS/m	$CaCO_3$ %	Org. C %[D]	Extr. P mg/kg	Tot. P %[B]	Tot. K %	Cation exchange properties[J] cmol(+)/kg							ESP %	Bulk dens. Mg/m^3	Particle size %			
										Ca	Mg	K	Na	H+Al[A]	CEC	ECEC[A]			CS	FS	Silt	Clay
A1	0.00–0.13		3.7			6.6		0.031		1.4	0.7	0.5	0.1	8.0		11	–	0.5				
B21	0.13–0.52		3.9			1.0		0.019		0.1	0.7	0.3	0.1	4.6		6	–	0.9				
B22	0.52–1.40		3.9			0.5		0.016		0.5	1.1	0.2	0.1	4.0		6	–	1.1				
B31	1.40–1.80		4.3			0.1		0.008		1.5	1.1	0.2	0.1	0.2		3	–					
B32	1.80–2.35		4.3			0.1		0.010		2.0	1.3	0.2	0.1	1.1		5	–					
B33	2.35–3.00		4.5			0.1		0.014		2.6	1.3	0.3	0.1	0.6		5	–					

* The data for H+Al are for aluminium determined by compulsive exchange (Gillman 1979). These data are also used to calculate ECEC.

Key profile properties



General qualities of the soil

Infiltration:	Rapid unless profile is saturated.
Available water store:	Greater than moderate, but water extraction is heavily influenced by the depth to water table and root distribution which may be limited due to water logging.
Permeability:	High in the surface but decling with depth.
Physical root limitations:	Restricted aeration due to waterlogging.
Erosion hazard:	Can be high if the drainage depression is disturbed through clearing but most sites represent zones of sediment accumulation.
Nutrient availability:	Limitations associated with low pH.
Toxicities:	Aluminium toxicity due to low pH will affect many species.

Closed heathland with adjacent forests dominated by Alpine Ash (*Eucalyptus delegatensis*), east of Tumbarumba, New South Wales

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