

FE6: Snuffy, Mesotrophic, Brown Ferrosol

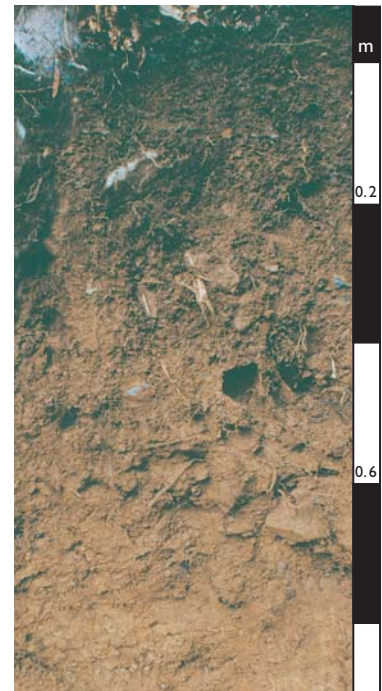
General description of the soil

A moderately structured Brown Ferrosol with a medium base status (i.e. Mesotrophic). The Snuffy A horizon has a fine granular structure, a dry strength that is weak to very weak, and usually a low bulk density.

Distribution:	Presently known to occur in the higher, and wet areas in Tasmania.
Typical land use:	Selectively logged native forest and nature conservation.
Common variants:	Depth to bedrock and stone content are both highly variable.
World Reference Base:	Affinities with Humic Nitisols.
Other names:	Brown Krasnozems.

Environment and location of the example profile

Landform:	Rolling hills.
Parent material or substrate:	Tertiary basalt.
Drainage class:	Well-drained.
Surface condition:	Soft.
Site disturbance:	Logged forest.
Native vegetation:	Wet sclerophyll forest with Eucalyptus and Acacia species.

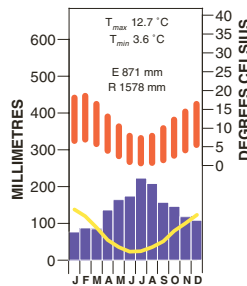


Devonport district, northern Tasmania

Site location



Site climate



Soil morphology

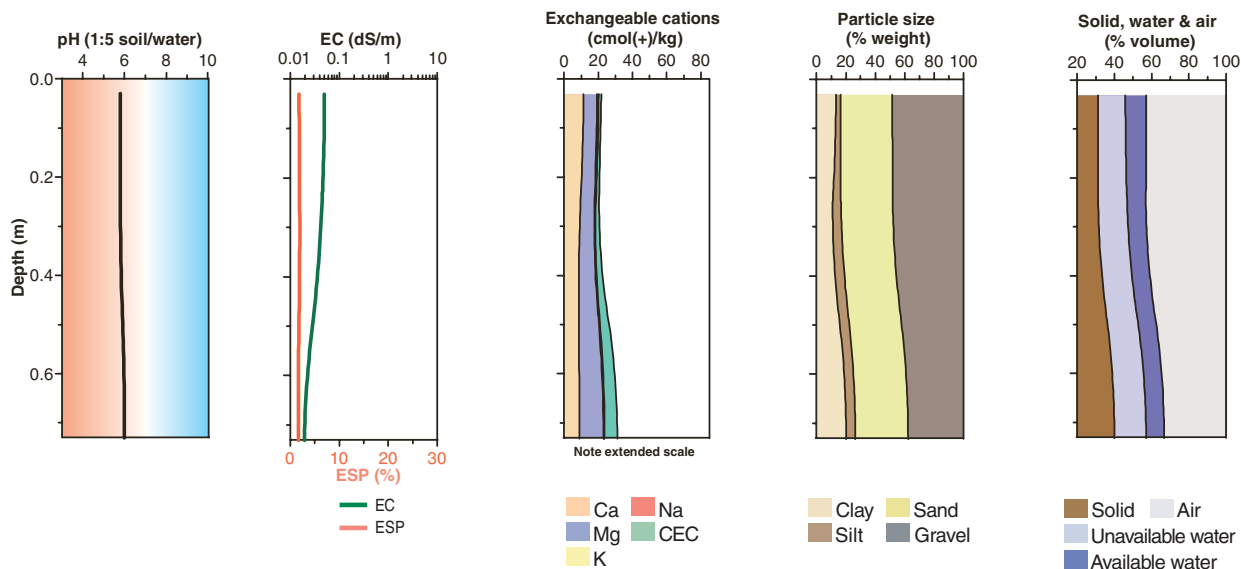
Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
O	0.00–0.03	black (10YR 2/1)	–	fibric peat					–	–	sharp
A1	0.03–0.23	dark yellowish brown (10YR 3/4)	–	clay loam	strong	granular	2–5 mm	very weak (moist)	10–20% subangular basalt (200–600 mm)	–	clear
B1t	0.23–0.48	dark brown (7.5YR 3/4)	–	light clay	weak parting to strong	angular blocky parting to granular	20–50 mm parting to 2–5 mm	very weak (moist)	10–20% subangular basalt (200–600 mm)	–	gradual
B2t	0.48–0.73	strong brown (7.5YR 4/6)	–	light medium clay	moderate	angular blocky	50–100 mm parting to 2–5 mm	weak (moist)	10–20% subangular basalt (200–600 mm)	–	clear
BC	0.73–1.13	strong brown (7.5YR 4/6)	2–10% black (7.5YR 2/0) prominent (<5mm) and 2–10% yellowish brown (10YR 5/8) distinct (5–15 mm)	coarse sandy light clay	massive	–	–	firm (moist)	10–20% subangular basalt (200–600 mm)	–	clear
C	1.13–1.23+			–	–	–	–	very firm (moist)	10–20% subangular basalt (200–600 mm)		

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H ₂ O ^A	pH CaCl ₂	Elect. Cond. dS/m ^A	CaCO ₃ %	Org. C % ^A	Extr. P mg/kg	Tot. P %	Tot. K %	Cation exchange properties ^A						ESP % ^A	Bulk dens. Mg/m ³	Particle size % ^D				
										Ca	Mg	K	Na	H+Al ^B	CEC			ECEC ^A	CS [*]	FS	Silt	Clay
A1	0.03–0.23	5.8		0.05		5.1				11.0	7.9	0.6	0.4	0.9		21	2	0.5	69	6	25	
B1t	0.23–0.48	5.8		0.04		2.1				8.4	8.5	0.1	0.4	2.5		20	2	0.5	68		13	19
B2t	0.48–0.73	6.0		0.02		1.0				8.9	14.0	0.3	0.5	7.0		31	2	0.8				

Note: Free iron in the B1 and B2 horizons is 5.3%.
 * Coarse sand (CS) fraction includes fine sand (FS).

Key profile properties



General qualities of the soil

Infiltration:	Rapid.
Available water store:	Moderate.
Permeability:	Very high.
Physical root limitations:	Hard basalt fragments may limit root development.
Erosion hazard:	Low.
Nutrient availability:	Organic matter is high in the surface soil and moderate to low in the subsoil, phosphorus is high throughout and nitrogen is moderate in the surface soil and low in the subsoil.
Toxicities:	None known.



Rolling basalt hills with stony, brown clayey soils supporting wet sclerophyll forest – most common in central Tasmania

Acknowledgements: Soil image, soil description and laboratory data: Forestry Tasmania. Profile 16.2 from Grant et al. (1995). Landscape image: Alan Moyle.