

KU5: Bleached-Vertic, Eutrophic, Brown Kurosol

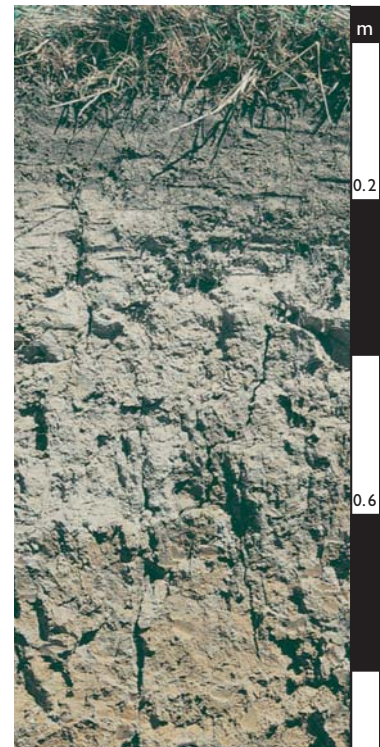
General description of the soil

A strongly acid, texture-contrast soil with a high base status (i.e. Eutrophic) in the major part of the brown clayey B2 horizon. A conspicuously bleached A2e horizon is present and the occurrence of slickensides in the B22 horizon indicates the subsoil has vertic properties.

Distribution:	Known from some subhumid regions of south-eastern Australia.
Typical land use:	Grazing of improved pastures.
Common variants:	Weakly coherent B horizons.
World Reference Base:	Abruptic Luvisol (incomplete data).
Other names:	Grey-brown Podzolic soils.

Environment and location of the example profile

Landform:	Undulating rises.
Parent material or substrate:	Cretaceous mudstone.
Drainage class:	Imperfectly drained.
Surface condition:	Very firm and hardsetting.
Site disturbance:	Grassed verge.
Native vegetation:	Wet sclerophyll forest (dominated by <i>Eucalyptus obliqua</i> and <i>Acacia melanoxylon</i>).

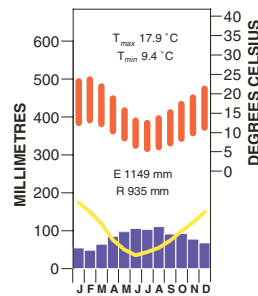


Near Wonthaggi, South Gippsland, Victoria

Site location



Site climate



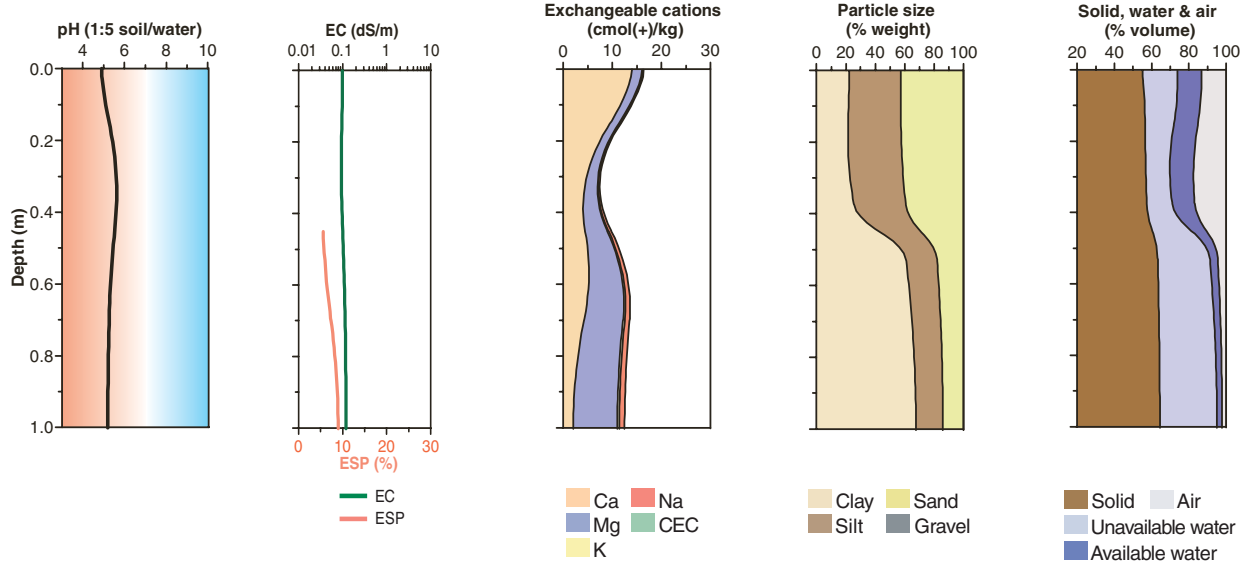
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.15	dark greyish brown (10YR 4/2)	–	fine sandy clay loam	strong	polyhedral		very firm (dry)	–	–	abrupt wavy
A2e	0.15–0.45	light grey (10YR 7/2 d) light brownish grey (10YR 6/2)	rusty root channel mottling	fine sandy clay loam				strong (dry)	–	–	clear wavy
B21	0.45–0.70	brown (10YR 5/3)	brownish yellow (10YR 6/8)	medium heavy clay	strong	prismatic parting to angular blocky	50–100 mm parting to 20–50 mm	very strong (dry)	–	–	gradual
B22	0.70+	light brownish grey (10YR 6/2)	brownish yellow (10YR 6/8)	medium clay	strong	prismatic parting to angular blocky	50–100 mm parting to 20–50 mm	firm (moist)	–	slickensides present	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H ₂ O ^A	pH CaCl ₂ ^B	Elect. Cond. dS/m ^A	CaCO ₃ %	Org. C % ^A	Extr. P mg/kg	Tot. P %	Tot. K %	Cation exchange properties ¹ cmol(+)/kg						ESP % ^C	Bulk dens. Mg/m ³	Particle size % ^G				
										Ca	Mg	K	Na	H+Al	CEC			ECEC	CS	FS	Silt	Clay
A1	0.00–0.15	5.0	4.4	0.10		3.6				13	2.0	0.2	0.2				–		9	30	32	20
A2e	0.15–0.45	5.8	4.8	0.09						2.5	1.5	0.1	0.2				–		9	33	37	21
B21	0.45–0.70	5.3	4.1	0.11						6.3	7.2	0.3	0.9				6		4	10	18	63
B22	0.70+	5.2	4.2	0.12						2.0	9.0	0.4	1.1				9					

Key profile properties



General qualities of the soil

Infiltration:	Rapid unless subsurface is already saturated.
Available water store:	Moderate.
Permeability:	Moderate to low in the B horizons.
Physical root limitations:	Rooting depth may be restricted by the dense clay subsoil and periodic saturation.
Erosion hazard:	Moderate to low erosion risk.
Nutrient availability:	Phosphorus deficient.
Toxicities:	High extractable aluminium levels may affect sensitive species.



The undulating rises of the Strezlecki Ranges in South Gippsland have a mudstone substrate and support impermeable Brown Kurosols.

Acknowledgments: Soil image, soil description and laboratory data: Department of Primary Industries, Victoria. Site 2, Southwest Gippsland. Landscape image: Alan Fox.