

TE5: Basic, Arenic, Bleached-Orthic Tenosol

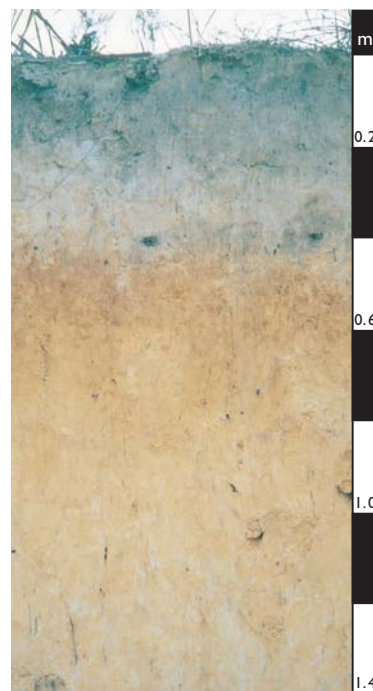
General description of the soil

A deep fine sandy soil with a conspicuously bleached A2e horizon overlying a tenic B horizon (B2w defined by the difference in colour). The soil is locally thought to be transitional to a Podosol but there is little or no evidence of any organic accumulation in the Bw horizon. Soil reaction is moderately acid near the surface but near neutral at depth.

Distribution:	A common soil in southern near-coastal Western Australia. Unlikely to occupy large areas elsewhere in southern Australia.
Typical land use:	Limited cropping, particularly lupins.
Common variants:	Horizon depths and thicknesses are variable.
World Reference Base:	Albic Arenosol.
Other names:	Usually called Siliceous Sands and occasionally referred to as Podzols.

Environment and location of the example profile

Landform:	Low dunes and sand sheets on gently undulating sand plains.
Parent material or substrate:	Siliceous sands mainly of aeolian origin.
Drainage class:	Rapidly drained.
Surface condition:	Loose.
Native vegetation:	Low heath shrub typically dominated by <i>Banksia</i> species.

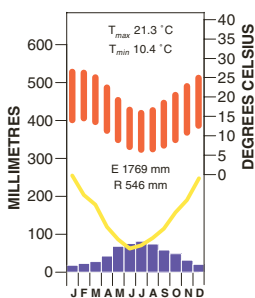


Esperance district, south-east Western Australia (image from nearby the sampled profile)

Site location



Site climate



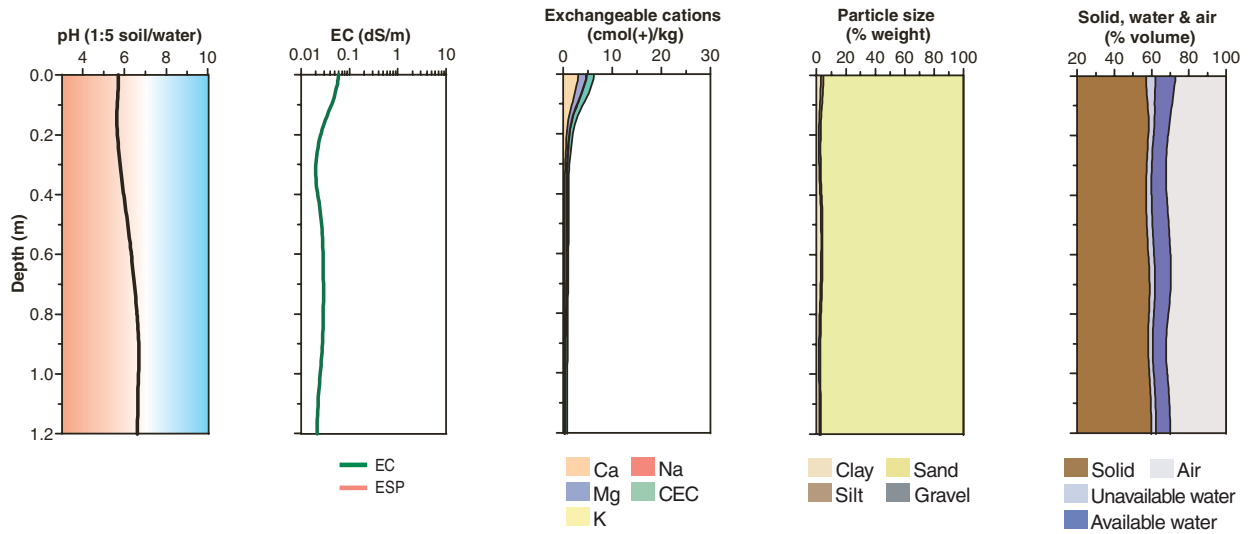
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
Ap	0.00–0.12	dark grey (10YR 4/1)	–	fine sand	single grain	–	–	–	–	–	clear
A2e	0.12–0.65	light grey (10YR 7/2 d) pale brown (10YR 6/3)	–	fine sand	single grain	–	–	–	–	–	diffuse
B2w	0.65–1.20	brownish yellow (10YR 6/6)	–	fine sand	single grain	–	–	–	–	–	diffuse
C	1.20–2.50	yellow (2.5YR 8/6)	10–20% white distinct (<5 mm)	fine sand	single grain	–	–	–	–	–	–

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 ^A	Tot. P % ^D	Tot. K %	Cation exchange properties ^l cmol(+)/kg						ESP %	Bulk dens. Mg/m ³	Particle size % ^B									
										Ca		Mg		K				Na		H+Al		CEC	ECEC	CS	FS	Silt	Clay
										Ca	Mg	K	Na	H+Al	CEC			ECEC	CS	FS	Silt						
Ap	0.00–0.10	5.7		0.06		1.3	4			2.7	1.6	0.1	0.1		6		–	1.5	18	78	2	3					
A2e	0.10–0.20	5.5		0.02		0.2	< 2			0.1	0.1		0.1		1		–	1.6	24	74	1	1					
A2e	0.20–0.40	5.7		0.01		0.3	< 2			< 0.1	0.2		0.1		1		–	1.5	25	74	1	1					
A2e	0.40–0.60	6.2		0.03		0.2	< 2			0.3	0.5	< 0.1	0.1		1		–	1.5	19	76	1	4					
B2w	0.60–0.80	6.5		0.03		0.1	< 2			0.3 ^D	0.4 ^D	< 0.1 ^D	< 0.1 ^D		1 ^D		–	1.6	20	76	1	3					
B2w	0.80–1.00	6.8		0.03		0.1	< 2			0.2	0.1	< 0.1			1		–	1.5	20	79	1	1					
B2w	1.00–1.20	6.6		0.02		0.1	< 2			0.1	0.1	< 0.1			1		–	1.6	17	81	1	2					

Key profile properties



General qualities of the soil

Infiltration:	Rapid unless water-repellent.
Available water store:	Small to moderate depending on the depth of roots.
Permeability:	High to very high but less at the surface due to water-repellence.
Physical root limitations:	None.
Erosion hazard:	Because plant growth is usually very poor, grazing and cultivation frequently result in severe wind erosion.
Nutrient availability:	Very low and applied nutrients leach rapidly.
Toxicities:	None apparent.



Sandsheets, dunes and playas, north-west of Esperance, Western Australia

Acknowledgements: Soil image, soil description and laboratory data: Agriculture Western Australia. Corinup Series from Overheu et al. (1993). Landscape image: Richard Woldendorp.