

## CH6: Ferric, Mesotrophic, Brown Chromosol

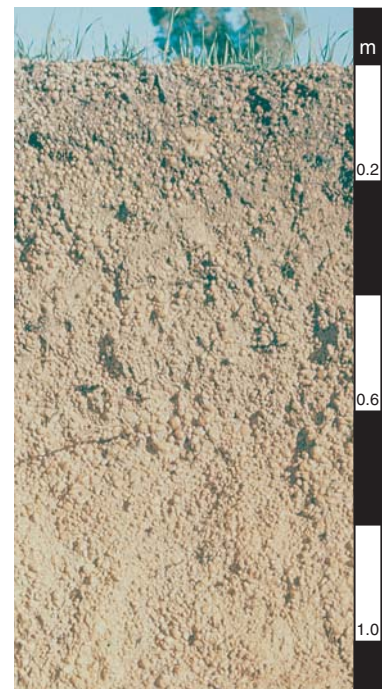
### General description of the soil

A non-sodic, texture-contrast soil with a brown sandy clay loam B2 horizon of moderate base status (i.e. Mesotrophic). The soil contains 20–50% of pisolithic ferruginous gravels throughout the profile.

<b>Distribution:</b>	A common soil in south-west Western Australia.
<b>Typical land use:</b>	Sheep grazing of sown pastures.
<b>Common variants:</b>	There is considerable variation in the amount of ferruginous gravels in the profile.
<b>World Reference Base:</b>	Orthiplinthic Luvisol.
<b>Other names:</b>	Lateritic Podzolic Soils.

### Environment and location of the example profile

<b>Landform:</b>	Upper slope falling from a lateritic low scarp.
<b>Parent material or substrate:</b>	Ferricrete and strongly weathered granite.
<b>Drainage class:</b>	Well-drained.
<b>Surface condition:</b>	Loose.
<b>Site disturbance:</b>	Cleared.
<b>Native vegetation:</b>	Sclerophyll forest (including <i>Eucalyptus marginata</i> and <i>Eucalyptus calophylla</i> ).

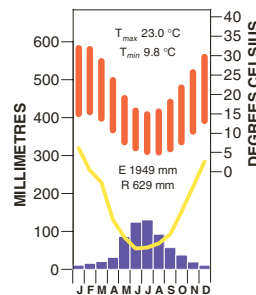


Eastern Darling Ranges, Western Australia

### Site location



### Site climate



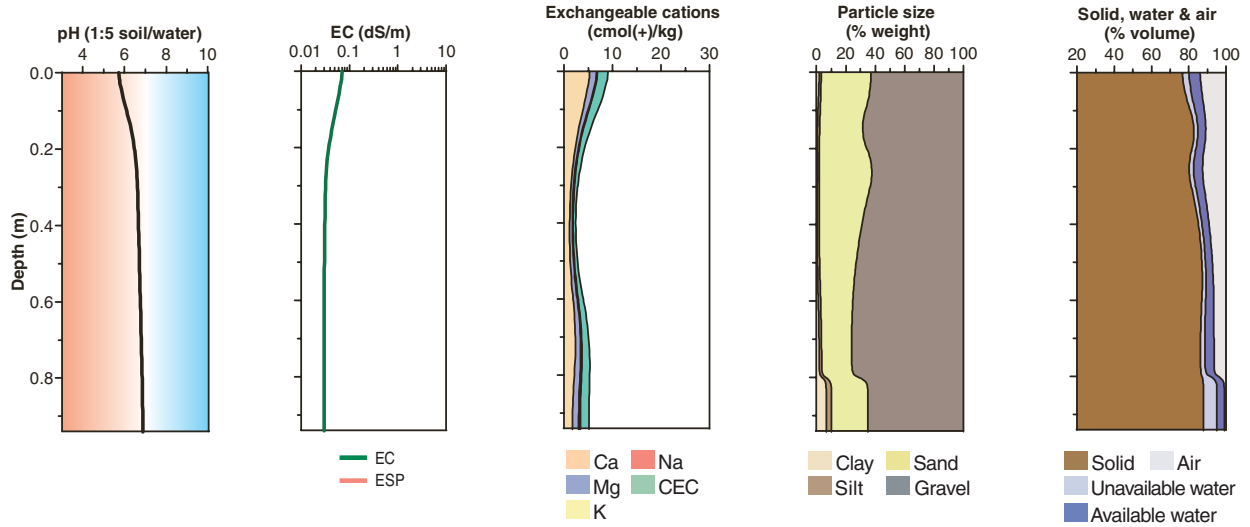
### Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.10	very dark grey brown (10YR 3/2)	–	loamy sand	single grain	–	–	very weak (dry)	–	20–50% pisolithic ferruginous gravels (<20 mm)	clear
A2	0.10–0.20	pale brown (10YR 6/3 d) brown (10YR 5/3)	–	sand	single grain	–	–	loose (dry)	–	20–50% pisolithic ferruginous gravels (<20 mm)	
A3	0.20–0.80	yellowish brown (10YR 5/4)	–	sand	single grain	–	–	loose (moderately moist)	–	20–50% pisolithic ferruginous gravels (<20 mm)	sharp uneven
B2	0.80–0.94	strong brown (7.5YR 5/8)	–	sandy clay loam	massive	–	–	firm (moist)	–	20–50% pisolithic ferruginous gravels (<20 mm)	
R	0.94–15.60	Ferricrete with pallid zone starting at approximately 2 m. Unweathered granite at approximately 16 m.									

### Soil chemical and physical properties

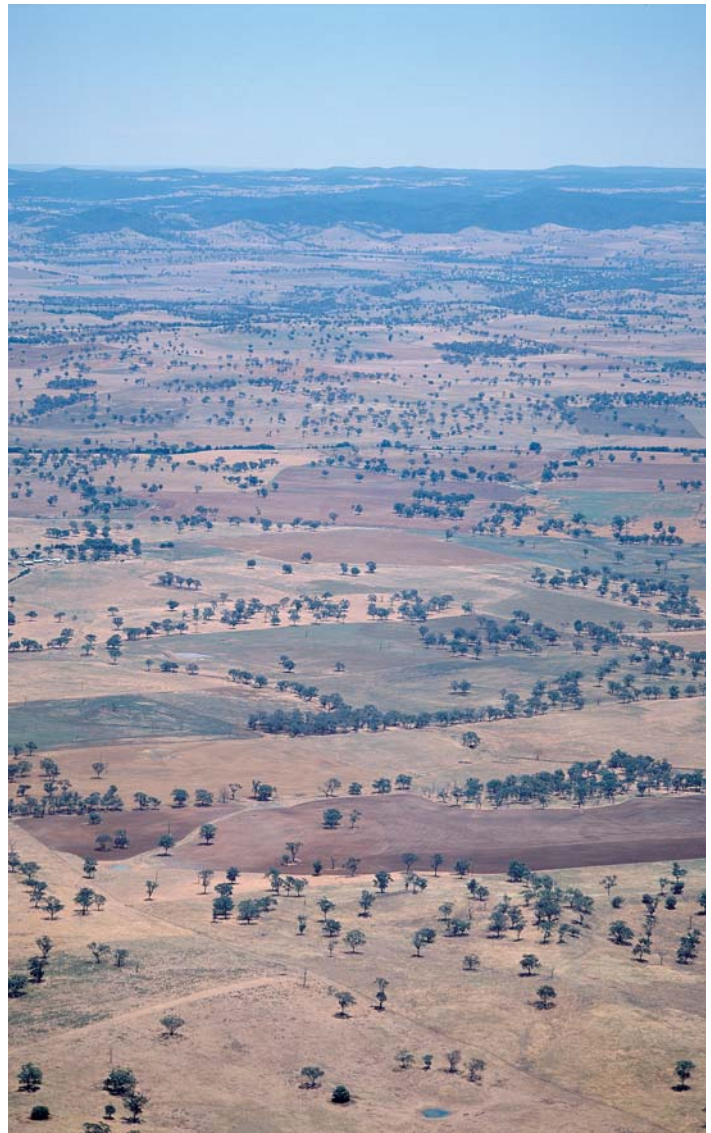
Horizon	Sample Depth (m)	pH H <sub>2</sub> O <sup>A</sup>	pH CaCl <sub>2</sub> <sup>E</sup>	Elect. Cond. dS/m <sup>C</sup>	CaCO <sub>3</sub> %	Org. C %	Extr. P mg/kg <sup>A</sup>	Tot. P % <sup>A</sup>	Tot. K % <sup>A</sup>	Cation exchange properties <sup>A</sup>						ESP %	Bulk dens. Mg/m <sup>3</sup>	Particle size % <sup>B</sup>					
										cmol(+)/kg								CEC	ECEC	CS	FS	Silt	Clay
										Ca	Mg	K	Na	H+Al	CEC								
A1	0.00–0.10	5.8	5.0	0.06			25	0.01	0.14	4.9	1.4	0.1	0.1		9		–		77	15	4	4	
A2	0.10–0.20	6.5	4.9	0.03			2	< 0.01	0.18	1.6	0.3	0.1	0.1		3		–		55	38	5	2	
A3	0.20–0.30	6.7	5.0				1	< 0.01	0.17								–		62	33	3	2	
A3	0.30–0.60	6.7	5.0	0.03			1	< 0.01	0.23	0.5	0.5		0.1		1		–		64	29	5	2	
A3	0.60–0.80	6.8	5.3				1			3.0	1.1	0.1	0.1		6		–		50	36	7	7	
B2	0.90–0.94	6.9	5.5	0.03			1			1.5	1.3	0.2	0.2		5		–		38	33	10	19	

Key profile properties



General qualities of the soil

<b>Infiltration:</b>	Rapid.
<b>Available water store:</b>	Small due to the sand texture and abundant gravel.
<b>Permeability:</b>	High.
<b>Physical root limitations:</b>	None, other than the ferruginous gravel.
<b>Erosion hazard:</b>	Moderate on slopes.
<b>Nutrient availability:</b>	Very low.
<b>Toxicities:</b>	None recorded.



Near Northam, Western Australia

Acknowledgements: Soil image, soil description and laboratory data: CSIRO Land and Water. Stace et al. (1968), page 358, Profile F. Landscape image: Richard Woldendorp.