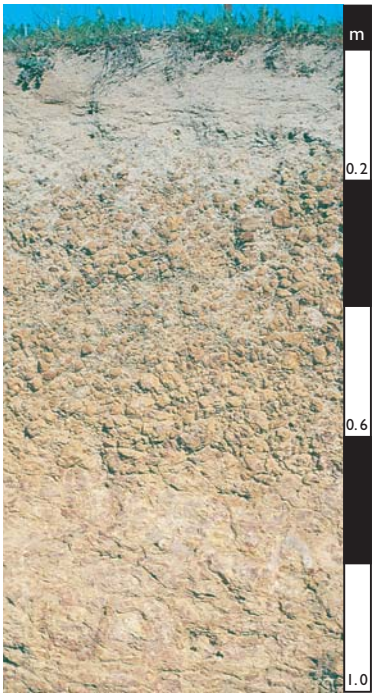
SO7: Ferric, Mottled-Hypernatric, **Yellow Sodosol**



Jerramungup district, south-west Western Australia

General description of the soil

A texture-contrast soil which is highly sodic in the upper 0.2 m of the yellow, mottled, clayey B2 horizon. Ferruginous concretions are a prominent feature of the A and B21 horizons. The image is from a nearby location and differs slightly in profile morphology to the described profile.

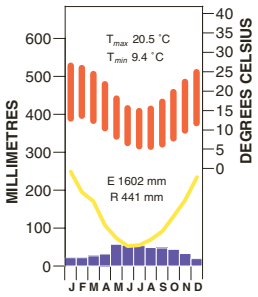
Distribution:	A particularly common Sodosol in southwest Western Australia and to a lesser extent elsewhere in southern Australia.
Typical land use:	Dryland cropping and grazing.
Common variants:	A horizon thickness and depth to ferruginous concretions are variable.
World Reference Base:	Abruptic Plinthosol.
Other names:	These soils have been called Lateritic Podzolic Soils.

Environment and location of the example profile

Landform:	Gently undulating sand plain.
Parent material or substrate:	Yilgarn granite.
Drainage class:	Moderately well-drained.
Surface condition:	Loose. Water-repellent.
Site disturbance:	Cultivated.
Native vegetation:	Open low mallee and sandplain heath including *Eucalyptus tetraptera*, *Eucalytus preissiana*, and *Lambertia inermis*.

Site location

Site climate



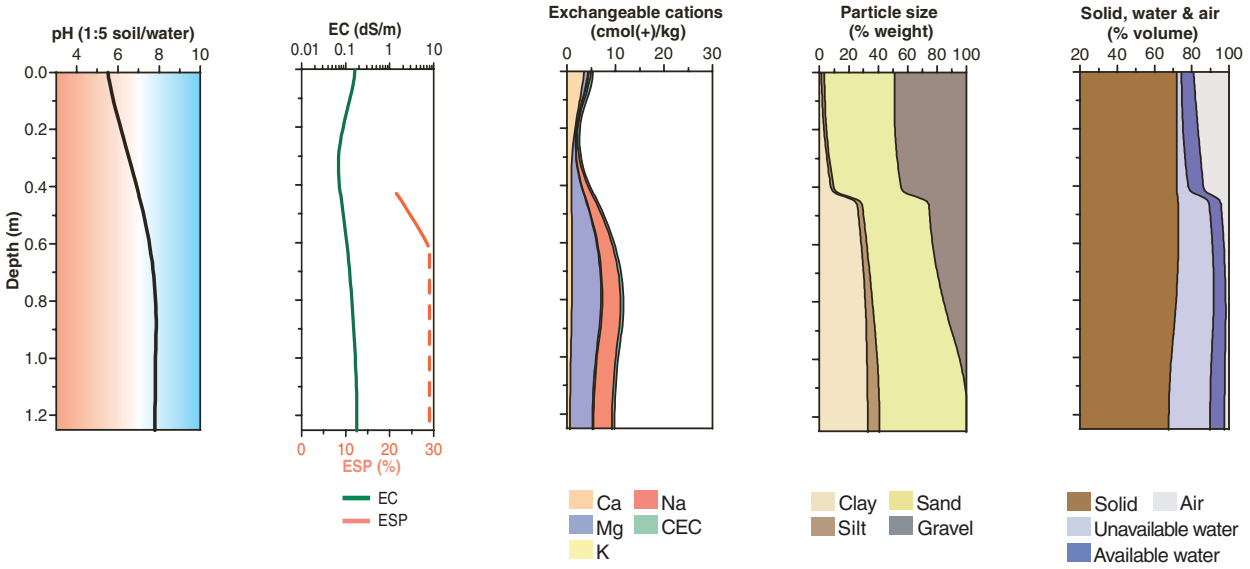
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
Ap	0.00–0.10	very dark greyish brown (2.5Y 3/2)	water-repellent	loamy sand (water-repellent)	single grain	–	–		–	20–50% ferruginous concretions (6–20 mm)	abrupt
A2e	0.10–0.43	light yellowish brown (2.5Y 6/4)	–	sand	single grain	–	–		–	20–50% ferruginous concretions (6–20 mm)	clear
B21	0.43–0.92	brownish yellow (10YR 6/8)	10–20% strong brown (7.5YR 5/6) distinct	sandy light medium clay	massive	–	–		–	10–20% ferruginous concretions (6–20 mm)	clear
B22	0.92–1.25	light grey (10YR 7/2)	10–20% brownish yellow (10YR 6/8) distinct	sandy light medium clay	moderate	subangular blocky	10–20 mm		–	–	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O [A]	pH $CaCl_2$ [B]	Elect. Cond. dS/m [A]	$CaCO_3$ %	Org. C % [A]	Extr. P mg/kg	Tot. P % [B]	Tot. K %	Cation exchange properties [J] cmol(+)/kg							ESP % [A]	Bulk dens. Mg/m^3	Particle size % [B]			
										Ca	Mg	K	Na	H+Al	CEC	ECEC			CS	FS	Silt	Clay
Ap	0–0.10	5.6	4.9	0.15		1.8		0.016		3.2	0.7	0.2	0.4				–		40	53	4	3
A2e	0.10–0.43	6.4	5.4	0.05		0.3		0.029		0.7	0.6	<0.1	0.3				–		38	52	3	7
B21	0.43–0.92	7.8	6.4	0.12		0.1		0.028		1.1 [D]	5.7 [D]	0.3 [D]	3.4 [D]		11 [D]		31		32	25	5	38
B22	0.92–1.25	7.8	6.6	0.18		<0.1		0.024		0.6	4.8	0.3	3.8		10		38		31	29	8	33

Key profile properties



General qualities of the soil

Infiltration:	Rapid to very slow depending on the severity of water-repellence.
Available water store:	Small to moderate but water-repellence may limit filling of the store.
Permeability:	Low in the B horizon.
Physical root limitations:	Gravels, and the A2e is saturated seasonally.
Erosion hazard:	Moderate on slopes. Risk of wind erosion is high, because of the sandy surface. Establishment of windbreaks is essential.
Nutrient availability:	Limited capacity to retain nutrients.
Toxicities:	Susceptible to becoming acidic.

Remnant vegetation on extensive sand plains near Jerramungup, south-west Western Australia

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