KU1: Bleached-Mottled, Natric, Red Kurosol

General description of the soil

A strongly acid texture-contrast soil with a red, mottled upper B horizon which is sodic. A conspicuously bleached A2e horizon is present.

Distribution:	These soils are confined to the higher rainfall districts of South Australia, principally the Fleurieu Peninsula and the Lower South East
Typical land use:	Permanent perennial pastures used for grazing.
Common variants:	The degree of B horizon mottling is variable, as is A horizon thickness. B horizons commonly have a very low Ca/Mg ratio (less than 0.1).
World Reference Base:	Arenic Luvisol.
Other names:	Red Podzolics and Soloths.

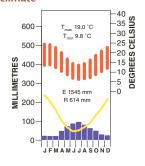
Environment and location of the example profile

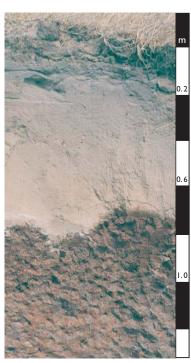
Landform:	Rolling low hills and prominent crests.
Parent material or substrate:	Sandy clays deposited in ancient glacial valleys.
Drainage class:	Moderately well to well-drained.
Surface condition:	Loose.
Site disturbance:	Cultivated.
Native vegetation:	Eucalypt woodland to open forest.

Site location



Site climate





Near Yankalilla, South Australia

Soil morphology

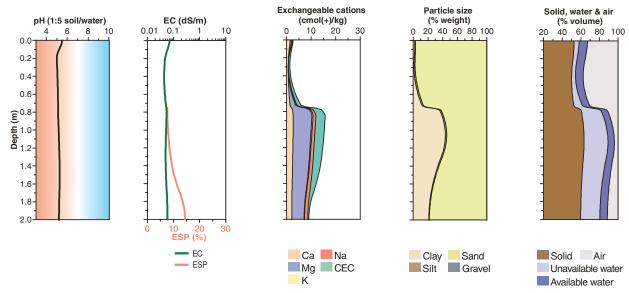
Horizon	Depth	Colour	Mottles	Texture		Structur	e	Consistence	Coarse	Segregations	Boundary
	(m)				Grade	Shape	Size		fragments		
A11	0.00-0.10	very dark greyish brown (10YR 3/2)	_	sand	single grain	_	_	very soft (dry)	-	_	clear
A12	0.10-0.22	brown (10YR 4/3)	-	light loamy sand	single grain	-	-	very soft (dry)	-	-	gradual
A2e	0.22-0.75	white (10YR8/2 d) light yellowish brown (10YR 6/4)	-	sand	single grain	_	-	very soft (dry)	-	_	sharp
B21	0.75–0.85	red (2.5YR 4/6)	yellowish red (5YR 4/6)	medium heavy clay	strong	columnar	100–200 mm	very hard (moderately moist)	-	-	gradual
B22	0.85–1.30	greyish brown (2.5Y 5/2)	dark red (10R 3/6) and yellowish brown	medium heavy clay	weak	prismatic	100–200 mm	very hard (moderately moist)	-	-	diffuse
В3	1.30–1.70	light yellowish brown (2.5Y 6/4)	red (2.5YR 4/8) and brownish yellow	sandy medium clay	massive	-	-	very hard (moderately moist)	-	-	gradual
B3/C	1.70–2.00	pale yellow (2.5Y 7/4)	brownish yellow (10YR 6/8) and greyish brown	sandy light clay	massive	-	-	firm (moderately moist)	-	-	

Soil chemical and physical properties

ŀ	Horizon	Sample Depth	pH H₂O ^A	pH CaCl ₂ ^B	Elect. Cond.	CaCO ₃	Org. C % ^D	Extr.	P P%			Catio		hang nol(+	e prope)/kg	erties ^E		ESP % ^A	Bulk dens.			cle si % ^A	ze
		(m)			dS/m ^A			mg/kg ^A			Ca	Mg	K	Na	H+AI	CEC	ECEC		Mg/m ³	CS	FS	Silt	Clay
	A11	0.00-0.10	5.5	5.0	0.07		0.9	18			1.5	0.5	0.2	0.1		3		-		74	23	1	2
	A12	0.10-0.22	4.7	4.2	0.04		0.1	9			0.2	0.1	0.1	0.1		1		-					
	A2e	0.22-0.75	5.1	4.7	0.04		0.0	8			0.2	0.1	0.1	0.1		1		-		58	40	2	1
	B21	0.75-0.85	5.1	4.1	0.06		0.5	4			3.4	8.7	0.6	1.3		18		7		36	15	2	47

Horizon	Sample Depth	pH H₂O ^A	pH CaCl ₂ ^B	Elect. Cond.	CaCO ₃	Org. C % ^D	Extr. P	Tot. P %	Tot. K %		Catio		hang nol(+	e prop)/kg	erties ^E		ESP % ^A	Bulk dens.			cle si: % ^A	ze
	(m)			dS/m ^A			mg/kg ^A			Ca	Mg	K	Na	H+Al	CEC	ECEC		Mg/m ³	CS	FS	Silt	Clay
B22	0.85-1.30	5.2	4.0	0.05		0.3	5			2.7	7.1	0.4	1.2		15		8					
В3	1.30–1.70	5.3	4.1	0.05		0.2	29			2.3	6.5	0.3	1.3		13		10		54	21	1	24
B3/C	1.70–2.00	5.2	4.1	0.06		0.1	6			2.0	5.0	0.2	1.3		9		15					

Key profile properties



General qualities of the soil

Infiltration:	Rapid although surface may be water-repellent.
Available water store:	Moderate.
Permeability:	Moderate to low in the B2 horizon.
Physical root limitations:	Possible aeration and strength limitations in the dense B horizon.
Erosion hazard:	Moderate to high wind and water erosion potential in soils with deep, loose, sandy surfaces.
Nutrient availability:	Low nutrient retention. Phosphorus and organic matter are deficient.
Toxicities:	Acidity may limit root growth.



View along the Fleurieu Peninsula with Yankalilla in the foreground and Sellicks Beach in the distant north

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