

SAND OVER SANDY CLAY ON CALCRETE

General Description: *Loamy sand to sand over a red or brown friable sandy clay on calcrete at shallow depth*

Landform: Flat to gently undulating plain with occasional sandhills

Substrate: Sandy lagoonal limestones and sands (Padthaway Formation).

Vegetation: Mallee heath

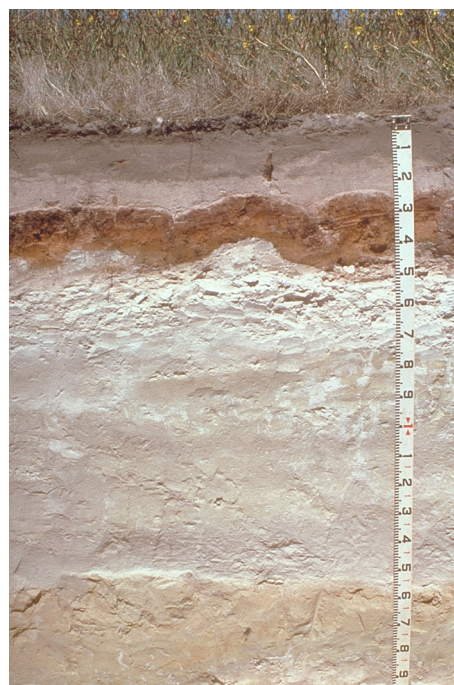


Type Site:	Site No.:	MM098	1:50,000 mapsheet:	6926-3 (Tintinara)
	Hundred:	Lewis	Easting:	410200
	Section:	2	Northing:	6036750
	Sampling date:	06/03/1993	Annual rainfall:	465 mm average

Flat, soft surface, no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-8	Dark grey brown loose light sandy loam. Clear to:
8-15	Brown loose light sandy loam. Abrupt to:
15-26	Light grey (bleached) loose sand. Sharp to:
26-44	Reddish brown hard sandy clay with coarse columnar structure. Sharp to:
44-53	Pale brown hard massive very highly calcareous sandy clay loam. Abrupt to:
53-70	Light grey laminar calcrete with very highly calcareous sandy clay matrix. Clear to:
70-100	Light brownish grey massive soft calcareous light sandy clay loam. Diffuse to:
100-155	Pale brown soft calcareous loamy sand. Clear to:
155-185	Light brown very hard massive calcareous light sandy loam. Diffuse to:
185-195	Hard limestone.



Classification: Bleached, Calcic, Red Chromosol; medium, non-gravelly, sandy / clayey, moderate



Summary of Properties

- Drainage:** Well drained. Soil never remains wet for more than a few days.
- Fertility:** Inherent fertility is low, as indicated by the exchangeable cation data. Regular phosphorus applications are essential. Nitrogen levels are likely to be low. Deficiencies of zinc and copper are likely, although levels are adequate at sampling site. Manganese may be needed by lupins. Organic carbon concentrations are low.
- pH:** Neutral to slightly acidic at the surface, alkaline with depth.
- Rooting depth:** Some roots to 70 cm, few below 44 cm.
- Barriers to root growth:**
- Physical:** The calcrete and limestone severely restrict root growth.
 - Chemical:** There are no chemical barriers.
- Waterholding capacity:** 50 mm in the rootzone
- Seedling emergence:** Can be reduced by water repellence in dry seasons.
- Workability:** Loose / soft surface is easily worked.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderately low to moderate.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	6.4	6.1	3	0.06	0.46	0.9	12	120	0.66	0.2	18	4.5	0.79	5.4	4.06	0.68	0.13	0.28	2.4
0-8	7.2	6.8	2	0.07	0.61	0.8	13	130	0.72	0.21	14	3.9	1.3	4.9	4.23	0.65	0.06	0.28	1.2
8-15	6.6	6.2	3	0.03	0.34	0.3	7	98	<0.4	0.22	13	3.3	0.3	3.3	2.73	0.39	0.10	0.21	3.0
15-26	7.0	6.7	3	0.02	0.26	0.1	4	62	<0.4	0.08	6.6	0.73	0.1	2.4	1.90	0.28	0.09	0.14	na
26-44	7.8	7.3	3	0.14	0.7	0.4	5	120	0.72	0.09	13	0.53	0.12	14.2	8.82	1.82	0.23	0.38	1.6
44-53	8.7	8.1	19	0.11	0.57	0.3	2	63	<0.4	0.08	14	0.29	0.13	6.8	6.22	1.30	0.17	0.18	2.5
53-70	9.0	8.2	35	0.10	0.44	0.2	<2	88	<0.4	0.1	2.8	0.13	0.16	5.5	4.59	1.39	0.15	0.19	2.7
70-100	9.2	8.2	7	0.08	0.37	<0.1	<2	97	0.43	0.11	1.7	<0.06	0.08	6.7	4.74	1.92	0.23	0.23	3.4
100-155	9.3	8.3	4	0.07	0.32	<0.1	<2	46	0.46	0.05	0.49	0.09	0.1	3.6	2.94	1.30	0.15	0.21	4.2
155-185	9.0	8.2	3	0.15	1.15	<0.1	<2	190	0.89	0.06	1.2	0.07	0.13	11.0	4.05	5.79	0.25	0.49	2.3
185-195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.
CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements.
ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC.

Further information: [DEWNR Soil and Land Program](#)

