

CALCAREOUS SANDY LOAM OVER CLAYEY SUBSTRATE

General Description: *Calcareous sandy loam grading to a very highly calcareous sandy clay loam with abundant rubble, over heavy clay at depth*

Landform: Flat to gently undulating plain with occasional low sandy and stony rises.

Substrate: Coarsely structured heavy clay (Blanchetown Clay equivalent).

Vegetation: Mallee

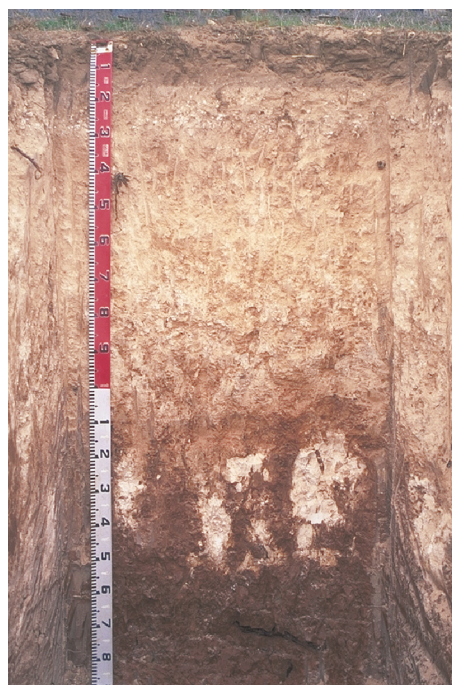


Type Site:	Site No.:	MM133	1:50,000 mapsheet:	7027-2 (Pinnaroo)
	Hundred:	Parilla	Easting:	477400
	Section:	16	Northing:	6088170
	Sampling date:	23/05/1996	Annual rainfall:	345 mm average

Low rise. Firm surface with 10-20% calcrete stone (20-200 mm).

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-15	Brown soft platy highly calcareous sandy loam. Clear to:
15-30	Reddish yellow soft massive very highly calcareous light sandy clay loam with 20-50% carbonate fragments (6-20 mm) and 20-50% fine carbonate segregations. Clear to:
30-60	Reddish yellow friable massive very highly calcareous clay loam with more than 50% fine carbonate segregations. Gradual to:
60-95	Reddish yellow friable very highly calcareous light medium clay with more than 50% fine carbonate segregations. Diffuse to:
95-150	Yellowish red friable medium clay with coarse angular blocky structure and 20-50% fine carbonate segregations. Gradual to:
150-190	Yellowish red hard medium heavy clay with coarse prismatic breaking to angular blocky structure.



Classification: Epihypersodic, Regolithic, Supracalcic Calcarosol; medium, gravelly, loamy/clayey, moderate



Summary of Properties

- Drainage:** Well drained. Soil never saturated for more than a few days.
- Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. Regular phosphorus applications are essential. Nitrogen deficiency is common. Zinc and copper deficiencies often show up, a problem amplified by the carbonate content of the soil. At the sampling site, copper and sulphur appear to be deficient. Organic carbon levels are adequate.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 95 cm in pit, but few roots below 60 cm.
- Barriers to root growth:**
- Physical:** No physical barriers, although rubble reduces water storage capacity.
 - Chemical:** High pH and sodicity from 30 cm, and high boron from 60 cm restrict deep root growth.
- Waterholding capacity:** Approximately 75 mm in the rootzone.
- Seedling emergence:** Satisfactory.
- Workability:** Soft to firm surface is easily worked.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderately low.

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	SO ₄ 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	8.6	8.0	5.0	0.12	0.74	1.0	35	460	4	1.9	0.08	7	3.48	0.70	9.9	8.26	1.02	0.11	0.97	1.1
0-15	8.6	8.0	4.2	0.10	0.79	1.1	33	441	4	1.7	-	-	-	-	9.4	9.12	1.06	0.09	0.97	0.9
15-30	8.7	8.1	25.3	0.14	0.72	0.7	5	273	4	2.7	-	-	-	-	12.8	10.11	2.70	0.23	0.60	1.8
30-60	9.5	8.5	34.0	0.68	5.39	0.3	<4	248	43	8.8	-	-	-	-	11.3	4.15	6.14	3.76	0.59	33.3
60-95	9.9	8.9	40.6	1.14	6.53	0.1	<4	239	117	23.1	-	-	-	-	12.0	1.57	6.16	8.09	1.23	67.5
95-150	9.6	8.7	24.7	1.47	8.03	0.2	<4	600	167	30.6	-	-	-	-	17.0	1.65	7.41	9.70	1.77	56.9
150-190	8.7	8.1	0.1	1.60	7.26	0.1	<4	750	201	29.4	-	-	-	-	24.9	0.87	9.55	12.58	2.17	50.5

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](#)

