

## RUBBLY CALCAREOUS SANDY LOAM ON CLAY

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

**Landform:** Flats and rises in a gently undulating landscape

**Substrate:** Pleistocene age clay (Blanchetown equivalent)

**Vegetation:** Mallee

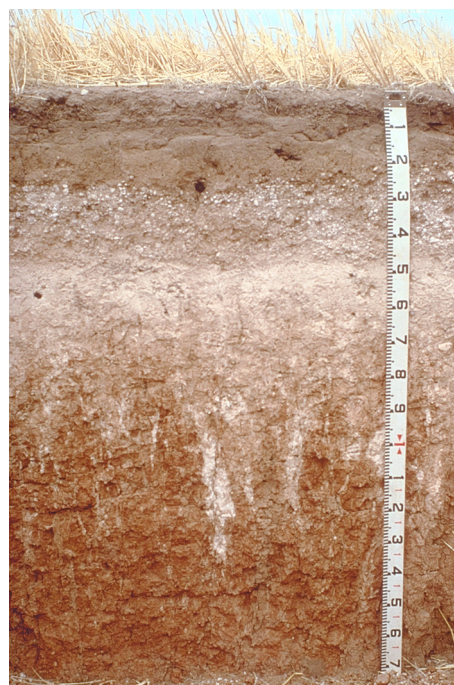


<b>Type Site:</b>	Site No.:	MM036	1:50,000 mapsheet:	7027-1 (Primpun Bore)
	Hundred:	Pinnaroo	Easting:	491100
	Section:	97	Northing:	6102550
	Sampling date:	21/11/1991	Annual rainfall:	320 mm average

Low rise with a slope of 2%. Firm surface with minor calcrete stones.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-9	Dark brown firm highly calcareous sandy loam with 2% carbonate nodules. Abrupt to:
9-20	Dark brown highly calcareous light sandy clay loam with 2% carbonate nodules. Clear to:
20-45	Brown very highly calcareous sandy clay loam with more than 50% carbonate nodules (6-20 mm). Diffuse to:
45-72	Pink very highly calcareous light clay with 2-10% carbonate nodules (6-20 mm). Diffuse to:
72-100	Orange highly calcareous medium clay with weak coarse prismatic structure. Diffuse to:
100-140	Orange and light grey highly calcareous medium clay with moderate coarse prismatic structure. Diffuse to:
140-180	Yellowish red and light grey heavy clay with strong coarse prismatic structure.



**Classification:** Epihypersodic, Regolithic, Lithocalcic Calcarosol; medium, non-gravelly, loamy/clayey, moderate



## Summary of Properties

<b>Drainage:</b>	Well drained. Soil never saturated for more than a few days.
<b>Fertility:</b>	Inherent fertility is moderate, as indicated by the exchangeable cation data. There are no apparent nutrient deficiencies at the sampling site, but without a rigorous fertilizer programme, deficiencies of phosphorus, nitrogen, zinc and copper are likely. Organic carbon levels are high.
<b>pH:</b>	Alkaline throughout.
<b>Rooting depth:</b>	100 cm in pit, but few roots below 72 cm.
<b>Barriers to root growth:</b>	
<b>Physical:</b>	No physical barriers, although rubble reduces water storage capacity.
<b>Chemical:</b>	High boron from 72 cm and high sodicity from 45 cm restrict deep root growth.
<b>Waterholding capacity:</b>	115 mm.
<b>Seedling emergence:</b>	Satisfactory.
<b>Workability:</b>	Soft to firm surface is easily worked.
<b>Erosion Potential:</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	Moderately low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	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	8.3	7.5	2.7	0.23	2.11	1.4	150	990	3.1	0.56	4.0	5.8	7.4	13.7	10.24	2.07	0.09	1.84	0.7
0-9	8.3	7.3	1.8	0.17	0.98	2.0	210	940	3.5	0.74	5.1	15	10	10.5	10.50	2.25	0.02	2.16	0.2
9-20	8.6	7.5	5.4	0.16	0.93	0.89	110	910	5.4	0.56	4.4	6.5	2.5	10.8	10.23	2.38	0.04	2.17	0.4
20-45	8.9	7.9	25	0.21	1.01	0.61	21	710	5.4	0.96	5.2	2.2	0.24	11.9	7.22	4.02	0.24	1.36	2.0
45-72	9.2	8.2	47	1.00	9.76	0.27	3.8	590	4.6	0.70	4.4	1.2	0.15	10.4	3.23	4.41	2.91	1.45	28.0
72-100	9.1	8.2	36	1.22	10.12	0.11	<2.0	710	20	0.73	5.5	0.99	0.13	12.5	2.97	5.26	4.02	1.77	32.2
100-140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
140-180	9.3	8.2	4.8	1.19	8.77	0.07	<2.0	1000	92	0.94	6.4	0.50	0.19	17.0	1.50	7.88	11.43	2.44	67.2

**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](#)

