

SHALLOW GRADATIONAL SANDY LOAM OVER CALCRETE

General Description: *Sandy loam grading to a red sandy clay loam over calcrete at shallow depth*

Landform: Flat to gently undulating plain with occasional irregular sandhills, stony rises and salinized depressions.

Substrate: Calcreted calcarenite (Bridgewater Formation).

Vegetation: Mallee



Type Site:	Site No.:	MM113	1:50,000 mapsheet:	6827-3 (Moorlands)
	Hundred:	Coolinong	Easting:	367700
	Section:	50	Northing:	6079650
	Sampling date:	31/03/1993	Annual rainfall:	390 mm average

Flat. Soft surface. 20-50% calcrete stone (60-200 mm).

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Dark brown soft massive sandy loam with 2-10 % calcrete fragments. Abrupt to:
10-25	Yellowish red firm massive light sandy clay loam with 20-50% calcrete fragments. Clear to:
25-35	Yellowish red firm massive sandy clay loam with 20-50% calcrete fragments. Sharp to:
35-70	Laminar calcrete. Gradual to:
70-100	Rubby calcrete. Diffuse to:
100-130	Pink hard massive very highly calcareous sandy clay loam.



Classification: Haplic, Petrocalcic, Red Kandosol; medium, moderately gravelly, loamy / clay loamy, shallow



Summary of Properties

- Drainage:** Well drained. Soil rarely remains saturated for more than a few days.
- Fertility:** Inherent fertility is moderately low, as indicated by the exchangeable cation data. Regular phosphorus applications are needed. Nitrogen content depends on legume status of pastures and cropping intensity. Occasional deficiencies of copper and zinc are likely. Manganese is needed by cereals. Organic carbon levels are adequate at sampling site.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 35 cm in pit.
- Barriers to root growth:**
- Physical:** The calcrete effectively prevents further downward root growth.
 - Chemical:** There are no chemical barriers above the calcrete.
- Waterholding capacity:** 25 mm in rootzone.
- Seedling emergence:** Satisfactory except where very stony.
- Workability:** Soft to firm surface is easily worked, but stones interfere with and abrade equipment.
- Erosion Potential:**
- Water:** Low.
 - Wind:** 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	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	7.7	7.2	<1	0.09	0.77	1.1	10	210	0.89	0.16	8.3	4.2	0.60	7.9	7.08	0.74	0.06	0.61	0.8
0-10	7.8	7.2	<1	0.09	0.63	1.1	14	250	0.95	0.27	7.6	4.6	0.80	7.8	6.88	0.70	0.06	0.63	0.8
10-25	8.2	7.4	<1	0.08	0.56	0.4	4	150	0.59	0.06	10	0.94	0.09	7.2	6.20	0.71	0.10	0.53	1.4
25-35	8.2	7.6	<1	0.11	0.72	0.3	2	130	0.82	0.08	13	0.41	0.08	11.1	8.81	1.76	0.23	0.53	2.1
35-70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100-130	9.5	8.3	71	0.27	1.53	0.2	3	290	3.9	0.12	2.1	0.31	0.36	6.2	3.66	2.49	1.38	0.80	22.3

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](#)

