

CALCAREOUS SANDY LOAM

General Description: *Calcareous sandy surface becoming more clayey and calcareous with depth*

Landform: Gently sloping outwash fans

Substrate: Medium to fine grained alluvium with abundant fine carbonate

Vegetation: Mallee scrub



Type Site: Site No.: CU060

1:50,000 sheet: Mambray Creek Hundred: Baroota
 Annual rainfall: 300 mm Sampling date: 07/05/96
 Landform: Lower slope of a very gently inclined fan, 0.5% slope
 Surface: Soft with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-8	Loose red moderately calcareous light loamy sand (recent drift). Sharp to:
8-15	Soft reddish brown highly calcareous loamy sand. Sharp to:
15-30	Firm dark reddish brown weakly structured highly calcareous fine sandy loam. Gradual to:
30-50	Firm yellowish red weakly blocky very highly calcareous fine sandy loam with 2-10% soft carbonate. Diffuse to:
50-80	Firm yellowish red moderately blocky very highly calcareous fine sandy clay loam with 20-50% soft carbonate. Diffuse to:
80-140	Firm brown moderately blocky very highly calcareous light clay with 10-20% soft carbonate.



Classification: Endohypersodic, Pedal, Hypercalcic Calcarosol; medium, non-gravelly, sandy / clayey, deep

Summary of Properties

Drainage	Well to rapidly drained. The soil is unlikely to ever remain wet for more than a few hours.
Fertility	Moderately low (as indicated by the exchangeable cation data) due to the low clay and organic matter content, and high carbonate content near the surface. All major nutrients are adequately supplied. Organic carbon is marginal.
pH	Alkaline at the surface, strongly alkaline with depth.
Rooting depth	Good root growth to 80 cm; few roots to 100 cm.
Barriers to root growth	
Physical:	None.
Chemical:	Toxic levels of boron and sodium inhibit root growth below 80 cm. pH is very high from 50 cm.
Water holding capacity	Approximately 100 mm in root zone.
Seedling emergence:	Good.
Workability:	Good.
Erosion Potential	
Water:	Low.
Wind:	Moderate, due the low clay and organic matter content.

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 -S 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	8.5	8.0	0.6	0.11	0.87	0.7	30	418	7	1.5	0.37	3	8.29	1.41	6.0	5.38	0.89	0.09	1.05	1.5
0-8	8.8	8.3	0.6	0.08	0.57	0.2	10	341	4	1.0					4.2	3.61	0.64	0.05	0.79	1.2
8-15	8.8	8.2	2.0	0.09	0.45	0.5	5	427	3	1.3					7.0	6.08	1.10	0.08	1.17	1.1
15-30	8.7	8.1	10.2	0.13	0.49	0.7	8	509	7	2.4					11.8	10.47	2.75	0.17	1.48	1.4
30-50	8.8	8.2	13.5	0.12	0.46	0.5	5	210	8	2.7					9.8	5.81	5.20	0.25	0.51	2.5
50-80	9.4	8.4	20.4	0.19	0.61	0.2	<4	265	10	8.6					8.6	2.38	6.36	0.97	0.61	11.3
80-140	8.5	8.3	15.2	1.93	6.76	0.1	<4	334	1197	21.7					10.2	5.09	3.88	3.59	0.76	35.2

Note: Paddock sample bulked from 20 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.