

## CALCAREOUS SANDY LOAM

**General Description:** *Medium thickness calcareous sandy loam to clay loam overlying a Class III C rubble layer at shallow depth*

**Landform:** Swales and lower slopes in mallee landscapes

**Substrate:** Rubbly Woorinen Formation (Class III C carbonate), usually grading to Hindmarsh Clay equivalent with depth

**Vegetation:** Mallee scrub



**Type Site:** Site No.: CM011

1:50,000 sheet: 6530-2 (Blyth)

Hundred: Blyth

Annual rainfall: 375 mm

Sampling date: 13/02/92

Landform: Swale between low sand ridges

Surface: Soft with no stones

### Soil Description:

Depth (cm)	Description
0-5	Reddish brown moderately calcareous massive sandy loam. Clear to:
5-25	Reddish brown moderately calcareous massive sandy clay loam. Clear to:
25-65	Weakly cemented rubbly carbonate pan. Gradual to:
65-95	Reddish yellow very highly calcareous massive light medium clay with up to 50% carbonate nodules. Diffuse to:
95-140	Yellowish red and yellow very highly calcareous medium clay with more than 50% soft carbonate segregations. Diffuse to:
140-165	Red very highly calcareous heavy clay with up to 50% soft carbonate segregations.



**Classification:** Endohypersodic, Regolithic, Lithocalcic Calcarosol; medium, non-gravelly, loamy/clayey, deep

## Summary of Properties

<b>Drainage</b>	The soil is unlikely to become wet, although the Hindmarsh Clay layer impedes water movement. This is unlikely to affect dryland crops, and may have the advantage of holding moisture up in the root zone.
<b>Fertility</b>	The exchangeable cation data indicate that the soil has a moderate level of inherent fertility. This is further affected by the relatively low organic carbon levels at the surface.
<b>pH</b>	Alkaline at the surface, strongly alkaline with depth.
<b>Rooting depth</b>	90 cm in pit.
<b>Barriers to root growth</b>	
<b>Physical:</b>	The carbonate pan, particularly where more continuous, restricts root growth.
<b>Chemical:</b>	High pH, resulting in reduced nutrient availability, toxic levels of boron and high sodicity all adversely affect root growth.
<b>Water holding capacity</b>	Approximately 80 mm in the root zone.
<b>Seedling emergence</b>	Good.
<b>Workability</b>	Good.
<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	SO <sub>4</sub> -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	8.6	7.7	3.1	0.14	1.2	1.18	36	430	-	-	0.41	3.0	5.1	0.62	10.4	9.89	1.23	0.16	1.19	1.5
0-5	8.4	7.6	3.1	0.22	2.2	1.47	44	610	-	-	0.45	4.8	14.5	0.74	11.2	9.62	1.53	0.21	1.61	1.9
5-25	8.8	7.9	6.5	0.11	0.6	0.84	10	220	-	-	0.44	3.0	1.7	0.17	12.2	11.80	1.49	0.18	0.72	1.5
25-65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65-95	9.9	8.8	62.0	1.03	11.2	0.20	4	150	-	19.2	0.30	0.9	0.5	0.03	6.9	0.93	4.64	3.68	0.45	53.3
95-140	9.8	8.7	59.1	1.03	9.1	0.15	2	210	-	19.6	0.34	1.3	0.7	0.06	8.6	1.36	4.30	4.77	0.72	55.5
140-165	9.8	8.6	41.0	0.98	7.5	0.11	2	320	-	25.5	0.43	1.4	0.6	0.04	13.9	2.01	5.91	6.86	1.11	49.4

**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.