

## CALCAREOUS SANDY LOAM

**General Description:** *Calcareous sandy loam to sandy clay loam, becoming gradually more clayey and calcareous with depth, overlying a Class I carbonate layer formed in clay*

**Landform:** Flats and swales in and adjacent to low dune fields of the Gulf Plains

**Substrate:** Pleistocene age clay mantled by soft carbonate

**Vegetation:** Mallee



<b>Type Site:</b>	Site No.:	CU021	1:50,000 mapsheet:	6531-3 (Crystal Brook)
	Hundred:	Pirie	Easting:	227350
	Section:	322	Northing:	6311450
	Sampling date:	16/12/1992	Annual rainfall:	365 mm average

Swale between very low sandhills. Firm surface with no stones.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Reddish brown soft massive highly calcareous light sandy clay loam. Gradual to:
10-25	Reddish brown firm massive highly calcareous sandy clay loam. Clear to:
25-40	Reddish brown firm massive highly calcareous heavy sandy clay loam. Clear to:
40-70	Yellowish red firm massive very highly calcareous light clay with 20% soft and nodular carbonate segregations. Gradual to:
70-100	Yellowish red firm massive very highly calcareous light medium clay with 20-50% soft and nodular Class I carbonate segregations. Diffuse to:
100-140	Red firm weakly angular blocky very highly calcareous medium clay with 20-50% soft Class I carbonate segregations.



**Classification:** Endohypersodic, Regolithic, Hypercalcic Calcarosol; thick, non-gravelly, loamy / clayey, deep



## Summary of Properties

<b>Drainage:</b>	Well drained. The soil is unlikely to remain wet for more than a few days.
<b>Fertility:</b>	Moderate natural fertility. High pH induces some deficiencies, including trace elements and phosphorus (which is low at type site).
<b>pH:</b>	Alkaline at surface, strongly alkaline from 70 cm.
<b>Rooting depth:</b>	100 cm in pit.
<b>Barriers to root growth:</b>	
<b>Physical:</b>	None.
<b>Chemical:</b>	High boron, ESP and pH from 70 cm impede root growth.
<b>Waterholding capacity:</b>	140 mm in rootzone, but 20-40 mm is effectively unavailable because of low root density in the clay.
<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> 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	8.4	7.9	2	0.12	0.47	0.93	7	510	-	1.8	-	-	-	-	10.1	10.7	1.26	0.08	1.25	0.8
0-10	8.3	7.9	3	0.11	0.39	0.92	9	470	-	1.8	-	-	-	-	9.6	9.17	1.00	0.08	1.05	0.8
10-25	8.4	8.0	7	0.12	0.33	0.61	4	380	-	2.1	-	-	-	-	12.9	12.3	1.98	0.15	0.93	1.2
25-40	8.6	8.0	13	0.11	0.21	0.33	4	120	-	2.9	-	-	-	-	10.8	10.4	3.74	0.27	0.30	2.5
40-70	8.9	8.1	18	0.15	0.18	0.18	<2	100	-	4.8	-	-	-	-	9.2	6.86	5.09	0.80	0.32	8.7
70-100	9.9	8.6	29	0.63	0.72	0.10	<2	190	-	33.1	-	-	-	-	8.7	1.62	4.74	5.43	0.55	62.4
100-140	9.9	8.7	34	0.89	2.11	0.06	<2	260	-	30.8	-	-	-	-	9.7	1.66	4.53	7.38	0.68	76.1

**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](#)

