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

Type Site: Site No.: CU021 1:50,000 mapsheet: 6531-3 (Crystal Brook)

Hundred: Pirie Easting: 227350 Section: 322 Northing: 6311450

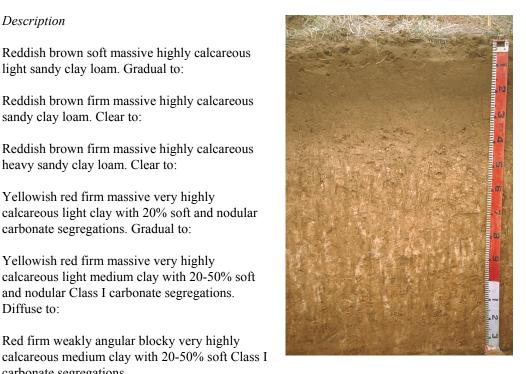
Sampling date: 16/12/1992 Annual rainfall: 365 mm average

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

Soil Description:

Depth (cm)	Description
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

carbonate segregations.



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





Summary of Properties

Drainage: Well drained. The soil is unlikely to remain wet for more than a few days.

Fertility: Moderate natural fertility. High pH induces some deficiencies, including trace

elements and phosphorus (which is low at type site).

pH: Alkaline at surface, strongly alkaline from 70 cm.

Rooting depth: 100 cm in pit.

Barriers to root growth:

Physical: None.

Chemical: High boron, ESP and pH from 70 cm impede root growth.

Waterholding capacity: 140 mm in rootzone, but 20-40 mm is effectively unavailable because of low root

density in the clay.

Seedling emergence: Good.

Workability: Good.

Erosion Potential:

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 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	Exc	ESP			
							8 8	8 8			Cu	Fe	Mn	Zn	() 0	Ca	Mg	Na	K	
Paddock	8.4	7.9	2	0.12	0.47	0.93	7	510	-	1.8	1	-	-	-	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

