

LOAMY SAND OVER SANDY CLAY ON CALCRETE

General Description: *Sand to light sandy loam over a brown or red weakly structured sandy clay on calcrete at shallow depth*

Landform: Gently undulating plains.

Substrate: Calcreted calcarenite (Bridgewater Formation).

Vegetation: Mallee



Type Site: Site No.: MM078

1:50,000 sheet: 6826-1 (Coonalpyn) Hundred: Kirkpatrick

Annual rainfall: 425 mm Sampling date: 12/10/92

Landform: Flat

Surface: Soft with minor calcrete stone, 200-600 mm

Soil Description:

Depth (cm)	Description
0-11	Dark brown soft single grain light sandy loam. Abrupt to:
11-23	Brownish yellow soft single grain sand. Abrupt to:
23-35	Orange friable massive sandy clay. Sharp to:
35-55	Laminar calcrete. Clear to:
55-100	Yellow very highly calcareous very hard sandy clay loam. Diffuse to:
100-150	Yellow very hard very highly calcareous sandy clay loam.



Classification: Haplic, Petrocalcic, Brown Chromosol; medium, non-gravelly, sandy / clayey, shallow

Summary of Properties

Drainage	Well drained. Soil rarely remains saturated for more than a few days.
Fertility	Inherent fertility is low, as indicated by the exchangeable cation data. Phosphorus and nitrogen are widely deficient, and copper and zinc will be required from time to time. Manganese deficiency likely on lupins. Organic carbon levels at sampling site are low.
pH	Slightly acidic at the surface, alkaline with depth.
Rooting depth	35 cm in pit.
Barriers to root growth	
Physical:	Calcrete severely restricts root penetration.
Chemical:	No chemical barriers above calcrete.
Water holding capacity	35 mm in root zone.
Seedling emergence:	Satisfactory, but can be reduced by water repellence in dry years.
Workability:	Loose / soft surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	Moderately low to moderate.

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	6.4	6.2	<1	0.06	0.35	0.79	11	180	0.5	-	-	-	-	4.3	3.76	0.46	0.13	0.29	3.0
0-11	6.4	6.2	<1	0.05	0.33	0.67	6.4	170	0.6	-	-	-	-	4.9	5.37	0.56	0.23	0.33	4.7
11-23	6.6	6.2	0	0.02	0.13	0.15	4.5	130	0.4	-	-	-	-	2.0	1.82	0.24	0.24	0.15	na
23-35	7.8	7.5	1	0.15	0.30	0.19	2.7	210	1.3	-	-	-	-	10.6	8.98	1.01	0.32	0.44	3.0
35-55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55-100	8.8	8.2	46	0.10	0.34	0.08	<2.0	180	0.6	-	-	-	-	4.5	4.61	0.68	0.29	0.25	6.4
100-150	8.9	8.1	40	0.10	0.37	0.06	<2.0	170	0.6	-	-	-	-	3.9	3.99	0.73	0.26	0.24	6.7

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.