CALCAREOUS CLAY LOAM

General Description: *Calcareous clay loam grading to a well structured highly calcareous red clay with abundant fine carbonate at depth*

Landform: Undulating rises with gently undulating plains.

Substrate: Alluvial sandy clay.

Vegetation: Mallee

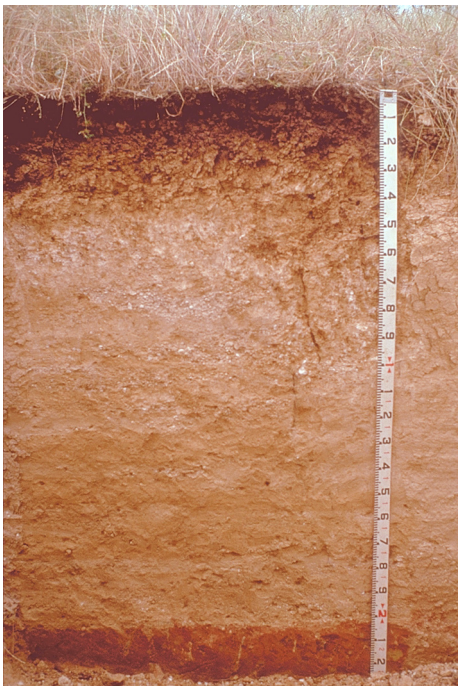
Type Site:

Site No.:	MM085	1:50,000 mapsheet:	6826-4 (Binnie)
Hundred:	Coolinong	Easting:	371200
Section:	97	Northing:	6065750
Sampling date:	1992	Annual rainfall:	450 mm average

Flat between gently undulating rises. Firm surface with no stone.

Soil Description:

Depth (cm)	*Description*
0-7	Dark brown slightly calcareous very hard fine sandy clay loam with moderate granular structure. Abrupt to:
7-20	Red very hard highly calcareous medium clay with strong polyhedral structure. Clear to:
20-40	Yellowish red highly calcareous very hard weakly structured medium clay. Clear to:
40-70	Reddish yellow very highly calcareous hard massive sandy medium clay. Gradual to:
70-130	Reddish yellow very highly calcareous massive light sandy clay loam with 20-50% calcrete fragments. Diffuse to:
130-202	Reddish yellow very highly calcareous massive sandy clay loam with 2-10% calcrete fragments. Sharp to:
202-225	Red and light olive grey hard massive sandy clay.



Classification: Ceteric, Pedal, Hypercalcic Calcarosol, medium, non-gravelly, clay loamy / clayey, deep

Summary of Properties

Drainage: Moderately well drained. Soil may remain saturated for up to a week at a time following heavy or prolonged rainfall.

Fertility: Inherent fertility is high, as indicated by the exchangeable cation data. Regular phosphorus applications are essential. Nitrogen levels depend on legume content of pastures. Zinc and copper are required occasionally. Organic carbon levels are high at sampling site.

pH: Alkaline throughout.

Rooting depth: 70 cm in pit.

Barriers to root growth:

Physical: The clayey subsoil presents a slight restriction.

Chemical: There are no chemical barriers. Low nutrient retention capacity below 70 cm may inhibit deep root growth.

Waterholding capacity: 115 mm in rootzone.

Seedling emergence: Satisfactory, although surface wetness and sealing may affect establishment in wet years.

Workability: Firm to hard setting surface can be damaged if worked too wet or too dry.

Erosion Potential:

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	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	7.4	7.0	2	0.18	0.57	2.3	6.6	730	2.7	-	-	-	-	32.0	25.16	4.05	0.50	2.35	1.6
0-7	7.5	7.1	2	0.22	0.67	2.4	4.8	860	2.4	-	-	-	-	32.6	24.77	3.85	0.41	2.46	1.3
7-20	7.9	7.5	9	0.20	0.36	0.79	2.4	470	1.5	-	-	-	-	46.4	36.33	6.36	0.68	1.57	1.5
20-40	8.4	7.8	32	0.17	0.29	0.57	2.4	250	1.4	-	-	-	-	34.7	28.83	6.46	0.78	0.81	2.2
40-70	8.6	7.8	41	0.17	0.28	0.28	2.0	150	1.2	-	-	-	-	24.8	18.38	5.83	1.07	0.47	4.3
70-130	9.2	8.2	22	0.17	0.43	0.10	<2.0	86	0.6	-	-	-	-	9.8	6.24	3.60	1.32	0.22	13.5
130-202	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
202-225	9.4	8.6	1	0.36	0.95	0.02	2.6	690	2.5	-	-	-	-	12.4	2.71	6.29	4.20	0.54	33.9

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