

CALCAREOUS CLAY LOAM

General Description: *Calcareous sandy clay loam to clay loam, becoming more clayey and calcareous with depth, grading to heavy clay within 100 cm*

Landform: Gentle slopes and flats.

Substrate: Tertiary heavy clay, usually red, coarsely structured, and mantled by fine carbonates which thin out with depth.

Vegetation: Mallee



Type Site:	Site No.:	CM909	1:50,000 mapsheet:	6530-3 (Lochiel)
	Hundred:	Cameron	Easting:	239350
	Section:	153	Northing:	6254300
	Sampling date:	March 1990	Annual rainfall:	390 mm average

Midslope of gently inclined fan, 2% slope. Firm surface with no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-15	Dark reddish brown slightly calcareous sandy clay loam with moderate granular structure. Clear to:
15-30	Dark reddish brown highly calcareous sandy clay with moderate subangular blocky structure. Gradual to:
30-50	Reddish brown highly calcareous heavy clay with strong coarse angular blocky structure and 10-20% fine carbonate segregations. Gradual to:
50-70	Red heavy clay with coarse prismatic structure and 20-50% fine carbonate segregations. Gradual to:
70-90	As above. Gradual to:
90-110	As above. Gradual to:
110-130	As above with 10-20% carbonate segregations.



Classification: Epihypersodic, Pedal, Hypercalcic Calcarosol; thick, non-gravelly, clay loamy / clayey, moderate



Summary of Properties

Drainage: Well drained. The soil rarely remains wet for more than a day or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderate. The clayey surface soil has high nutrient retention capacity, but free carbonate reduces availability of phosphorus, zinc, copper and manganese.

pH: Alkaline at the surface, strongly alkaline with depth.

Rooting depth: 50 cm in pit, but few roots below 30 cm.

Barriers to root growth:

Physical: The heavy substrate clay restricts root growth because of its high strength and coarse structure.

Chemical: High boron concentration, high pH and probably high sodicity limit root growth below 50 cm.

Waterholding capacity: Approximately 55 mm in the rootzone.

Seedling emergence: Satisfactory.

Workability: Calcareous soils are usually easily worked.

Erosion Potential:

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Boron mg/kg
0-15	7.1	6.8	2	0.33	-	1.25	52	2.2
15-30	8.0	7.7	9	0.32	-	0.73	12	2.3
30-50	8.9	8.0	14	0.30	-	0.49	8	3.7
50-70	9.2	8.2	19	0.40	-	0.46	8	8.3
70-90	9.5	8.4	22	0.49	-	0.25	6	16.0
90-110	9.6	8.6	21	0.60	-	0.25	2	25.2
110-130	9.6	8.7	17	0.66	1.32	0.22	1	27.1

Further information: [DEWNR Soil and Land Program](#)

