

## 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 sheet: 6530-3 (Lochiel)

Hundred: Cameron

Annual rainfall: 400 mm

Sampling date: March 1990

Landform: Midslope of gently inclined fan, 2% slope

Surface: Firm with no stones

### Soil Description:

Depth (cm)	Description
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.

**Water holding capacity:** Approximately 55 mm in the root zone.

**Seedling emergence:** Satisfactory.

**Workability:** Calcareous soils are usually easily worked.

### **Erosion Potential**

**Water:** Low.

**Wind:** Low.

## *Laboratory Data*

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	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