

CALCAREOUS CLAY LOAM

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

Landform: Gently undulating rises, gently inclined fans and plains.

Substrate: Tertiary clay, red with coarse structure and slickensides, mantled by fine carbonates, thinning out with depth.

Vegetation: Mallee



Type Site: Site No.: CM910

1:50,000 sheet: 6530-2 (Blyth)

Hundred: Boucaut

Annual rainfall: 350 mm

Sampling date: March 1990

Landform: Upper slope of very gently inclined fan, 2% slope

Surface: Firm with no stones

Soil Description:

Depth (cm)	Description
0-5	Reddish brown firm slightly calcareous sandy clay loam with weak granular structure. Abrupt to:
5-20	Dark reddish brown firm moderately calcareous sandy clay loam with moderate medium subangular blocky structure. Clear to:
20-40	Yellowish red firm very highly calcareous light clay with strong medium angular blocky structure and 10-20% fine carbonate segregations. Gradual to:
40-60	Red hard very highly calcareous medium clay with very coarse lenticular structure and 20-50% fine carbonate segregations. Gradual to:
60-80	As above with 10-20% carbonate. Gradual to:
80-100	As above with 2-10% carbonate. Gradual to:
100-120	As above.



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

Summary of Properties

Drainage: Moderately well drained. The soil may remain wet for up to a week 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: 40 cm in pit.

Barriers to root growth:

Physical: The substrate clay (from 40 cm) is hard and coarsely structured, reducing root extension and density.

Chemical: High boron concentration, high pH, moderate salinity and probably high sodicity restrict root growth below 40 cm.

Water holding capacity: Approximately 60 mm in the potential root zone.

Seedling emergence: Satisfactory.

Workability: Calcareous surface 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
0-5	8.1	7.6	6	0.39	-	1.35	54	4.6
5-20	8.3	7.7	5	0.25	-	0.75	15	4.3
20-40	8.8	8.0	13	0.46	-	0.53	11	13.0
40-60	9.3	8.6	27	0.96	6.2	0.30	7	23.7
60-80	9.3	8.8	18	1.55	6.0	0.25	4	35.0
80-100	9.0	8.8	11	1.90	7.3	0.16	3	37.6
100-120	8.9	8.6	8	-	9.4	0.12	2	38.8