CALCAREOUS SANDY LOAM

General Description: Medium thickness calcareous sandy loam to clay loam overlying a Class III C rubble layer at shallow depth

Landform: Swales and lower slopes in

mallee landscapes

Substrate: Rubbly Woorinen Formation

> (Class III C carbonate), usually grading to Hindmarsh Clay equivalent with depth

Vegetation: Mallee scrub



CM011 **Type Site:** Site No.:

> 1:50,000 sheet: 6530-2 (Blyth) Hundred: Blyth 13/02/92 Annual rainfall: 375 mm Sampling date:

Landform: Swale between low sand ridges

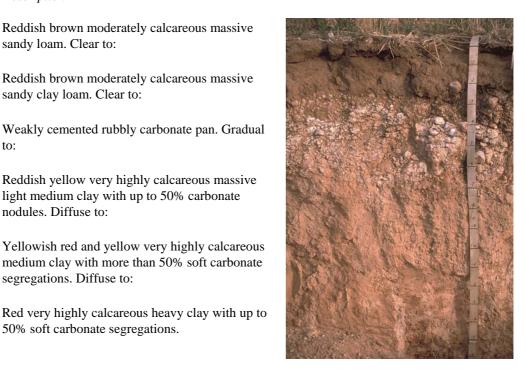
Surface: Soft with no stones

Soil Description:

140-165

Depth (cm) Description 0-5 Reddish brown moderately calcareous massive sandy loam. Clear to: 5-25 Reddish brown moderately calcareous massive sandy clay loam. Clear to: 25-65 Weakly cemented rubbly carbonate pan. Gradual 65-95 Reddish yellow very highly calcareous massive light medium clay with up to 50% carbonate nodules. Diffuse to: Yellowish red and yellow very highly calcareous 95-140 medium clay with more than 50% soft carbonate segregations. Diffuse to:

50% soft carbonate segregations.



Classification: Endohypersodic, Regolithic, Lithocalcic Calcarosol; medium, non-gravelly, loamy/clayey, deep

Summary of Properties

Drainage The soil is unlikely to become wet, although the Hindmarsh Clay layer impedes water

movement. This is unlikely to affect dryland crops, and may have the advantage of

holding moisture up in the root zone.

Fertility The exchangeable cation data indicate that the soil has a moderate level of inherent

fertility. This is further affected by the relatively low organic carbon levels at the

surface.

pH Alkaline at the surface, strongly alkaline with depth.

Rooting depth 90 cm in pit.

Barriers to root growth

Physical: The carbonate pan, particularly where more continuous, restricts root growth.

Chemical: High pH, resulting in reduced nutrient availability, toxic levels of boron and high

sodicity all adversely affect root growth.

Water holding capacity Approximately 80 mm in the root zone.

Seedling emergence Good.

Workability Good.

Erosion Potential

Water: Low.

Wind: Moderately low.

Laboratory Data

| Depth cm | pH H ₂ O | pH CaC1 ₂ | CO ₃ % | EC1:5 dS/m | ECe dS/m | Org.C % | P | Avail. K mg/kg | mg/kg | Boron mg/kg | Trace Elements mg/kg (DTPA) | | | | CEC cmol (+)/kg | Exchangeable Cations cmol(+)/kg | | | | ESP |
|-------------|------------------------|-------------------------|-------------------|---------------|-------------|------------|-------|----------------------|-------|----------------|--------------------------------|-----|------|------|-----------------------|---------------------------------|------|------|------|------|
| | | | | | | | mg/kg | mg/kg | | | Cu | Fe | Mn | Zn | (1)/Kg | Ca | Mg | Na | K | |
| Paddock | 8.6 | 7.7 | 3.1 | 0.14 | 1.2 | 1.18 | 36 | 430 | - | - | 0.41 | 3.0 | 5.1 | 0.62 | 10.4 | 9.89 | 1.23 | 0.16 | 1.19 | 1.5 |
| | | | | | | | | | | | | | | | | | | | | |
| 0-5 | 8.4 | 7.6 | 3.1 | 0.22 | 2.2 | 1.47 | 44 | 610 | - | - | 0.45 | 4.8 | 14.5 | 0.74 | 11.2 | 9.62 | 1.53 | 0.21 | 1.61 | 1.9 |
| 5-25 | 8.8 | 7.9 | 6.5 | 0.11 | 0.6 | 0.84 | 10 | 220 | 1 | - | 0.44 | 3.0 | 1.7 | 0.17 | 12.2 | 11.80 | 1.49 | 0.18 | 0.72 | 1.5 |
| 25-65 | 1 | - | - | - | 1 | - | 1 | ı | - | - | - 1 | - 1 | - 1 | - 1 | Ī | 1 | 1 | 1 | 1 | - |
| 65-95 | 9.9 | 8.8 | 62.0 | 1.03 | 11.2 | 0.20 | 4 | 150 | - | 19.2 | 0.30 | 0.9 | 0.5 | 0.03 | 6.9 | 0.93 | 4.64 | 3.68 | 0.45 | 53.3 |
| 95-140 | 9.8 | 8.7 | 59.1 | 1.03 | 9.1 | 0.15 | 2 | 210 | 1 | 19.6 | 0.34 | 1.3 | 0.7 | 0.06 | 8.6 | 1.36 | 4.30 | 4.77 | 0.72 | 55.5 |
| 140-165 | 9.8 | 8.6 | 41.0 | 0.98 | 7.5 | 0.11 | 2 | 320 | - | 25.5 | 0.43 | 1.4 | 0.6 | 0.04 | 13.9 | 2.01 | 5.91 | 6.86 | 1.11 | 49.4 |

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.