

## SANDY LOAM OVER RED SANDY CLAY

**General Description:** *Thin sandy loam surface soil with red sandy clay to clay subsoil, highly calcareous with depth (Class III A carbonate layer) overlying brown and grey sandy clay to clay.*

**Landform:** Gently undulating plains and low rises

**Substrate:** Sandy clays to clays of the Currency Creek Formation, deposited on alluvial fans during the Pleistocene period

**Vegetation:** Peppermint - mallee - broombush



**Type Site:** Site No.: CH012

1:50,000 sheet: 6627-2 (Milang)

Hundred: Bremer

Annual rainfall: 450 mm

Sampling date: 22/03/91

Landform: Midslope of gently sloping rise, 2% slope

Surface: Firm with no stones

### Soil Description:

Depth (cm)	Description
0-9	Dark brown massive sandy loam. Abrupt to:
9-20	Red, brown and reddish yellow weakly structured sandy clay. Clear to:
20-30	Yellow moderately calcareous massive light sandy clay with 20% soft carbonate segregations and minor nodules. Gradual to:
30-70	Pale brown massive very highly calcareous clay loam (Class III A carbonate). Diffuse to:
70-100	Yellowish brown and brownish grey mottled moderately calcareous sandy clay with weak prismatic structure and 10% soft carbonate segregations.



**Classification:** Haplic, Hypercalcic, Red Chromosol; thin, non-gravelly, loamy / clayey, moderate

### Summary of Properties

<b>Drainage</b>	Well drained. Soil is unlikely to remain wet for more than a few days.
<b>Fertility</b>	Natural fertility is moderate, as indicated by the high CEC values and the relatively high organic carbon in the surface. Trace elements, especially copper and zinc may be deficient according to the analyses. Phosphorus and magnesium levels are low.
<b>pH</b>	Slightly alkaline at surface, moderately alkaline with depth.
<b>Rooting depth</b>	70 cm at type site, but density is low from 30 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	The soil is not well structured, but it is not extremely hard, so physical barriers to root growth are minimal.
<b>Chemical:</b>	Class III A carbonate layers generally present problems for root growth, possibly because of very low trace element availability. Salt, boron and sodicity are not problems in this soil.
<b>Water holding capacity</b>	Approximately 60 mm in root zone (moderate). The amount available to plants is determined by the root density.
<b>Seedling emergence</b>	Fair to good. The surface soil is compact and may seal over following seeding. Maintenance of high organic matter is essential.
<b>Workability</b>	Fair. Moisture range for effective working is low.
<b>Erosion Potential</b>	
<b>Water:</b>	Moderately low due to the low gradient. The soil would be highly erodible on a steeper slope.
<b>Wind:</b>	Low to moderately low. The soil is relatively easily pulverised.

### Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CaCO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Cl 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	
0-9	7.9	7.8	1.7	0.21	-	1.5	17	260	107	1.3	0.1	6.8	1.2	<0.1	10.3	9.7	0.9	0.1	0.6	1.0
9-20	8.0	7.8	0.9	0.14		0.6	<2	160	40	1.4	0.1	9.8	0.2	<0.1	20.9	16.8	1.8	0.2	0.4	1.0
20-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30-70	8.6	8.0	37.6	0.21	-	0.6	<2	80	150	1.2	0.7	4.2	0.2	<0.1	12.5	11.2	2.0	0.5	0.1	4.0
70-100	8.8	8.2	5.6	0.19	-	0.1	<2	130	81	0.9	0.1	2.6	0.2	<0.1	11.9	7.6	3.3	0.8	0.2	6.7

**Note:** 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.