

LOAMY SAND OVER SANDY CLAY LOAM

General Description: *Loamy sand over a red or brown sandy clay loam, calcareous with depth*

Landform: Flat to very gently undulating plain with occasional low rises.

Substrate: Red coarsely structured and slickensided heavy clay (Blanchetown Clay equivalent).

Vegetation: Mallee



| | | | | |
|-------------------|----------------|------------|--------------------|------------------|
| Type Site: | Site No.: | MM130 | 1:50,000 mapsheet: | 7027-3 (Lameroo) |
| | Hundred: | Parilla | Easting: | 468610 |
| | Section: | 43 | Northing: | 6096800 |
| | Sampling date: | 22/05/1996 | Annual rainfall: | 345 mm average |

Side of gilgai hollow. Soft surface with no stones.

Soil Description:

| <i>Depth (cm)</i> | <i>Description</i> |
|-------------------|---|
| 0-13 | Dark brown soft massive sandy loam. Abrupt to: |
| 13-20 | Very pale brown (bleached) loose loamy sand. Sharp to: |
| 20-60 | Orange and yellow very hard sandy clay loam with coarse columnar structure. Clear to: |
| <hr/> | |
| Buried soil | |
| 60-95 | Yellowish red and brownish yellow friable fine sandy light clay with coarse blocky structure. Sharp to: |
| 95-130 | Yellowish red friable very highly calcareous medium heavy clay with coarse blocky structure and 20-50% fine carbonate segregations. Clear to: |
| 130-195 | Yellowish red friable heavy clay with coarse prismatic breaking to blocky structure. |



Classification: Bleached, Hypercalcic, Brown Chromosol; medium, non-gravelly, loamy / clay loamy, moderate



Summary of Properties

- Drainage:** Moderately well drained. Water will perch on the clayey subsoil for a week or so following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderately low as indicated by the exchangeable cation data. Regular phosphorus applications are necessary and nitrogen levels depend on legume status of pastures and cropping history. Zinc and copper deficiencies are likely and both are low at sampling site. Organic carbon values are slightly low.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 95 cm in pit, but few roots below 60 cm.
- Barriers to root growth:**
- Physical:** The dense coarsely structured subsoil inhibits uniform root growth.
 - Chemical:** High pH, sodicity and boron from 60 cm restrict root development.
- Waterholding capacity:** Approximately 50 mm in rootzone.
- Seedling emergence:** Satisfactory.
- Workability:** Soft to firm surface is easily worked.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderately low.

Laboratory Data

| Depth cm | pH H ₂ O | pH CaCl ₂ | CO ₃ % | EC1:5 dS/m | ECe dS/m | Org.C % | Avail. P mg/kg | Avail. K mg/kg | SO ₄ -S 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 | |
| Paddock | 8.2 | 7.8 | 0.3 | 0.12 | 0.82 | 0.9 | 18 | 382 | 4 | 1.8 | 0.17 | 8 | 3.41 | 0.48 | 8.6 | 6.52 | 1.57 | 0.14 | 0.85 | 1.7 |
| 0-13 | 8.5 | 8.0 | 0.7 | 0.10 | 0.58 | 1.0 | 26 | 511 | 3 | 1.7 | - | - | - | - | 8.6 | 7.63 | 1.48 | 0.10 | 1.06 | 1.1 |
| 13-20 | 8.7 | 8.1 | <0.1 | 0.05 | 0.54 | 0.1 | 6 | 122 | 2 | 0.5 | - | - | - | - | 3.1 | 1.96 | 0.56 | 0.11 | 0.18 | 3.5 |
| 20-60 | 8.4 | 7.8 | <0.1 | 0.08 | 0.55 | 0.1 | <4 | 281 | 2 | 2.8 | - | - | - | - | 12.8 | 6.42 | 5.12 | 0.40 | 0.63 | 3.1 |
| 60-95 | 9.7 | 8.9 | 1.0 | 0.53 | 0.84 | 0.1 | 4 | 398 | 3 | 28.9 | - | - | - | - | 19.4 | 1.58 | 9.05 | 7.52 | 1.12 | 38.7 |
| 95-130 | 9.8 | 8.6 | 30.5 | 0.61 | 1.15 | <0.1 | <4 | 379 | 13 | 23.7 | - | - | - | - | 17.0 | 1.56 | 9.10 | 8.76 | 1.07 | 51.6 |
| 130-195 | 9.2 | 8.4 | 0.2 | 0.64 | 1.40 | 0.1 | <4 | 482 | 52 | 24.9 | - | - | - | - | 23.1 | 0.97 | 11.92 | 13.76 | 1.47 | 59.6 |

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.

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

