

SANDY CLAY LOAM OVER BROWN CLAY

General Description: *Sandy loam to sandy clay loam over a brown or dark coloured well structured clay, calcareous with depth*

Landform: Gently undulating rises.

Substrate: Calcareous clay.

Vegetation: Red gum (*Eucalyptus camaldulensis*).



| | | | | |
|-------------------|----------------|------------|--------------------|----------------|
| Type Site: | Site No.: | SE071 | 1:50,000 mapsheet: | 7024-2 (Hynam) |
| | Hundred: | Jessie | Easting: | 496700 |
| | Section: | 324 | Northing: | 5910500 |
| | Sampling date: | 28/08/1997 | Annual rainfall: | 585 mm average |

Midslope of gentle rise, 1% slope. Firm surface with no stones.

Soil Description:

| <i>Depth (cm)</i> | <i>Description</i> |
|-------------------|---|
| 0-11 | Very dark greyish brown soft fine sandy clay loam with moderate coarse subangular blocky structure. Gradual to: |
| 11-20 | Dark brown friable sandy clay loam with moderate coarse subangular blocky structure. Abrupt to: |
| 20-39 | Brown, light brown and strong brown friable light medium clay with moderate polyhedral structure. Gradual to: |
| 39-61 | Brown and yellowish red friable slightly calcareous medium clay with moderate polyhedral structure. Abrupt to: |
| 61-94 | Yellowish brown firm massive calcareous medium clay with 20-50% carbonate concretions (6-20 mm). Diffuse to: |
| 94-150 | Light yellowish brown and yellowish brown firm massive calcareous medium heavy clay with 20-50% fine carbonate. |



Classification: Melanic-Mottled, Supracalcic, Brown Chromosol; medium, non-gravelly, clay loamy / clayey, moderate



Summary of Properties

| | |
|---------------------------------|--|
| Drainage: | Well drained. The soil rarely remains wet for more than a week. |
| Fertility: | Inherent fertility is moderate, as indicated by the exchangeable cation data. High clay and organic matter levels of surface soil provide ample nutrient retention capacity. The only element which appears to be deficient is copper. |
| pH: | Acidic at the surface, alkaline with depth. |
| Rooting depth: | 94 cm in pit, but few roots below 61 cm. |
| Barriers to root growth: | |
| Physical: | There are no physical barriers. |
| Chemical: | High carbonate content in a clayey matrix from 61 cm restricts root growth. |
| Waterholding capacity: | Approximately 100 mm in the rootzone. |
| Seedling emergence: | Satisfactory, although loss of organic matter may cause hard setting and surface sealing, which will impact on emergence. |
| Workability: | Firm surface is easily worked. |
| Erosion Potential: | |
| Water: | Low. |
| Wind: | 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 | Ext Al mg/kg |
|-------------|------------------------|-------------------------|----------------------|---------------|-------------|------------|----------------------|----------------------|-----------------------------|----------------|--------------------------------|-----|------|------|-----------------------|------------------------------------|------|------|------|-----|--------------------|
| | | | | | | | | | | | Cu | Fe | Mn | Zn | | Ca | Mg | Na | K | | |
| Paddock | 6.6 | 5.8 | 0 | 0.21 | - | 3.31 | 43 | 486 | 25.9 | 1.6 | 0.51 | 242 | 32.9 | 1.67 | - | 10.3 | 1.88 | 0.35 | 1.20 | - | 1.4 |
| 0-11 | 5.4 | 4.7 | 0 | 0.14 | - | 2.44 | 21 | 212 | 16.6 | 1.0 | 0.56 | 256 | 39.8 | 1.37 | - | 7.19 | 1.21 | 0.19 | 0.63 | - | 1.6 |
| 11-20 | 5.9 | 5.1 | 0 | 0.05 | - | 1.08 | 4 | 249 | 6.4 | 0.9 | 0.50 | 99 | 45.0 | 1.16 | - | 7.76 | 1.76 | 0.17 | 0.56 | - | 1.2 |
| 20-39 | 6.9 | 6.1 | 0 | 0.05 | - | 0.98 | 1 | 342 | 4.3 | 1.2 | 0.71 | 44 | 22.2 | 1.20 | 28 | 20.41 | 4.13 | 0.37 | 0.93 | 1.3 | 1.1 |
| 39-61 | 8.8 | 7.7 | 0.5 | 0.09 | - | 0.87 | 1 | 365 | 4.8 | 1.5 | 0.89 | 46 | 25.5 | 1.28 | 32 | 24.23 | 4.60 | 0.48 | 0.94 | 1.5 | 1.0 |
| 61-94 | 8.8 | 7.6 | 35 | 0.10 | - | 0.56 | <1 | 256 | 4.6 | 1.1 | 0.59 | 7 | 2.51 | 1.23 | 20 | 16.15 | 3.36 | 0.40 | 0.63 | 2.0 | 0.8 |
| 94-150 | 9.0 | 7.9 | 21 | 0.10 | - | 0.21 | <1 | 243 | 3.4 | 1.1 | 0.36 | 6 | 1.80 | 1.07 | 17 | 13.12 | 3.76 | 0.50 | 0.54 | 2.9 | 1.0 |

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](#)

