

VERY HIGHLY CALCAREOUS SANDY CLAY LOAM

(Magarey / Cungena soil)

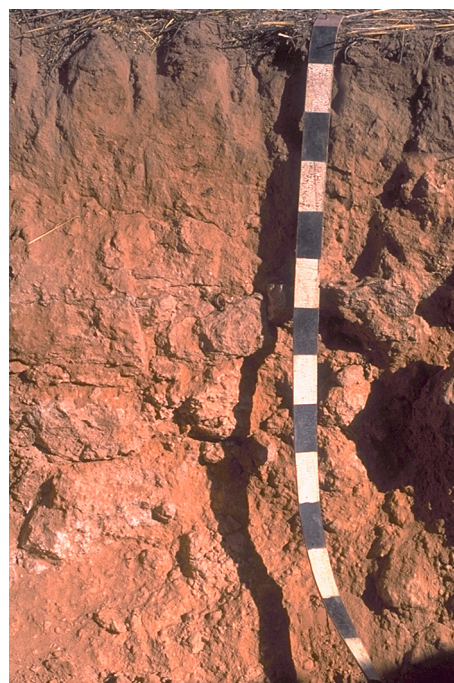
General Description: *Very highly calcareous sandy clay loam with variable rubble content at depth***Landform:** Very gently undulating plains.**Substrate:** Very highly calcareous medium grained windblown deposits, with variable calcrete development.**Vegetation:** Mallee.

| | | | | |
|-------------------|----------------|------------|--------------------|------------------|
| Type Site: | Site No.: | EW075 | 1:50,000 mapsheet: | 5832-4 (Cungena) |
| | Hundred: | Tarleton | Easting: | 463900 |
| | Section: | 6 | Northing: | 6390770 |
| | Sampling date: | 29/03/1993 | Annual rainfall: | 320 mm average |

Gently undulating low rise on plain, 2% slope. Soft surface, no stones.

Soil Description:

| <i>Depth (cm)</i> | <i>Description</i> |
|-------------------|---|
| 0-15 | Brown friable highly calcareous light sandy clay loam with weak fine subangular blocky structure and minor carbonate concretions. Gradual to: |
| 15-28 | Brown friable very highly calcareous massive sandy clay loam with 10-20% carbonate concretions. Abrupt to: |
| 28-52 | Pink friable very highly calcareous massive sandy clay loam with more than 50% carbonate concretions. Abrupt to: |
| 52-150 | Class III C rubbly carbonate. Abrupt to: |
| 150- | Sheet calcrete. |

**Classification:** Hypervescent, Regolithic, Lithocalcic Calcarosol; thick, non-gravelly, loamy / clay loamy, deep

Summary of Properties

- Drainage:** Rapidly drained. The soil rarely remains wet for more than a few hours at a time.
- Fertility:** Inherent fertility is low. Although the clay and organic carbon levels are moderate, the high carbonate content reduces availability of phosphorus and trace elements. Regular applications are necessary, and concentrations of all tested elements are satisfactory at the sampling site.
- pH:** Alkaline at the surface, strongly alkaline at depth.
- Rooting depth:** 52 cm in pit.
- Barriers to root growth:**
- Physical:** Depending on amount of rubble, it may impede root growth.
 - Chemical:** High pH and high sodicity restrict rooting depth.
- Waterholding capacity:** Approximately 65 mm in rootzone.
- Seedling emergence:** Satisfactory.
- Workability:** Soft surface is easily worked.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderately low to moderate.

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 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 | |
| 0-15 | 8.4 | 7.9 | 36 | 0.22 | 1.28 | 1.1 | 26 | 450 | - | 1.9 | 0.34 | 2.60 | 5.70 | 0.53 | 12.4 | 10.45 | 1.43 | 0.02 | 1.08 | 0.1 |
| 15-28 | 9.0 | 8.3 | 40 | 0.16 | 0.68 | 0.7 | 4 | 280 | - | 3.4 | 0.47 | 1.60 | 3.10 | 0.23 | 11.2 | 7.28 | 3.74 | 0.21 | 0.72 | 1.9 |
| 28-52 | 9.7 | 8.7 | 54 | 0.37 | 1.88 | 0.3 | 3 | 310 | - | 11 | 0.29 | 1.90 | 1.60 | 0.66 | 8.0 | 1.67 | 5.00 | 1.51 | 0.78 | 18.9 |
| 52-150 | 9.7 | 8.3 | 69 | 0.98 | 9.10 | - | <2 | 360 | - | 13 | 0.23 | 9.30 | 2.30 | 0.18 | 5.3 | 1.57 | 1.82 | 2.14 | 0.89 | 40.4 |

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

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

