

GRADATIONAL RED LOAM

General Description: *Red clay loam grading to a red weakly structured clay, calcareous with depth*

- Landform:** Alluvial fans and flats
- Substrate:** Variably gravelly sandy clay alluvium and slope wash (Telford Gravel).
- Vegetation:** *Acacia aneura*, *Maricana sedifolia*.



- Type Site:**
- | | | | |
|----------------|-------------------|--------------------|----------------|
| Site No.: | CM082 | 1:50,000 mapsheet: | 6831-1 |
| District: | Eastern Districts | Easting: | 386500 |
| Property: | Braemar | Northing: | 6333150 |
| Sampling date: | 19/11/96 | Annual rainfall: | 205 mm average |

Very gently inclined alluvial fan, 1% slope. Firm surface with trace of ironstone gravel.

Soil Description:

| <i>Depth (cm)</i> | <i>Description</i> |
|-------------------|--|
| 0-15 | Red fine sandy clay loam with weak granular structure. Clear to: |
| 15-35 | Red light clay with weak polyhedral structure. Gradual to: |
| 35-70 | Red very highly calcareous massive light medium clay with 20-50% soft, and 10-20% nodular carbonate. Diffuse to: |
| 70-110 | Red very highly calcareous massive light clay with 20-50% nodular (Class III B) carbonate. Diffuse to: |
| 110-150 | Red highly calcareous sandy light clay with weak blocky structure and more than 50% quartzite, siltstone, calcrete and ironstone gravel. |



Classification: Sodic, Supracalcic, Red Kandosol; medium, non-gravelly, clay loamy / clayey, deep



Summary of Properties

Drainage: Well drained - the soil is unlikely to remain wet for more than a day or so following prolonged rain.

Fertility: Natural fertility is high as indicated by the exchangeable cation data.

pH: Alkaline throughout.

Rooting depth: More than 150 cm.

Barriers to root growth:

Physical: None, except where gravel beds are impenetrable.

Chemical: None.

Waterholding capacity: Approximately 140 mm in rootzone.

Seedling emergence: Good

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 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 | 8.3 | 7.7 | 0 | 0.14 | 0.54 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0-15 | 8.0 | 7.6 | 0 | 0.08 | 0.39 | - | - | - | - | - | - | - | - | 16.3 | 11.3 | 2.0 | 0.16 | 1.57 | 1.0 | |
| 15-35 | 8.2 | 7.7 | 0 | 0.11 | 0.35 | - | - | - | - | - | - | - | - | 20.7 | 15.8 | 2.5 | 0.28 | 1.25 | 1.4 | |
| 35-70 | 8.6 | 7.8 | 24 | 0.13 | 0.29 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 70-110 | 8.7 | 7.9 | 16 | 0.14 | 0.32 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 110-150 | 8.8 | 8.0 | 11 | 0.16 | 0.34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

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](#)

