

DEEP GRADATIONAL CLAY LOAM

General Description: *Well structured dark reddish brown clay loam to light clay overlying a coarsely structured red heavy clay containing soft carbonate segregations with depth*

Landform: Outwash fans of undulating to rolling low hills

Substrate: Clayey outwash sediments with variable gravel

Vegetation:



Type Site: Site No.: CM085
 1:50,000 sheet: 6630-4 (Spalding) Hundred: Ayers
 Annual rainfall: 450 mm Sampling date: 27/02/97
 Landform: Upper slope of gently inclined alluvial fan, 3% slope
 Surface: Firm with 2-10% quartzite stone

Soil Description:

| <i>Depth (cm)</i> | <i>Description</i> |
|-------------------|---|
| 0-12 | Dark reddish brown light clay loam with weak granular structure and 2-10% siltstone gravel. Abrupt to: |
| 12-30 | Dark reddish brown light clay with weak platy structure breaking to strong polyhedral and 2-10% siltstone gravel. Clear to: |
| 30-45 | Dark reddish brown light medium clay with strong coarse prismatic structure breaking to strong polyhedral and 2-10% siltstone gravel. Gradual to: |
| 45-85 | Red light medium clay with strong polyhedral structure and 2-10% siltstone gravel. Gradual to: |
| 85-140 | Reddish yellow very highly calcareous massive light clay with 20-50% soft carbonate segregations and 10-20% siltstone gravel. Clear to: |
| 140-150 | Laminar calcrete pan. |



Classification: Haplic, Hypercalcic, Red Dermosol; medium, slightly gravelly, clay loamy / clayey, deep

Summary of Properties

| | |
|--------------------------------|---|
| Drainage | Moderately well drained. The soil is unlikely to remain saturated for more than a week. |
| Fertility | Natural fertility is moderately high. Test results indicate that all elements analysed are adequately supplied with the possible exception of sulphur. Organic carbon is low. |
| pH | Slightly acidic at the surface, alkaline with depth. |
| Rooting depth | 85 cm in pit. |
| Barriers to root growth | |
| Physical: | There are no apparent barriers. |
| Chemical: | There are no apparent barriers. |
| Water holding capacity | Approximately 110 mm in root zone. |
| Seedling emergence: | Good. |
| Workability: | Good. |
| Erosion Potential | |
| Water: | Moderately low, but runoff from upslope must be controlled. |
| 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 (EDTA) | | | | CEC cmol (+)/kg | Exchangeable Cations cmol(+)/kg | | | | ESP |
|-------------|------------------------|-------------------------|----------------------|---------------|-------------|------------|----------------------|----------------------|-----------------------------|----------------|--------------------------------|-----|-----|-----|-----------------------|------------------------------------|-----|------|------|-----|
| | | | | | | | | | | | Cu | Fe | Mn | Zn | | Ca | Mg | Na | K | |
| Paddock | 6.6 | 5.8 | 0 | 0.09 | - | 1.1 | 53 | 629 | 5.6 | 1.0 | 2.5 | 146 | 256 | 2.3 | 10.1 | 6.7 | 1.6 | 0.12 | 1.15 | 1.2 |
| 0-12 | 6.5 | 5.5 | 0 | 0.07 | - | 1.2 | 78 | 611 | 4.9 | 0.8 | 2.3 | 178 | 226 | 2.2 | 9.1 | 5.3 | 1.2 | 0.11 | 1.19 | 1.2 |
| 12-30 | 7.2 | 6.4 | 0 | 0.04 | - | 0.7 | 30 | 618 | 2.7 | 0.8 | 4.2 | 160 | 451 | 1.9 | 17.2 | 10.6 | 2.5 | 0.18 | 1.13 | 1.0 |
| 30-45 | 7.5 | 6.9 | 0 | 0.09 | - | 0.4 | 18 | 399 | 3.1 | 0.8 | 3.8 | 123 | 378 | 2.0 | 19.3 | 13.8 | 3.6 | 0.32 | 0.76 | 1.7 |
| 45-85 | 8.1 | 7.5 | 0 | 0.07 | - | 0.2 | 23 | 340 | 4.2 | 0.7 | 3.5 | 86 | 299 | 2.3 | 18.5 | 13.2 | 3.8 | 0.30 | 0.68 | 1.6 |
| 85-140 | 8.8 | 7.8 | 26.9 | 0.04 | - | 0.1 | 12 | 287 | 17 | 0.6 | 0.8 | 2 | 3.5 | 3.2 | 10.6 | 7.9 | 3.1 | 0.37 | 0.51 | 3.5 |
| 140-150 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

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.