

BLEACHED SILICEOUS SAND

General Description: *Thick to very thick bleached loose sand with an organically darkened surface and a yellow or brown sandy subsoil overlying more clayey material at variable depth.*

Landform: Slopes and crests of undulating dunefields

Substrate: Massive sandy loam to sandy clay loam, probably the subsoil of a buried sandy texture contrast soil

Vegetation: Euc. baxteri scrub



| | | | | |
|-------------------|----------------|------------|--------------------|----------------|
| Type Site: | Site No.: | SE007 | 1:50,000 mapsheet: | 6925-1 (Keith) |
| | Hundred: | Archibald | Easting: | 435650 |
| | Section: | 13 | Northing: | 6012450 |
| | Sampling date: | 04/08/1992 | Annual rainfall: | 480 mm average |

Dune slope, loose surface. 20% slope, southerly aspect.

Soil Description:

| <i>Depth (cm)</i> | <i>Description</i> |
|-------------------|---|
| 0-15 | Loose grey sand (recent drift). Clear to: |
| 15-30 | Loose dark grey sand. Clear to: |
| 30-115 | Bleached loose sand. Gradual to: |
| 115-185 | Yellow and white speckled loose sand. Sharp to: |
| ----- | |
| 185-200 | Orange and yellow massive firm light sandy clay loam (B horizon of a buried soil) |

Classification: Basic, Arenic, Bleached-Orthic Tenosol; medium, non-gravelly, sandy / sandy, very deep



Summary of Properties

| | |
|---------------------------------|--|
| Drainage: | Rapidly drained. The profile is never saturated. |
| Fertility: | Natural fertility is very low, due to the low clay content. Any capacity to store nutrients is provided by organic matter. In sandy soils, more than 1% organic carbon is needed. The pit site is in an area fenced off from the main paddock, so nutrient levels are very low (refer values for phosphorus, potassium, sulphur and boron). The calcium: magnesium is satisfactory, but absolute values are low, so these elements, along with trace elements are also likely to be deficient. |
| pH: | Acidic at the surface, neutral with depth. |
| Rooting depth: | 150 cm in pit. |
| Barriers to root growth: | |
| Physical: | No physical barriers. |
| Chemical: | Lack of nutrients and low storage capacity are the main chemical limitations to root growth. |
| Waterholding capacity: | Approximately 100 mm in rootzone. |
| Seedling emergence: | Good to fair depending on water repellence which can be severe in some seasons. The upper three layers are repellent. |
| Workability: | Good. |
| Erosion Potential: | |
| Water: | Low. |
| Wind: | High due to the low fertility, water repellent sandy surface, and exposed position on sand dune. |

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 | 6.6 | 6.2 | 0 | 0.05 | 0.18 | 1.00 | 12 | 103 | - | 0.6 | 0.5 | 34 | 3.1 | 2.3 | 5.1 | 4.31 | 0.51 | 0.30 | 0.23 | 5.9 |
| 0-15 | 6.1 | 5.9 | 0 | 0.05 | 0.27 | 0.67 | 14 | 102 | - | 0.6 | 0.4 | 18 | 2.2 | 2.2 | 3.6 | 2.63 | 0.43 | 0.25 | 0.10 | 6.9 |
| 15-30 | 6.1 | 5.7 | 0 | 0.08 | 0.53 | 0.48 | 9 | 137 | - | 0.5 | 0.7 | 33 | 3.5 | 1.4 | 3.3 | 3.36 | 0.40 | 0.21 | 0.10 | 6.4 |
| 30-115 | 6.7 | 6.6 | 0 | 0.04 | 0.16 | 0.42 | <5 | 93 | - | 0.1 | <0.1 | 19 | 0.1 | 0.1 | 1.6 | 0.55 | 0.18 | 0.35 | 0.11 | na |
| 115-185 | 6.8 | 6.5 | 0 | 0.04 | 0.08 | 0.31 | <5 | 49 | - | 0.2 | <0.1 | 8 | <0.1 | 0.1 | 1.5 | 0.65 | 0.27 | 0.42 | 0.13 | na |
| 185-200 | 7.4 | 6.8 | 0 | 0.08 | 0.23 | 0.11 | <5 | 139 | - | 0.7 | 0.4 | 16 | 0.3 | 0.1 | 9.6 | 4.79 | 2.99 | 0.48 | 0.39 | 5.1 |

Note: Paddock sample bulked from 20 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](#)

