

## THICK SAND OVER SANDY CLAY

**General Description:** *Thick to very thick sandy surface soil overlying a red or brown weakly structured sandy clay becoming sandier with depth*

**Landform:** Gentle slopes and flats

**Substrate:** Medium to coarse grained alluvium

**Vegetation:**



**Type Site:** Site No.: CL010

1:50,000 sheet: 6628-1 (Barossa)      Hundred: Moorooroo

Annual rainfall: 575 mm      Sampling date: 27/07/92

Landform: Midslope of very gently inclined outwash fan, 2% slope

Surface: Soft with no stones

**Soil Description:**

<i>Depth (cm)</i>	<i>Description</i>
0-20	Brown soft sand. Clear to:
20-65	Pale brown soft sand. Abrupt to:
65-75	Yellowish brown, red and dark brown hard sandy light clay with weak coarse prismatic structure. Abrupt to:
75-100	Yellowish red, dark brown and orange firm massive sandy clay loam.



**Classification:** Eutrophic, Mottled-Subnatric, Brown Sodosol; very thick, non-gravelly, sandy / clayey, deep

## Summary of Properties

- Drainage:** Well drained. The clayey subsoil impedes water movement to some extent, but waterlogged conditions are unlikely to persist for more than a day or so.
- Fertility:** Natural fertility is moderately low, due to the low clay content. Although the nutrient retention capacity of the surface soil is low, concentrations of the measured elements are satisfactory. Calcium and magnesium levels are low, but the cation ratios are correct. Organic carbon levels could be higher.
- pH:** Slightly acidic throughout.
- Rooting depth:** More than 100 cm in pit.
- Barriers to root growth:**
- Physical:** No physical barriers.
- Chemical:** No chemical barriers
- Water holding capacity:** Approximately 90 mm total, and approximately 55 mm readily available water holding capacity. The soil profile is ideal for irrigation, with a thick sandy surface which releases water readily for plant uptake, and a clayey subsoil which can store excess water.
- Seedling emergence:** Good (except where soils are water repellent).
- Workability:** Good.
- Erosion Potential**
- Water:** Moderately low (only on sloping sites).
- Wind:** Moderate (sandy surface).

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -S 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	
0-20	6.0	5.7	0	0.06	0.24	0.70	99	186	-	0.5	4.7	17	4.0	4.2	2.1	2.5	0.5	0.14	0.26	na
20-65	6.1	5.8	0	0.18	2.42	0.12	54	196	-	0.4	0.4	7.2	1.2	0.3	1.2	1.2	0.4	0.09	0.24	na
65-75	6.2	5.7	0	0.19	1.37	0.19	6	102	-	1.7	0.4	12	0.2	0.2	7.0	3.9	3.3	0.73	0.21	10.4
75-100	6.4	5.8	0	0.14	1.20	0.17	8	79	-	1.6	0.6	11	0.4	0.5	5.4	2.7	3.1	0.58	0.14	10.7

**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.