

## DEEP SAND (Moornaba soil)

**General Description:** *Thick to very thick sand, often calcareous, grading to fine or rubbly carbonate*

**Landform:** Very gentle slopes with sandhills.

**Substrate:** Windblown Molineaux Sand overlying very highly calcareous Woorinen Formation deposits.

**Vegetation:** Mallee.



**Type Site:** Site No.: EC098

1:50,000 sheet: 6031-4 (Kyancutta)

Hundred: Warrambo

Annual rainfall: 315 mm

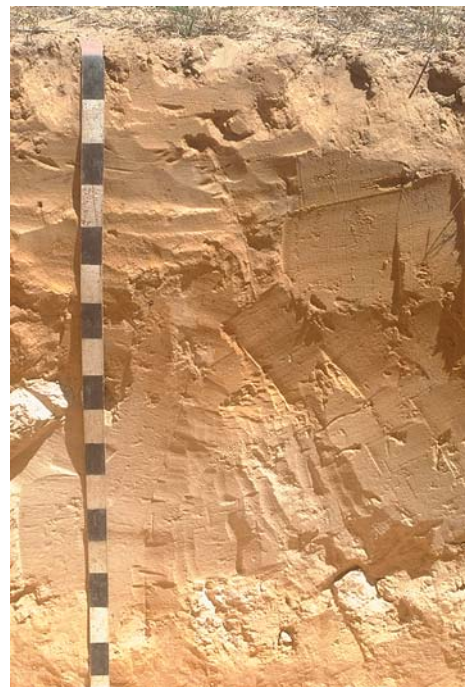
Sampling date: 25/11/93

Landform: Lower dune slope of 8%

Surface: Loose with no stones

### Soil Description:

Depth (cm)	Description
0-10	Brown loose moderately calcareous loamy sand. Clear to:
10-40	Light brown moderately calcareous loose light loamy sand. Gradual to:
40-100	Reddish yellow moderately calcareous loose light loamy sand. Clear to:
100-155	Pink soft highly calcareous sand. Abrupt to:
155-180	Class III A carbonate with less than 20% hard concretions. Clear to:
180-200	Light brown soft very highly calcareous sandy clay loam with moderate subangular blocky structure.



**Classification:** Ceteric, Regolithic, Hypercalcic Calcarosol; very thick, non-gravelly, sandy / sandy, very deep

## Summary of Properties

<b>Drainage</b>	Rapidly drained. The soil never remains wet for more than a few hours.
<b>Fertility</b>	Inherent fertility is low, as indicated by the exchangeable cation data, and low clay and organic matter contents. Regular phosphorus applications are essential - levels are high at the sampling site. Nitrogen levels depend on pasture legume status and cropping history. Copper and zinc deficiencies can be expected, and copper levels are low at the site.
<b>pH</b>	Alkaline throughout.
<b>Rooting depth</b>	180 cm in pit, but few roots below 40 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	There are no physical barriers.
<b>Chemical:</b>	There are no chemical barriers - poor root growth below 40 cm is due to low nutrient status and retention capacity.
<b>Water holding capacity</b>	Approximately 100 mm in the potential root zone, but only 40 mm in the actual root zone.
<b>Seedling emergence:</b>	Satisfactory except in water repellence seasons.
<b>Workability:</b>	Loose surface is easily worked.
<b>Erosion Potential</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	Moderate.

## 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	
0-10	8.6	7.7	1	0.08	0.34	0.40	41	160	-	1.0	0.14	3.0	3.2	0.69	2.8	3.07	0.42	0.08	0.30	na
10-40	8.9	8.1	1	0.08	0.40	0.08	3.4	78	-	0.93	0.12	1.2	1.2	0.35	2.2	2.59	0.47	0.03	0.18	na
40-100	8.9	8.1	2	0.07	0.31	0.10	2.4	100	-	1.5	0.16	2.0	0.30	0.29	3.6	3.66	0.89	0.05	0.26	1.4
100-155	9.2	8.3	4	0.09	0.24	0.06	4.2	86	-	2.8	0.15	1.6	0.19	0.16	2.0	1.46	1.37	0.10	0.21	na
155-180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
180-200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**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.