

## DEEP SAND

**General Description:** *Very thick red to brown sand becoming calcareous and slightly more clayey with depth*

**Landform:** Dunefields

**Substrate:** Windblown Molineaux Sand with soft carbonates

**Vegetation:** Mallee



**Type Site:** Site No.: MM007

1:50,000 sheet: 6927-4 (Marama)

Hundred: Wilson

Annual rainfall: 330 mm

Sampling date: 12/09/91

Landform: Crest of low sandhill

Surface: Loose with no stones. Upper 38 cm of profile is recent drift.

**Soil Description:**

Depth (cm)	Description
0-8	Brown loose sand. Sharp to:
8-30	Orange loose sand. Sharp to:
30-38	Brown loose sand. Abrupt to:
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38-60	Dark brown soft sand. Gradual to:
60-81	Orange soft sand. Diffuse to:
81-102	Orange soft sand. Sharp to:
102-107	Lamellae of orange loamy sand and sandy loam. Clear to:
107-185	Yellowish red soft loamy sand with minor fine calcareous segregations.



**Classification:** Calcareous, Argic, Brown-Orthic Tenosol; medium, non-gravelly, sandy / sandy, very deep

### Summary of Properties

<b>Drainage</b>	Rapidly drained. Soil never remains saturated for more than a few hours.
<b>Fertility</b>	Inherent fertility is low, as indicated by the exchangeable cation data. Low clay and organic matter levels limit nutrient retention capacity. Phosphorus and probably nitrogen are deficient at the sampling site.
<b>pH</b>	Neutral at the surface, alkaline with depth.
<b>Rooting depth</b>	80 cm in pit, but few roots below 40 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	None.
<b>Chemical:</b>	Low nutrient status / retention capacity.
<b>Water holding capacity</b>	Approximately 25 mm in rootzone.
<b>Seedling emergence:</b>	Satisfactory, except where affected by water repellence.
<b>Workability:</b>	Loose surface is easily worked.
<b>Erosion Potential</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	Moderately high.

### 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	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	6.4	<0.1	0.05	0.61	0.42	13	200	<0.5	0.21	7.11	2.18	0.66	2.9	2.49	0.65	0.10	0.35	na
0-8	6.3	6.0	<0.1	0.03	0.34	0.46	14	220	<0.5	0.14	8.43	2.29	0.86	2.8	2.31	0.65	0.11	0.28	na
8-30	6.2	6.1	<0.1	0.02	0.18	0.17	2.3	210	<0.5	0.23	4.33	1.32	0.56	2.0	1.68	0.46	0.12	0.22	na
30-38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38-60	8.3	7.1	0.4	0.08	0.60	0.54	3	55	0.9	0.08	10.43	0.69	0.44	3.8	4.24	0.84	0.07	0.10	1.8
60-81	7.6	6.9	<0.1	0.05	0.56	0.16	1.8	7.8	<0.5	0.04	8.16	0.12	0.68	2.4	2.10	0.53	0.07	0.09	na
81-102	8.2	7.6	<0.1	0.06	0.65	0.12	1.6	47	0.7	0.08	5.04	0.19	0.30	2.2	2.14	0.67	0.07	0.16	na
102-107	8.7	7.6	0.2	0.11	1.03	0.22	2.3	240	2.5	0.36	9.82	0.06	0.33	5.0	4.57	1.47	0.17	0.37	3.4
107-185	8.7	7.5	0.2	0.10	1.01	0.08	1.8	200	1.6	0.19	3.68	0.13	0.38	3.8	2.95	1.29	0.14	0.44	3.7

**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.