

# DEEP SAND

**General Description:** *Thick reddish brown calcareous loamy sand becoming slightly more clayey, more calcareous and yellower with depth*

**Landform:** Very gently undulating plain with low to moderate parallel sandhills

**Substrate:** Aeolian sand to clayey sand (Molineaux Formation).

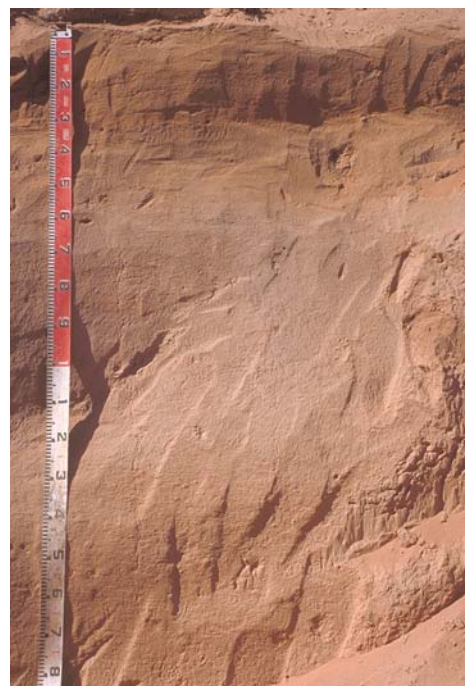
**Vegetation:** Mallee



**Type Site:** Site No.: CU067  
 1:50,000 sheet: 6531-3 (Crystal Brook) Hundred: Wandearah  
 Annual rainfall: 350 mm Sampling date: 22/01/01  
 Landform: Duneslope of 5%  
 Surface: Loose with evidence of extensive erosion and re-deposition of sand

**Soil Description:**

<i>Depth (cm)</i>	<i>Description</i>
0-30	Yellowish red soft highly calcareous single grain loamy sand - recent drift. Clear to:
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30-45	Reddish brown soft massive highly calcareous loamy sand. Gradual to:
45-75	Yellowish red soft massive very highly calcareous loamy sand. Diffuse to:
75-110	Yellowish red soft massive very highly calcareous heavy loamy sand. Diffuse to:
110-180	Yellowish red soft massive very highly calcareous clayey sand.



**Classification:** Ceteric, Regolithic, Calcic Calcarosol; medium, non-gravelly, sandy / sandy, very deep

## Summary of Properties

**Drainage:** Rapidly / excessively drained. Soil never remains wet for more than a few hours. Very high permeability leads to loss of water below root zone after heavy rain or in wet winters, contributing to recharge potential.

**Fertility:** Inherent fertility is low due to low clay content. Copper and sulphur deficiencies are indicated by the test data at the sampling site. Phosphorus levels are marginal, although reasonable for this soil class. Organic carbon levels are slightly low.

**pH:** Alkaline at the surface, strongly alkaline with depth.

**Rooting depth:** 180 cm in pit, but few roots below 110 cm.

### Barriers to root growth:

**Physical:** There are no physical barriers, apart from occasional water repellence.

**Chemical:** Low nutrient retention capacity and status is the main limitation to root growth.

**Water holding capacity:** Approximately 90 mm in the root zone.

**Seedling emergence:** Good, except in water repellence years.

**Workability:** Soft surface is easily worked.

### Erosion Potential

**Water:** Low (moderate when water repellent).

**Wind:** 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	Cl mg/kg	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)				Sum of cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	8.6	8.0	-	0.14	20	0.65	25	360	5.5	1.2	0.11	-	4.49	0.91	8.32	6.60	0.81	0.07	0.79	0.8
0-30	9.2	8.5	-	0.08	18	0.20	5	210	2.0	0.6	0.12	-	1.31	0.35	7.45	6.30	0.59	0.04	0.46	0.5
30-45	9.2	8.3	-	0.08	13	0.20	5	250	2.1	0.7	0.19	-	1.07	0.29	9.37	7.90	0.81	0.04	0.56	0.4
45-75	9.2	8.3	-	0.08	53	0.20	5	155	2.7	0.9	0.15	-	0.85	0.34	9.89	7.90	1.25	0.33	0.35	3.3
75-110	9.3	8.4	-	0.08	8	0.20	5	56	2.0	0.8	0.22	-	0.90	0.32	8.88	7.40	1.21	0.09	0.13	1.0
110-180	9.4	8.5	-	0.09	20	0.20	5	67	2.4	1.1	0.20	-	0.61	0.14	9.21	6.70	2.17	0.14	0.15	1.5

**Note:** Paddock sample bulked from cores (0-10 cm) taken around the pit.

Sum of cations is an estimate of CEC (cation exchange capacity), 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 estimated CEC.