

DEEP SAND

General Description: *Very thick red to brown sand with a more clayey subsoil, calcareous at depth*

Landform: Gently undulating dunefield of low to moderate parallel sandhills.

Substrate: Calcrete.

Vegetation: Mallee.



Type Site: Site No.: CM003

1:50,000 sheet: 6530-4 (Mundoora) Hundred: Wokurna

Annual rainfall: 350mm Sampling date: 11/02/92

Landform: Lower dune slope, 6% slope

Surface: Loose with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-11	Brown soft slightly calcareous single grain sand (possibly recent drift). Sharp to:
11-20	Dark brown soft moderately calcareous massive loamy sand. Sharp to:
20-100	Yellowish red soft single grain sand. Sharp to:
100-118	Red friable massive light coarse sandy clay loam. Abrupt to:
118-135	Calcrete pan.



Classification: Sodic, Petrocalcic, Red Kandosol; medium, non-gravelly, sandy / loamy, deep

Summary of Properties

- Drainage** Well drained. Soil never remains wet for more than a day or so.
- Fertility** Surface fertility relies on organic matter levels which are low, and on phosphorus levels which are adequate at this site. (The phosphorus level in the layer below the topsoil layer is quite high, indicating that the topsoil is likely to have been deposited by wind erosion.) The deep clay loamy subsoil has a moderate ability to retain nutrients, while the sandy layers above this have a low ability to retain nutrients. Likely response to applied zinc.
- pH** Alkaline at the surface, strongly alkaline in the subsoil.
- Rooting depth** 115 cm in pit, but few roots below 20cm.
- Barriers to root growth**
- Physical:** Calcrete barrier at 118cm stops root growth.
 - Chemical:** Low nutrient status prevents strong root growth.
- Water holding capacity** Approximately 80 mm in the potential rootzone.
- Seedling emergence:** Satisfactory, although water repellence may reduce establishment in dry seasons.
- Workability:** Very good.
- Erosion Potential**
- Water:** Low.
 - Wind:** Moderate.

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	8.2	7.4	1.7	0.09	0.7	0.61	28	150	-	-	0.25	5.3	1.8	0.30	4.8	1.26	0.72	0.03	0.28	0.6
0-11	7.3	6.7	1.5	0.06	0.4	0.47	27	125	-	-	0.22	5.8	2.4	0.25	4.6	3.59	0.68	0.04	0.22	0.9
11-20	8.8	7.6	3.2	0.08	0.2	0.56	23	70	-	-	0.28	2.1	1.1	0.13	6.9	8.05	0.91	0.06	0.20	0.9
20-100	9.2	8.0	2.3	0.06	0.2	0.07	1	25	-	0.5	0.09	3.3	0.2	0.16	2.1	1.99	0.20	0.04	0.05	na
100-118	9.4	7.8	6.0	0.12	0.4	0.08	1	55	-	2.2	0.18	3.6	0.1	0.07	9.8	5.76	3.73	1.51	0.13	15.4
118-135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.