

DEEP SAND

General Description: *Deep sand overlying calcrete at variable depth*

Landform: Gently undulating plains and moderate slopes (Murray River cliffs)

Substrate: Calcrete capped sand.

Vegetation: Mallee



Type Site: Site No.: MP010

1:50,000 sheet:	6828-3 (Cairnamont)	Hundred:	Ridley
Annual rainfall:	300 mm	Sampling date:	08/12/95
Landform:	Lower slope of river cliff, 3% slope		
Surface:	Loose with no stone		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-20	Dark reddish brown loose loamy sand. Gradual to:
20-45	Reddish brown loose loamy sand. Clear to:
45-90	Yellowish red loose calcareous sand. Abrupt to:
90-130	Calcrete pan. Abrupt to:
130-150	Reddish yellow soft very highly calcareous loamy sand. Gradual to:
150-200	Yellowish red soft highly calcareous sand.



Classification: Calcareous, Petrocalcic, Red-Orthic Tenosol; thick, non-gravelly, sandy / sandy, moderate

Summary of Properties

Drainage	Rapidly drained. The soil is unlikely to remain wet for more than a few hours following heavy or prolonged rainfall or irrigation.
Fertility	Inherent fertility is low as indicated by the exchangeable cation data and the sandy nature of the profile. Although levels of all measured nutrient elements are satisfactory at the sampling site, nutrient retention capacity is low. Organic carbon levels are also low.
pH	Neutral at the surface, alkaline with depth.
Rooting depth	90 cm in pit, but most roots are in the upper 45 cm.
Barriers to root growth	
Physical:	The calcrete imposes a permanent barrier to root growth.
Chemical:	High pH and fine carbonate are restrictive to roots of lime sensitive crops such as potatoes.
Water holding capacity	About 90 mm total available and 55 mm readily available water holding capacity.
Seedling emergence:	Good.
Workability:	Good.
Erosion Potential	
Water:	Low.
Wind:	Moderately high.

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	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	6.0	-	0.12	1.52	0.5	45	250	0.7	1.6	19	15	3.9	4.6	2.89	1.21	0.36	0.31	7.7
0-20	6.8	6.2	-	0.16	1.89	0.6	55	211	0.8	2.2	14	7.5	4.9	4.6	2.57	1.53	0.28	0.27	6.2
20-45	8.1	7.0	<0.1	0.09	0.76	0.2	40	246	0.5	0.22	3.2	2.9	0.21	5.0	3.05	1.08	0.56	0.41	11.2
45-90	9.3	8.4	2.0	0.14	0.93	0.1	16	149	0.5	0.15	1.6	0.53	0.18	4.6	3.69	1.31	0.49	0.22	10.8
90-130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
130-150	9.3	8.3	13.8	0.15	1.35	0.1	4	100	0.6	0.17	2.0	1.5	0.18	3.5	3.20	1.24	0.38	0.11	11.1
150-200	9.3	8.4	5.9	0.14	1.05	<0.1	<4	106	0.7	0.13	1.8	0.8	0.38	3.4	3.13	1.15	0.29	0.13	8.4

Note: Paddock sample bulked from 20 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