DEEP SAND

General Description: *Thick sand, becoming slightly more clayey and weakly calcareous with depth*

Landform: Gently undulating sandhill country

Substrate: Windblown Molineaux Sand, with fine secondary carbonate

Vegetation: Mallee

Type Site:

Site No.:	MM046	1:50,000 mapsheet:	7029-3 (Loxton)
Hundred:	Gordon	Easting:	471650
Section:	7B	Northing:	6201850
Sampling date:	28/07/1992	Annual rainfall:	260 mm average

Crest of low sandhill. Loose surface, no stones.

Soil Description:

Depth (cm)	*Description*
0-12	Yellowish red loose loamy sand with weak granular structure - recent drift. Clear to:
12-25	Yellowish red loose loamy sand - recent drift. Clear to:
25-37	Reddish brown loose loamy sand. Sharp to:
37-85	Yellowish red loose loamy sand. Gradual to:
85-125	Yellowish red loose moderately calcareous loamy sand. Clear to:
125-140	Reddish yellow and yellowish red moderately calcareous massive loamy sand. Clear to:
140-180	Reddish yellow, orange and pink highly calcareous fine sandy loam.

Classification: Calcareous, Regolithic, Red-Orthic Tenosol; moderate, non-gravelly, sandy / sandy, very deep

Summary of Properties

Drainage: Rapidly drained. Soil never remains wet for more than a couple of hours following heavy or prolonged rainfall.

Fertility: Inherent fertility is low, as indicated by the exchangeable cation data, and low clay and organic matter contents. Phosphorus, nitrogen, zinc and copper deficiencies are likely (zinc and copper levels appear adequate at sampling site). Organic carbon levels are low.

pH: Alkaline throughout.

Rooting depth: 85 cm in pit, but few roots below 37 cm.

Barriers to root growth:

Physical: No physical barriers

Chemical: No chemical barriers, but low nutrient retention capacity and status limit root growth.

Waterholding capacity: Approximately 35 mm in rootzone. 75 mm in potential rootzone.

Seedling emergence: Affected by water repellent surface.

Workability: Soft / loose surface is easily worked.

Erosion Potential:

Water: Low.

Wind: Moderate

Laboratory Data

Depth cm	pH H_2O	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	8.5	7.9	<0.1	0.08	0.31	0.32	6	231	0.6	0.2	2.6	2.6	0.5	4.0	3.05	0.61	0.06	0.42	1.5
0-12	8.7	8.1	0.4	0.09	0.38	0.30	5	217	0.7	0.1	2.2	1.9	0.4	3.9	2.96	0.59	0.08	0.43	2.1
12-25	8.6	8.2	0.1	0.08	0.28	0.26	<5	154	0.8	0.1	2.2	1.5	0.2	4.4	3.71	0.68	0.07	0.27	1.6
25-37	8.4	8.0	0.1	0.08	0.56	0.45	<5	123	0.7	0.1	2.3	1.5	0.2	5.0	4.22	0.88	0.10	0.18	2.0
37-85	8.1	7.6	0.1	0.07	0.64	0.03	<5	46	0.4	0.1	2.1	0.4	0.1	4.4	2.68	0.81	0.11	0.11	2.5
85-125	9.0	8.5	1.0	0.09	0.48	0.06	<5	50	0.5	0.1	1.5	0.2	0.1	3.5	2.59	0.88	0.11	0.09	3.1
125-140	9.0	8.6	0.5	0.09	0.42	0.04	<5	72	0.6	0.1	1.9	0.2	0.2	4.3	2.47	1.50	0.10	0.14	2.3
140-180	9.1	8.5	15.3	0.13	0.69	<0.01	<5	74	0.9	0.4	0.7	0.1	0.1	4.3	3.00	2.10	0.13	0.16	3.0

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.

Further information: DEWNR Soil and Land Program