

DEEP LOAMY SAND

General Description: *Very thick pale brown sand to loamy sand, with occasional quartz gravel, overlying a brown to orange clayey sand to sandy clay loam at depths of between one and two metres.*

Landform: Lower slopes and drainage depressions.

Substrate: Sandy alluvium derived from coarse textured Kanmantoo Group rocks.

Vegetation: Blue and red gum woodland.



Type Site: Site No.: CH034

1:50,000 sheet:	6728-4 (Angaston)	Hundred:	Jutland
Annual rainfall:	600 mm	Sampling date:	11/12/92
Landform:	Drainage depression, 10 metres from watercourse, 2% slope.		
Surface:	Soft. Water table at 130 cm at time of sampling.		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Dark reddish grey soft single grained loamy sand. Gradual to:
10-40	Brown soft single grained loamy sand. Diffuse to:
40-70	Brown and reddish brown soft single grained loamy sand. Gradual to:
70-150	Light yellowish brown, orange and red soft single grained light loamy sand, with 10% quartz gravel. Abrupt to:
150-160	Orange, grey and red massive hard clayey sand with pockets of sandy clay loam and 10-15% quartz gravel (6-60 mm).



Classification: Sodic, Eutrophic, Red Kandosol; very thick, non-gravelly, sandy / loamy, very deep

Summary of Properties

Drainage Rapidly to well drained, but lower part of profile is saturated in wet years due to the water table perched on the sandy clay loam layer at 150 cm.

Fertility Natural fertility is low (as indicated by the exchangeable cation data), and is due to the low clay content. Exchangeable calcium, magnesium and potassium levels are all low, as are all the trace elements including boron. Organic carbon levels are also sub-optimal.

pH Acidic throughout. Dolomitic lime is required for pH correction.

Rooting depth 150 cm in pit, but few roots below 40 cm.

Barriers to root growth

Physical: None.

Chemical: Low fertility and marginal acidity.

Water holding capacity 130 mm in root zone, but over half is effectively unavailable to plants because of poor root distribution.

Seedling emergence Good.

Workability Good.

Erosion Potential

Water: Low.

Wind: Moderately low.

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 (EDTA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.8	5.3	<1	0.05	-	0.71	30	600	-	0.4	0.48	104	13.6	1.51	3.8	2.77	0.47	0.15	0.33	na
0-10	5.3	4.7	<1	0.04	0.18	0.96	26	330	-	0.5	-	-	-	-	3.5	2.57	0.54	0.16	0.17	na
10-40	5.2	4.5	<1	0.02	0.09	0.26	16	270	-	0.3	-	-	-	-	2.5	1.42	0.34	0.13	0.11	na
40-70	5.4	4.7	<1	0.02	0.08	0.17	8	160	-	0.3	-	-	-	-	2.1	1.17	0.38	0.14	0.09	na
70-150	5.7	5.3	<1	0.02	0.08	0.02	<2	190	-	0.1	-	-	-	-	1.2	0.47	0.23	0.17	0.05	na
150-160	6.0	5.2	<1	0.04	0.15	0.10	5	210	-	0.2	-	-	-	-	4.9	1.20	3.56	0.43	0.11	8.8

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.