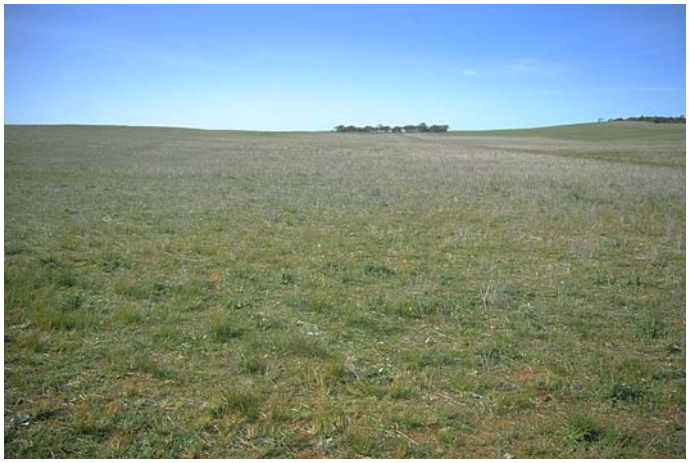
LOAMY SAND OVER RED SANDY CLAY

General Description: *Sand to light sandy loam over a red sandy clay, calcareous with depth*

Landform: Plains and gently undulating rises.

Substrate: Medium to coarse textured Tertiary sediments capped by Woorinen Formation carbonates.

Vegetation: E. oleosa / E. foecunda mallee woodland



Type Site: Site No.: MM048

1:50,000 sheet:	6827-1 (Karoonda)	Hundred:	Hooper
Annual rainfall:	350 mm	Sampling date:	27/07/92
Landform:	Very gentle slope of 2%		
Surface:	Soft (cultivated) with no stones		

Soil Description:

Depth (cm)	*Description*
0-8	Brown loose light sandy loam. Abrupt to:
8-27	Yellowish red soft loamy sand. Clear to:
27-33	Red weakly prismatic friable slightly calcareous sandy clay. Diffuse to:
33-60	Yellowish red and reddish yellow friable calcareous fine sandy clay loam with 2-10% fine carbonate. Gradual to:
60-100	Yellowish red and yellowish brown hard massive calcareous sandy clay loam with 10-20% carbonate nodules. Diffuse to:
100-140	Yellowish red and yellowish brown firm massive calcareous sandy clay loam with 20-50% carbonate nodules. Diffuse to:
140-180	Yellowish red and yellowish brown friable massive calcareous sandy clay loam with 10-20% carbonate nodules.

Classification: Sodic, Calcic, Red Chromosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage Moderately well drained. Soil is never likely to remain wet for more than a week.

Fertility Inherent fertility is moderately low, as indicated by the exchangeable cation data. Phosphorus and nitrogen deficiencies are common, and the soil is prone to zinc and copper deficiencies as well. Organic carbon levels are low at the sampling site.

pH Neutral at the surface, strongly alkaline with depth.

Rooting depth 100 cm in pit, but few roots below 33 cm.

Barriers to root growth

Physical: The sandy clay subsoil restricts uniform root growth, but should not be a significant limitation.

Chemical: High pH from 60 cm, and high sodicity from 100 cm impede root growth.

Water holding capacity Approximately 70 mm in potential root zone.

Seedling emergence: Usually satisfactory, but can be affected by water repellence.

Workability: Soft surface is easily worked.

Erosion Potential

Water: Low.

Wind: Moderate.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	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	7.4	6.9	<0.1	0.06	0.43	0.79	16	230	1.0	0.2	6.4	5.6	0.5	4.3	3.7	0.9	0.12	0.34	2.8
0-8	7.5	7.0	<0.1	0.06	0.45	0.77	19	200	1.0	0.2	6.4	7.5	0.7	3.9	3.5	0.8	0.12	0.30	3.4
8-27	7.8	7.2	<0.1	0.05	0.21	0.17	11	240	0.9	0.1	3.3	3.9	0.4	3.4	2.9	0.6	0.11	0.30	3.8
27-33	8.4	8.0	0.5	0.13	0.32	0.21	5	850	2.5	0.2	4.5	2.1	0.2	12.7	7.0	3.7	0.21	1.44	1.7
33-60	8.7	8.1	10.5	0.13	0.25	0.14	<5	660	4.5	0.1	2.4	0.6	0.2	10.9	6.4	4.3	0.27	1.54	2.5
60-100	9.3	8.5	2.2	0.22	0.53	0.11	<5	600	12.6	0.1	3.6	0.4	0.2	7.8	2.3	4.1	1.21	1.18	15.5
100-140	9.7	8.5	12.1	0.41	1.43	0.09	<5	560	14.1	0.1	3.5	0.4	0.2	6.6	1.1	3.6	2.61	1.00	39.5
140-185	9.8	8.5	3.4	0.48	1.33	0.06	<5	540	9.6	0.1	3.1	0.2	0.2	7.7	1.1	3.5	3.45	1.05	44.8

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.