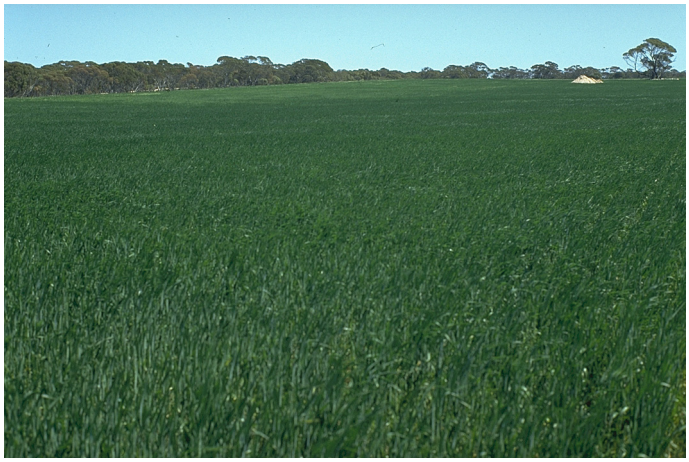
SANDY LOAM OVER RED CLAY

General Description: *Thin to medium thickness sandy loam over a coarsely structured red clay, calcareous with depth*



Landform: Flats on gently undulating plains.

Substrate: Tertiary age medium textured sediments mantled by fine carbonate.

Vegetation: Mallee

Type Site:

Site No.:	MM012	1:50,000 mapsheet:	6827-1 (Karoonda)
Hundred:	Hooper	Easting:	390200
Section:	50	Northing:	6108400
Sampling date:	03/10/1991	Annual rainfall:	365 mm average

Flat on a gently undulating plain. Firm surface, no stone.

Soil Description:

Depth (cm)	*Description*
0-10	Dark brown heavy sandy loam with weak granular structure. Abrupt to:
10-13	Brown heavy sandy loam with weak platy structure. Abrupt to:
13-28	Red hard sandy medium clay with coarse blocky structure. Clear to:
28-64	Yellowish red very highly calcareous medium clay with moderate blocky structure. Diffuse to:
64-91	Yellowish red highly calcareous massive sandy medium clay with 2-10% ironstone nodules. Diffuse to:
91-115	Yellowish red light clay with 2-10% fine calcareous segregations. Diffuse to:
115-175	Yellowish red massive sandy clay loam with minor fine calcareous segregations.

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

Summary of Properties

Drainage: Well drained. Soil is rarely saturated for more than a few days.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data. Phosphorus and zinc are deficient at the sampling site. Organic carbon levels are satisfactory.

pH: Neutral at the surface, strongly alkaline with depth.

Rooting depth: 64 cm in pit.

Barriers to root growth:

Physical: The subsoil is slightly restrictive, and the massive sandy clay substrate (from 64 cm) is highly resistant to root penetration.

Chemical: High pH and sodicity with moderate salinity inhibit root growth.

Waterholding capacity: 100 mm in the rootzone.

Seedling emergence: Satisfactory.

Workability: Soft / firm surface is easily worked.

Erosion Potential:

Water: Low.

Wind: Low.

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	7.4	6.9	0.3	0.23	1.32	1.3	11	380	1.8	0.21	12	9.1	0.25	10.5	8.64	1.30	0.15	0.91	1.4
0-10	6.8	6.4	<0.1	0.09	0.38	1.4	16	420	1.4	0.26	18	18	0.31	8.9	7.95	1.61	0.12	0.89	1.3
10-13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-28	8.0	7.2	0.3	0.18	0.47	0.45	3.9	230	1.7	0.24	13	5.6	0.06	16.6	10.14	5.08	0.66	0.60	4.0
28-45	9.2	7.7	12	0.23	0.86	0.32	3.1	160	2.6	0.71	13	1.3	0.07	16.9	8.58	6.72	1.90	0.40	11.2
45-64	9.5	7.9	16	0.42	2.02	0.25	2.0	130	6.4	0.37	8.5	0.74	0.06	13.7	4.46	6.46	3.68	0.35	26.9
64-91	9.4	8.0	8.0	0.86	6.75	0.18	2.8	180	12	0.36	8.0	0.47	0.04	12.3	3.12	6.05	4.51	0.44	36.7
91-115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
115-175	9.4	7.8	1.2	0.67	5.28	0.07	1.1	190	7.6	1.2	4.7	0.20	0.06	11.1	1.60	5.21	4.57	0.46	41.1

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