

SANDY LOAM OVER RED CLAY

General Description: *Soft sandy loam over red well structured clay, calcareous with depth*

Landform: Flats on very gently undulating plains.

Substrate: Tertiary sand, capped by fine carbonates

Vegetation: Mallee



Type Site:	Site No.:	MM008	1:50,000 mapsheet:	6927-4 (Marama)
	Hundred:	Wilson	Easting:	411350
	Section:	130	Northing:	6118550
	Sampling date:	12/09/1991	Annual rainfall:	330 mm average

Flat, with soft surface and no stones.

Soil Description:

Depth (cm)	Description
0-10	Dark reddish brown soft sandy loam. Abrupt to:
10-13	Reddish brown soft light sandy loam. Abrupt to:
13-31	Dark reddish brown firm fine sandy clay loam with coarse prismatic structure. Gradual to:
31-61	Red firm light clay with strong coarse prismatic structure. Gradual to:
61-79	Yellowish red and brown highly calcareous massive sandy clay. Diffuse to:
79-109	Yellowish red and brown highly calcareous sandy clay loam. Diffuse to:
109-150	Orange and red light sandy clay loam with 10-20% fine calcareous segregations. Diffuse to:
150-199	Orange and red sandy loam with 2-10% fine calcareous segregations.



Classification: Haplic, Calcic, Red Chromosol; medium, non-gravelly, loamy / clayey, moderate



Summary of Properties

Drainage:	Well drained. The soil rarely remains saturated for more than a few days.
Fertility:	Inherent fertility is moderate as indicated by the exchangeable cation data. Only phosphorus (nitrogen not measured) is deficient at the sampling site. Organic carbon levels are good.
pH:	Slightly acidic at the surface, alkaline with depth.
Rooting depth:	79 cm in pit.
Barriers to root growth:	
Physical:	Hardness of the sandy substrate prevents root penetration.
Chemical:	No apparent chemical barriers, other than low nutrient status in subsoil.
Waterholding capacity:	Approximately 110 mm in rootzone.
Seedling emergence:	Satisfactory.
Workability:	Soft / firm surface is easily worked.
Erosion Potential:	
Water:	Low.
Wind:	Low to 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	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	6.2	5.5	0.05	0.07	0.89	1.17	15	500	1.2	0.35	22.1	20.9	0.97	7.9	4.9	1.0	0.13	1.1	1.6
0-10	6.0	5.3	0.2	0.07	0.57	1.23	17	510	1.1	0.24	27.5	32.1	1.4	7.4	4.6	0.88	0.13	1.2	1.8
10-13	6.0	5.2	0.05	0.04	0.39	1.00	14	440	0.9	0.26	31.6	21.7	1.0	6.5	4.2	0.80	0.13	1.0	2.0
13-31	6.8	6.2	0.2	0.04	0.33	0.78	3.5	390	1.5	0.52	9.2	19.7	0.19	12.0	9.8	2.1	0.28	1.4	2.3
31-61	7.4	6.6	1.1	0.06	0.6	0.43	1.6	250	2.3	0.52	5.3	9.1	0.39	15.4	12.5	3.1	0.44	0.72	2.9
61-79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
79-109	8.8	7.6	5.9	0.12	0.75	0.16	2	110	2.2	0.23	4.4	0.94	0.11	10.4	2.8	2.4	0.39	0.39	3.8
109-150	8.9	7.7	3.5	0.11	0.66	0.11	1.5	140	1.9	0.29	5.5	0.38	0.22	9.2	8.0	2.0	0.40	0.32	4.3
150-199	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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](#)

