

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 sheet: 6927-4 (Marama) Hundred: Wilson

Annual rainfall: 330 mm Sampling date: 12/09/91

Landform: Flat

Surface: Soft with 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.
Water holding 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.