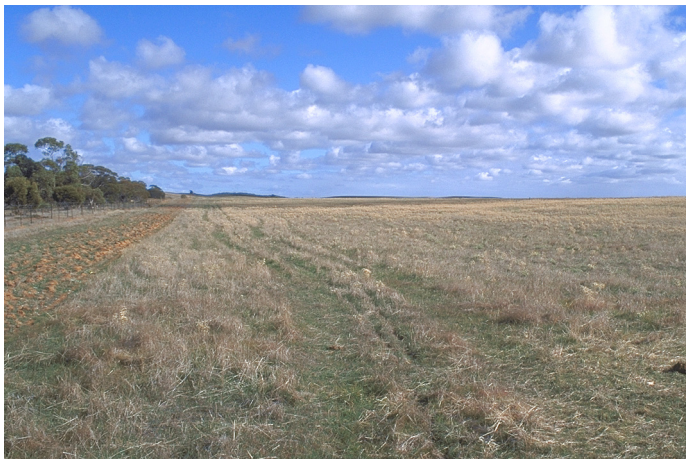
SANDY CLAY LOAM OVER DISPERSIVE RED CLAY

General Description: *Hard sandy loam to sandy clay loam over a coarsely structured dispersive red clay, calcareous with depth*

Landform: Gently undulating plains with extensive sandhills.

Substrate: Mixed coarse to fine grained Tertiary sediments.

Vegetation: Mallee



Type Site:

Site No.:	MM126	1:50,000 mapsheet:	7028-2 (Peebinga)
Hundred:	Peebinga	Easting:	496830
Section:	44	Northing:	6139130
Sampling date:	22/05/1996	Annual rainfall:	290 mm average

Swale, hard surface, no stones.

Soil Description:

Depth (cm)	*Description*
0-13	Dark reddish brown hard massive sandy clay loam. Clear to:
13-30	Yellowish red very hard medium heavy clay with coarse blocky structure. Abrupt to:
30-50	Yellowish red hard highly calcareous medium heavy clay with coarse blocky structure and 10-20% fine carbonate. Clear to:
50-72	Orange firm massive highly calcareous medium clay with 20-50% fine carbonate. Clear to:
72-124	Reddish yellow and light yellowish brown friable massive highly calcareous sandy clay loam with 10-20% fine carbonate. Gradual to:
124-140	Reddish yellow and light yellowish brown friable massive calcareous sandy loam. Abrupt to:
140-155	Yellowish red friable massive light medium clay. Sharp to:
155-180	Olive and orange hard heavy clay with coarse blocky structure and 2-10% soft carbonate.

Classification: Calcic, Subnatric, Red Sodosol; medium, non-gravelly, clay loamy / clayey, moderate

Summary of Properties

Drainage: Moderately well drained. Water may perch on the subsoil clay for a few days.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data. At sampling site, phosphorus levels are low, and zinc and copper are marginal. Organic carbon levels are satisfactory.

pH: Slightly alkaline at the surface, strongly alkaline in the subsoil.

Rooting depth: 72 cm in pit, but few roots below 50 cm.

Barriers to root growth:

Physical: Poorly structured dispersive subsoil clay prevents optimum root distribution.

Chemical: High pH and sodicity in the subsoil adversely affect root growth.

Waterholding capacity: Approximately 70 mm in rootzone.

Seedling emergence: Fair. Surface soil tends to seal and set hard.

Workability: Fair. Hard poorly structured surface has a narrow moisture range for effective working.

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	SO_4 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	8.5	7.9	0.6	0.19	1.06	1.5	10	678	4	2.0	0.19	11	4.80	0.41	21.7	13.76	5.94	0.77	1.62	3.6
0-13	7.6	7.0	<0.1	0.08	0.57	1.4	13	595	4	1.6	-	-	-	-	18.0	10.72	4.66	0.36	1.54	2.0
13-30	8.6	8.0	0.5	0.35	1.38	1.0	<4	317	6	2.3	-	-	-	-	31.9	14.84	12.44	2.93	0.93	9.2
30-50	9.1	8.5	7.7	0.94	4.16	0.8	<4	354	35	10.2	-	-	-	-	29.5	8.96	14.98	6.16	1.07	20.9
50-72	9.1	8.5	6.0	1.25	6.21	0.3	12	348	114	13.5	-	-	-	-	23.0	5.22	11.10	5.95	1.03	25.9
72-124	9.3	8.7	1.9	0.90	7.38	0.1	<4	248	78	7.3	-	-	-	-	10.0	2.19	5.70	2.48	0.54	24.7
124-140	9.2	8.7	0.4	0.77	9.67	<0.1	<4	225	65	6.2	-	-	-	-	7.6	1.08	4.45	1.78	0.45	23.3
140-155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
155-180	8.3	8.2	0.5	3.53	14.71	0.1	<4	660	265	11.3	-	-	-	-	17.7	1.73	9.55	3.46	2.47	19.6

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