

## 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 sheet: 7028-2 (Peebinga)

Hundred: Peebinga

Annual rainfall: 310 mm

Sampling date: 22/05/96

Landform: Swale

Surface: Hard with 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

<b>Drainage</b>	Moderately well drained. Water may perch on the subsoil clay for a few days.
<b>Fertility</b>	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.
<b>pH</b>	Slightly alkaline at the surface, strongly alkaline in the subsoil.
<b>Rooting depth</b>	72 cm in pit, but few roots below 50 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	Poorly structured dispersive subsoil clay prevents optimum root distribution.
<b>Chemical:</b>	High pH and sodicity in the subsoil adversely affect root growth.
<b>Water holding capacity</b>	Approximately 70 mm in root zone.
<b>Seedling emergence:</b>	Fair. Surface soil tends to seal and set hard.
<b>Workability:</b>	Fair. Hard poorly structured surface has a narrow moisture range for effective working.
<b>Erosion Potential</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	Low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -S 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.