SANDY LOAM OVER POORLY STRUCTURED BROWN CLAY

General Description: Sandy loam over coarsely structured dispersive brown mottled clay, calcareous with depth

Landform: Gently undulating plains.

Substrate: Hard coarsely structured

> clay of Pleistocene age (Blanchetown equivalent).

Vegetation: Mallee



Type Site: Site No.: MM041 1:50,000 mapsheet: 6927-2 (Parrakie)

Hundred: Allenby 448200 Easting: 6079400 Section: Northing:

29/11/1991 Sampling date: Annual rainfall: 380 mm average

Flat, firm surface, no stones.

Soil Description:

Depth (cm)

0-8 Dark brown firm sandy loam. Abrupt to:

Description

8-15 Light brown firm loamy sand. Sharp to:

15-35

35-80

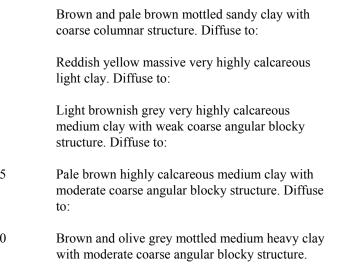
80-120

120-175

175-190

Hypercalcic, Mottled-Hypernatric, Brown Sodosol; medium, non-gravelly, loamy / clayey, **Classification:**

deep









Summary of Properties

Drainage: Imperfectly drained. Water perches on the clayey subsoil for up to several weeks

following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low as indicated by the exchangeable cation data.

Deficiencies of phosphorus, nitrogen, zinc and copper can be expected - the latter two are marginally deficient at the sampling site. Increased organic matter will improve

nutrient retention capacity - organic carbon level is low at sampling site.

pH: Acidic at the surface, strongly alkaline at depth.

Rooting depth: 60 cm in pit.

Barriers to root growth:

Physical: The dense dispersive subsoil restricts root growth and reduces water use efficiency.

Chemical: High pH, boron and sodicity levels from 15 cm impede root growth.

Waterholding capacity: 90 mm in rootzone.

Seedling emergence: Slight limitation due to poor surface structure and waterlogging in wet seasons.

Workability: Fair. Restricted moisture range over which soil can be safely worked.

Erosion Potential:

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	%	Avail. P mg/kg	Avail. K mg/kg	mg/kg	8 8				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	6.6	6.4	<0.1	0.13	1.73	0.82	32	300	2.0	0.21	29	5.1	0.47	4.6	3.98	1.44	0.36	0.59	7.8
0-8	5.8	5.4	0.7	0.09	1.04	0.85	26	260	1.7	0.24	60	6.5	0.49	4.0	3.22	0.92	0.17	0.53	4.3
8-15	6.4	5.9	<0.1	0.06	0.66	0.19	6.7	80	1.7	0.09	16	1.6	0.13	2.1	1.45	0.54	0.27	0.14	na
15-35	9.3	7.8	1.3	0.44	2.46	0.21	2.8	500	21	0.36	24	0.68	0.10	14.7	3.89	7.43	4.87	1.18	33.1
35-60	9.5	8.3	13	1.02	5.94	0.18	<2.0	670	27	1.2	18	0.82	0.11	20.9	3.93	7.83	10.79	1.81	51.6
60-80	9.5	8.3	21	1.16	8.44	0.15	<2.0	570	19	0.88	15	0.59	0.11	20.3	3.22	5.54	9.52	1.36	46.9
80-120		-	1	_	-	-	-	-	-	-	ı	-	-	-	-	-	-	-	-
120-175	9.3	8.3	19	1.47	11.09	0.10	<2.0	620	21	0.89	15	0.80	0.11	16.2	2.92	7.77	10.49	1.54	64.8

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: <u>DEWNR Soil and Land Program</u>



