

SANDY LOAM OVER POORLY STRUCTURED BROWN CLAY

General Description: *Loamy sand to sandy loam over a coarsely structured dispersive brown sandy clay to clay*

Landform: Undulating rises

Substrate: Sandstone (indurated Parilla Sand equivalent)

Vegetation: Mallee



Type Site: Site No.: MM060

1:50,000 sheet: 7026-2 (Shaugh)

Hundred: Fisk

Annual rainfall: 425 mm

Sampling date: 25/08/92

Landform: Rise

Surface: Soft to firm with 2-10% sandstone (60-200 mm)

Soil Description:

Depth (cm)	Description
0-10	Brown soft single grain light sandy loam. Sharp to:
10-14	Orange soft single grain sand. Sharp to:
14-28	Yellowish brown hard sandy clay with strong coarse columnar structure. Abrupt to:
28-50	Yellowish red and light yellowish brown massive sandy clay loam. Diffuse to:
50-85	Yellowish red, yellowish brown and red massive loamy sand. Diffuse to:
85-150	Light yellowish brown yellowish brown and red massive loamy sand.



Classification: Eutrophic, Subnatric, Brown Sodosol; medium, slightly gravelly, sandy / clayey, moderate

Summary of Properties

Drainage	Well drained. Soil never saturated for more than a few days.
Fertility	Inherent fertility is low, as indicated by the exchangeable cation data. Phosphorus and nitrogen are regularly required, and copper and zinc deficiencies will occasionally occur. Manganese may be required by lupins. Organic carbon levels are low at sampling site.
pH	Slightly acidic at surface, alkaline with depth.
Rooting depth	50 cm in pit, but few roots below 35 cm.
Barriers to root growth	
Physical:	Dense dispersive subsoil clay prevents uniform root distribution.
Chemical:	High sodicity from 50 cm limits root growth.
Water holding capacity	40 mm in root zone.
Seedling emergence:	Satisfactory.
Workability:	Firm / soft surface is easily worked.
Erosion Potential	
Water:	Low to moderately low.
Wind:	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	6.1	5.3	<1	0.04	0.54	0.9	12	96	0.57	0.27	26	2.7	0.64	2.9	1.56	0.45	0.09	0.23	na
0-10	6.4	5.2	<1	0.03	0.42	0.6	7	85	<0.40	0.20	31	1.3	0.24	2.8	1.23	0.37	0.13	0.15	na
10-14	5.9	5.2	<1	0.03	0.48	1.1	3	69	<0.40	0.06	20	0.24	<0.06	1.8	0.66	0.30	0.08	0.12	na
14-28	5.5	4.4	<1	0.06	0.65	0.3	2	95	1.0	0.11	47	0.16	<0.06	8.9	2.25	3.11	0.81	0.21	9.1
28-50	5.5	4.5	<1	0.08	0.76	<0.1	<2	74	0.76	0.09	24	<0.06	<0.06	7.1	1.58	2.45	1.08	0.16	15.2
50-85	7.2	6.7	<1	0.12	1.49	<0.1	<2	120	0.68	0.15	2.4	<0.06	<0.06	7.2	1.51	2.76	2.18	0.27	30.3
85-150	8.4	7.5	<1	0.36	4.54	<0.1	<2	160	1.9	0.22	3.1	<0.16	<0.06	8.3	1.73	3.05	2.57	0.38	31.0

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.