THICK SAND OVER SANDY CLAY

General Description: *Thick sand over a coarsely structured red or brown sandy clay*

Landform: Very gently undulating plain.

Substrate: Pleistocene age clay (Blanchetown Clay equivalent - Qph) over medium to coarse textured Parilla Sand equivalent - Tpp.

Vegetation: Mallee heath.

Type Site: Site No.: MM055

1:50,000 sheet:	7026-2 (Shaugh)	Hundred:	Shaugh
Annual rainfall:	450 mm	Sampling date:	24/08/92
Landform:	Flat		
Surface:	Soft with no stones		

Soil Description:

Depth (cm)	*Description*
0-8	Very dark greyish brown soft loamy sand. Abrupt to:
8-20	Brown loose sand. Abrupt to:
20-37	Pale brown loose sand. Sharp to:
37-60	Red coarsely columnar sandy light clay with pale brown sand in hollows on sides of columns. Sharp to:
60-80	Red hard sandy clay loam with weak coarse columnar structure. Sharp to:
80-85	Light yellowish brown hard massive sandy clay. Sharp to:
85-115	Yellowish brown and olive brown hard medium heavy clay with strong coarse prismatic structure (Qph). Abrupt to:
115-185	Orange and red massive sandy clay loam capped by 2 cm layer of ironstone gravel. Diffuse to:
185-210	Pale brown massive clayey sand (Tpp).

Classification: Bleached, Eutrophic, Red Chromosol; thick, non-gravelly, sandy / clayey, moderate

Summary of Properties

Drainage Rapidly to well drained. Soil rarely remains saturated for more than a few hours.

Fertility Inherent fertility is low as indicated by the exchangeable cation data and low clay content. Phosphorus, nitrogen, zinc and copper deficiencies are common. Manganese may be required by lupins. Organic carbon levels are slightly low.

pH Slightly acidic throughout.

Rooting depth 80 cm in pit.

Barriers to root growth

Physical: Dense clayey subsoil restricts root proliferation.

Chemical: There are no chemical barriers. Low nutrient status and retention capacity in the topsoil limit root growth.

Water holding capacity 80 mm in root zone.

Seedling emergence: Reduced by water repellence in dry years.

Workability: Soft / loose surface is easily worked.

Erosion Potential

Water: Low.

Wind: Moderate.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	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	6.4	5.9	<1	0.04	0.25	0.68	12	130	0.5	-	-	-	-	2.1	2.50	0.43	0.07	0.13	na
0-8	6.3	5.8	<1	0.05	0.34	0.87	12	100	0.6	-	-	-	-	2.0	2.58	0.48	0.09	0.16	na
8-20	6.2	5.6	<1	0.03	0.17	0.27	7.3	70	0.5	-	-	-	-	0.9	1.42	0.29	0.09	0.11	na
20-37	6.4	6.0	0	0.03	0.19	0.06	<2.0	63	0.2	-	-	-	-	0.7	0.57	0.15	0.09	0.10	na
37-60 *	6.7	6.3	0	0.03	0.20	0.03	3.8	55	0.5	-	-	-	-	0.7	0.66	0.19	0.09	0.10	na
37-60 #	6.2	5.6	0	0.05	0.10	0.20	2.0	220	1.2	-	-	-	-	9.2	5.98	4.62	0.26	0.57	2.8
60-80	6.2	5.2	0	0.04	0.11	0.06	<2.0	170	1.0	-	-	-	-	7.3	3.54	4.18	0.28	0.34	3.8
80-85	-	-	<1	-	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
85-115	6.1	5.1	<1	0.08	0.15	0.12	<2.0	290	1.9	-	-	-	-	19.0	7.38	11.77	0.90	0.80	4.7
115-185	6.0	5.1	<1	0.05	0.20	0.02	2.7	140	1.5	-	-	-	-	4.7	1.83	3.64	0.43	0.22	9.1
185-210	-	-	<1	-	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: * = sand component of layer. # = sandy light clay component of layer.

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.