

## SANDY LOAM OVER DISPERSIVE RED CLAY

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

**Landform:** Very gently undulating plain

**Substrate:** Coarsely structured heavy clay (Pleistocene age Blanchetown Clay equivalent)

**Vegetation:** Mallee



**Type Site:** Site No.: MM058

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

Hundred: Fisk

Annual rainfall: 425 mm

Sampling date: 25/08/92

Landform: Flat

Surface: Firm with no stones

### Soil Description:

Depth (cm)	Description
0-9	Dark brown firm massive light sandy clay loam. Sharp to:
9-14	Orange loamy sand. Sharp to:
14-30	Yellowish red and yellowish brown hard sandy medium clay with coarse columnar structure. gradual to:
30-40	Yellowish red and yellowish brown hard sandy medium clay with coarse columnar structure and minor ironstone nodules. Diffuse to:
40-80	Yellowish red and greyish brown hard massive medium clay. Diffuse to:
80-120	Red and greyish brown hard medium clay with coarse prismatic structure. Diffuse to:
120-170	Yellowish red, yellowish brown and pale yellow hard massive sandy clay.



**Classification:** Eutrophic, Mottled-Mesonatric, Red Sodosol; medium, non-gravelly, loamy / clayey, moderate

### Summary of Properties

**Drainage** Moderately well drained. Soil may be saturated for up to a week following heavy or prolonged rainfall.

**Fertility** Inherent fertility is moderate, as indicated by the exchangeable cation data. Phosphorus is low at sampling site, and regular applications are essential, as is the case for nitrogen. Zinc and copper deficiencies occur from time to time. Organic carbon levels are adequate at sampling site.

**pH** Neutral at the surface, alkaline in subsoil, acidic in substrate.

**Rooting depth** 50 cm in pit.

#### Barriers to root growth

**Physical:** Dense dispersive subsoil restricts most root growth to the surfaces of clay aggregates.

**Chemical:** High sodicity and moderate salinity prevent deep root growth.

**Water holding capacity** 70 mm in root zone.

**Seedling emergence:** Slight limitation due to tendency of surface to seal.

**Workability:** Fair. Damage is likely if soil is worked too wet or too dry.

#### Erosion Potential

**Water:** Low.

**Wind:** 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	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	6.9	5.9	<1	0.09	0.77	1.4	12	130	1.9	0.9	40	4.5	0.87	12.8	6.03	4.20	0.65	0.37	5.1
0-9	6.3	5.4	<1	0.06	0.93	1.4	13	110	1.1	0.59	54	3.9	1.2	7.6	3.46	1.91	0.28	0.27	3.7
9-14	6.8	5.7	<1	0.04	0.5	0.4	5	<40	<0.40	0.17	24	0.76	0.26	2.2	0.99	0.63	0.21	0.08	9.5
14-30	6.7	5.6	<1	0.14	1.47	0.5	2	71	1.3	0.2	29	0.18	0.11	10.7	2.85	3.78	1.75	0.17	16.4
30-40	7.3	6.4	<1	0.31	2.67	0.3	<2	100	2.3	0.16	10	<0.6	0.09	19.2	4.52	6.83	5.01	0.31	26.1
40-80	8.1	7.2	<1	0.43	4.5	<0.1	<2	160	5	0.18	3.6	<0.6	<0.06	16.7	3.34	6.10	5.43	0.41	32.5
80-120	5.3	4.8	<1	0.92	6.2	0.1	<2	180	3.5	0.9	20	<0.6	<0.6	19.4	2.91	6.89	6.38	0.51	32.8
120-170	4.8	4.1	<1	0.70	9.3	<0.1	<2	130	0.62	0.87	29	0.07	<0.6	12.6	1.51	4.25	4.02	0.38	31.9

**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.