SANDY LOAM OVER POORLY STRUCTURED RED CLAY

General Description: Sandy loam over coarsely structured red or brown clay, calcareous with depth

Landform: Very gently undulating

plains.

Substrate: Pleistocene / Tertiary age

clay, often thin over sandy clay to clayey sand.

Vegetation: Mallee.



Type Site: Site No.: MM001 1:50,000 mapsheet: 6928-3 (Halidon)

Hundred: McPherson Easting: 425950 Section: 2 Northing: 6141100

Sampling date: 03/09/1991 Annual rainfall: 310 mm average

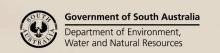
Flat, with soft surface and no surface stone.

Soil Description:

Depth (cm)	Description
0-11	Reddish brown sandy loam. Abrupt to:
11-25	Yellowish red hard sandy clay with coarse columnar structure. Clear to:
25-50	Orange very highly calcareous medium clay with moderate subangular blocky structure. Diffuse to:
50-80	Yellowish red and brown medium clay with weak coarse subangular blocky structure. Diffuse to:
80-100	Yellowish red medium clay with weak coarse subangular blocky structure. Diffuse to:
100-150	Pink and brown massive sandy clay. Diffuse to:
150-200	Brownish yellow massive clayey sand.



Classification: Calcic, Hypernatric, Red Sodosol; medium, non-gravelly, loamy / clayey, moderate





Summary of Properties

Drainage: Moderately well drained. Water may perch on the subsoil clay for a few days to a

week.

Fertility: 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 also low.

pH: Neutral at the surface, strongly alkaline in the subsoil, and strongly acidic in the

substrate.

Rooting depth: 100 cm in pit, but few roots below 50 cm.

Barriers to root growth:

Physical: Poorly structured dispersive subsoil clay prevents optimum root distribution.

Chemical: High pH, sodicity, salinity and boron from 25 cm adversely affect root growth.

Waterholding capacity: 75 mm in rootzone.

Seedling emergence: Satisfactory.

Workability: Soft to firm surface - easily worked.

Erosion Potential:

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	P	Avail. K mg/kg	mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	7.5	6.6	0.7	0.12	0.96	0.71	10	300	1	0.37	9.4	7.39	0.36	8.5	4.46	2.93	0.30	0.70	3.5
0-11	7.3	6.7	1.0	0.06	0.46	0.67	14	270	< 0.5	0.18	5.5	8.81	0.55	5.0	3.74	2.07	0.17	0.58	3.4
11-25	9.2	7.8	3.6	0.22	0.88	0.54	2.3	210	4.5	0.38	13.9	1.96	0.33	18.7	8.67	9.91	2.26	0.62	12.1
25-50	9.4	8.3	12.8	0.63	4.28	0.59	6	100	15	0.99	13.9	2.06	0.32	21.7	6.49	10.63	5.46	0.34	25.2
50-80	8.4	7.8	1.2	1.12	9.5	0.28	2	160	28	0.88	12.0	0.13	0.44	24.7	3.87	12.58	7.99	0.50	32.3
80-100	4.9	4.4	0.7	1.03	12.1	0.24	2.1	200	6.6	0.77	59.0	0.06	0.52	23.3	2.55	10.74	9.65	0.72	41.4
100-150	4.6	3.9	0.2	0.69	9.12	0.17	2.1	160	4.3	0.46	44.4	0.06	0.45	15.0	1.22	6.43	4.53	0.41	30.2
150-200	6.1?	3.8	0.2	0.67	10.1	0.12	1.5	120	4.1	0.43	31.9	0.08	0.83	10.3	0.71	4.50	3.80	0.32	36.9

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.

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



