

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 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	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: [DEWNR Soil and Land Program](#)

