SAND OVER RED SANDY CLAY

General Description: Thick sand to loamy sand over a red sandy clay loam to sandy clay,

calcareous with depth

Landform: Flats between sandhills

Substrate: Tertiary sandy clay to clayey

sand.

Vegetation: Mallee



Type Site: Site No.: MM032 1:50,000 mapsheet: 7027-4 (Karte)

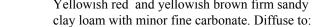
Hundred: Kingsford Easting: 469300 Northing: 6118850 Section: 11

Sampling date: 15/11/1991 Annual rainfall: 315 mm average

Flat, soft surface, no stones.

Soil Description:

Depth (cm)	Description
0-12	Dark brown soft loamy sand. Abrupt to:
12-33	Brown soft loamy sand. Abrupt to:
33-35	Reddish yellow soft sand with 2-10% ironstone gravel. Sharp to:
35-53	Red firm sandy clay with coarse columnar structure. Gradual to:
53-72	Red and brownish yellow firm sandy clay with coarse columnar structure and minor fine carbonate. Diffuse to:
72-110	Yellowish red and yellowish brown firm sandy



110-200 Yellowish brown and light brown massive clayey

sand with minor fine carbonate.

Classification: Haplic, Calcic, Red Chromosol; thick, non-gravelly, sandy / clayey, deep





Summary of Properties

Drainage: Well drained. Soil never remains saturated for more than a few days.

Fertility: Inherent fertility is moderately low, as indicated by the exchangeable cation data.

Phosphorus, nitrogen, zinc and copper deficiencies are all likely. Manganese may also

be required for lupins. Organic carbon levels are good for this environment.

pH: Neutral at the surface, strongly alkaline with depth.

Rooting depth: 53 cm in pit.

Barriers to root growth:

Physical: The clayey subsoil restricts root growth to some extent and prevents uniform root

distribution patterns.

Chemical: High pH at depth, but low fertility is a more significant impediment to root growth.

Waterholding capacity: 55 mm in rootzone.

Seedling emergence: Satisfactory, but can be reduced by water repellence in dry years.

Workability: Loose to soft surface is easily worked.

Erosion Potential:

Water: Low.

Wind: Moderate.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	Org.C	P	Avail.	mg/kg (DTPA)				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP	
							mg/kg	mg/kg		Cu	Fe	Mn	Zn	(+)/kg	Ca*	Mg	Na	K	
Paddock	7.1	6.9	1	0.09	0.62	1.0	13	210	0.81	0.08	13	8.3	0.44	3.2	2.3	0.60	< 0.10	0.50	3.1
0-12	7.3	6.8	1	0.04	0.31	0.8	9	140	0.52	0.08	12	7.2	0.21	2.8	1.9	0.66	< 0.10	0.43	na
12-33	8.8	7.9	2	0.07	0.29	0.3	3	93	0.32	< 0.05	4.3	3.5	< 0.06	1.4	0.7	0.37	< 0.10	0.35	na
33-35	8.1	7.3	1	0.02	0.21	0.1	2	41	1.2	< 0.05	3.7	0.92	< 0.06	1.2	0.5	0.37	< 0.10	0.36	na
35-53	8.8	7.9	2	0.10	0.31	0.2	3	180	2.4	0.16	5.8	0.69	< 0.06	7.8	4.3	3.6	0.14	0.61	1.8
53-72	8.9	8.0	2	0.11	0.27	0.2	3	200	3.4	0.21	4.2	0.34	<0.06	10.0	5.5	4.7	0.23	0.58	2.3
72-110	9.2	8.2	3	0.12	0.30	0.1	2	160	2.5	0.22	3.3	0.13	< 0.06	6.9	1.1	5.6	0.37	0.55	5.4
110-150	9.6	8.3	2	0.13	0.39	<0.1	<2	100	1.6	0.16	2.9	0.11	< 0.06	3.0	0.4	2.8	0.33	0.36	na
150-200	9.6	8.3	2	0.13	0.47	< 0.1	<2	110	3.0	0.08	2.3	0.067	< 0.06	1.4	<0.1	1.6	0.26	0.32	na

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.

* Estimated values

Further information: DEWNR Soil and Land Program



