

LOAMY SAND OVER RED SANDY CLAY LOAM

General Description: *Medium to thick sand to loamy sand over a red sandy clay loam, calcareous with depth*

Landform: Gently undulating plains

Substrate: Windblown sands and carbonates overlying a buried sandy loam over calcrete soil.

Vegetation: Mallee

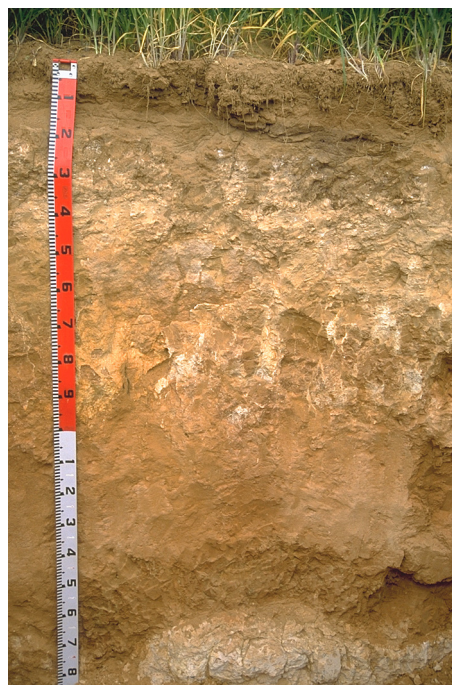


Type Site:	Site No.:	MP004	1:50,000 mapsheet:	6728-1 (Cambrai)
	Hundred:	Angas	Easting:	351150
	Section:	142	Northing:	6160950
	Sampling date:	31/07/1992	Annual rainfall:	310 mm average

Crest of gently undulating low rise. Soft surface with 2-10% calcrete stones. 1% slope.

Soil Description:

Depth (cm)	Description
0-14	Brown soft loamy sand. Sharp to:
14-19	Brown soft loamy sand. Sharp to:
19-23	Reddish yellow soft loamy sand. Clear to:
23-38	Yellowish red and brown very hard calcareous sandy clay loam with strong coarse columnar structure. Clear to:
38-65	Reddish yellow highly calcareous hard massive sandy loam. Clear to:
65-100	Orange, brown and pink highly calcareous friable sandy loam. Gradual to:
100-140	Orange highly calcareous friable sandy loam. Clear to:
140-165	Orange and brown weakly calcareous sandy loam. Abrupt to:
165-190	Semi hard massive calcrete.



Classification: Calcic, Mottled-Subnatric, Red Sodosol; medium, slightly gravelly, sandy/clay loamy, moderate



Summary of Properties

- Drainage:** Moderately well drained. Water will perch on the sodic subsoil for a few days following heavy or prolonged rainfall.
- Fertility:** Natural fertility is low as indicated by the exchangeable cation data. Phosphorus is extremely low and zinc appears to be marginal at the sampling site. Organic carbon levels are also low. Poor nutrient retention capacity attributable to low clay and organic matter predispose the soil to a range of deficiencies.
- pH:** Neutral at the surface, strongly alkaline with depth.
- Rooting depth:** 42 cm in pit but few roots below 20 cm.
- Barriers to root growth:**
- Physical:** The sodic subsoil prevents uniform root distribution to some extent.
 - Chemical:** Very high pH and sodicity from 40 cm prevent roots from extending further. Boron levels are also high. Root growth is also constrained by very low phosphorus status.
- Waterholding capacity:** Approximately 40 mm in the rootzone.
- Seedling emergence:** Good.
- Workability:** Good.
- Erosion Potential:**
- Water:** Low
 - Wind:** Moderate.

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	7.2	6.9	<0.1	0.06	0.21	0.44	<5	280	0.9	0.4	5.5	3.6	0.4	4.2	3.52	0.87	0.17	0.62	4.0
0-14	7.1	6.9	-	0.06	0.30	0.71	<5	260	1.0	0.3	5.8	3.7	0.6	3.9	3.88	0.89	0.15	0.49	3.8
14-19	7.4	7.2	<0.1	0.06	0.27	0.55	<5	240	1.1	0.5	4.7	3.1	0.7	5.3	3.82	0.85	0.14	0.44	2.6
19-23	8.4	7.9	<0.1	0.07	0.29	0.20	<5	170	0.9	0.2	2.5	1.6	0.3	3.3	2.52	0.73	0.23	0.26	7.0
23-38	9.1	8.5	2.5	0.23	0.61	0.23	<5	400	2.8	0.5	9.0	0.5	0.3	12.1	5.96	5.04	1.66	1.01	13.7
38-65	9.9	9.0	17.6	0.63	2.25	0.33	<5	440	15.5	0.9	5.0	0.1	0.3	7.9	1.57	4.84	5.03	1.04	63.7
65-100	9.7	8.9	6.8	1.09	8.17	0.10	<5	400	15.5	0.5	4.1	0.3	0.2	6.9	1.16	3.78	4.38	0.90	63.5
100-140	9.7	8.7	10.6	0.93	10.55	0.01	<5	290	10.6	0.3	2.4	0.2	0.2	3.8	1.09	2.67	2.38	0.57	62.6
140-165	9.7	8.7	2.0	0.73	7.57	0.07	<5	330	9.9	0.2	3.0	0.3	0.2	6.2	0.97	3.10	3.05	0.73	49.2

Note: Paddock sample bulked from 20 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](#)

