

WEAKLY CALCAREOUS GRADATIONAL LOAMY SAND

General Description: *Non calcareous sandy surface becoming more clayey and calcareous with depth*

Landform: Outwash fans and flats

Substrate: Medium to fine grained alluvium, mantled by soft carbonate

Vegetation: Mallee scrub



Type Site: Site No.: CU061

1:50,000 sheet: 6432-2 (Mambray Creek) Hundred: Baroota
 Annual rainfall: 315 mm Sampling date: 07/05/96
 Landform: Mid slope of a very gently inclined fan, 1% slope
 Surface: Soft with 2-10% quartz stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Reddish brown soft loamy sand with weak platy structure. Sharp to:
10-20	Reddish brown firm (weak pan) slightly calcareous loamy sand with weak very coarse prismatic structure. Abrupt to:
20-45	Red firm moderately calcareous sandy loam with weak blocky structure. Clear to:
45-65	Red firm moderately calcareous heavy sandy loam with weak blocky structure. Clear to:
65-110	Yellowish red hard highly calcareous fine sandy light clay with 10-20% soft carbonate and moderate blocky structure (buried material). Gradual to:
110-150	Yellowish red firm moderately calcareous massive fine sandy clay loam with more than 50% quartz stone.



Classification: Haplic, Hypocalcic, Red Kandosol; medium, slightly gravelly, sandy / loamy, moderate OR Epibasic, Regolithic, Calcic Calcarosol; very thick, slightly gravelly, sandy / loamy, moderate

Summary of Properties

Drainage Rapidly drained. The soil is unlikely to ever remain wet for more than a few hours.

Fertility Moderately low (as indicated by the exchangeable cation data), due to the low clay content. Low surface carbonate helps nutrient availability. Levels of all major nutrients and organic carbon are satisfactory.

pH Neutral at the surface, alkaline with depth.

Rooting depth 110 cm in pit.

Barriers to root growth

Physical: The only physical barrier is the plough pan between 10 and 20 cm.

Chemical: There are no chemical barriers in the profile.

Water holding capacity Approximately 130 mm in rootzone.

Seedling emergence: Good.

Workability: Good.

Erosion Potential

Water: Low.

Wind: Moderate due to the sandy, low organic matter surface.

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	SO ₄ -S 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	0.17	1.18	1.0	62	507	20	1.0	0.61	7	19.1	1.31	8.0	6.09	1.36	0.09	1.29	1.1
0-10	7.1	6.7	0	0.09	1.02	0.5	44	438	11	0.8	-	-	-	-	6.2	3.49	0.70	0.05	0.72	0.9
10-20	8.5	8.0	0.3	0.09	0.46	0.2	20	410	4	0.8	-	-	-	-	8.0	4.92	0.98	0.06	0.96	0.8
20-45	8.7	8.1	0.6	0.08	0.47	0.1	10	267	7	1.0	-	-	-	-	6.9	5.62	1.35	0.09	0.59	1.3
45-65	8.7	8.1	0.8	0.09	0.43	0.1	11	172	9	1.2	-	-	-	-	7.3	5.55	1.91	0.14	0.38	1.9
65-110	8.7	8.1	6.1	0.11	0.56	0.1	<4	156	15	2.2	-	-	-	-	9.0	5.22	3.07	0.24	0.34	2.7
110-150	8.1	7.9	1.9	0.82	2.88	0.1	5	229	469	6.8	-	-	-	-	11.1	9.05	1.78	0.14	0.56	1.3

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.