

DEEP CALCAREOUS LOAM

General Description: *Calcareous sandy loam becoming more clayey and calcareous at depth, with variable rubble*

Landform: Gently inclined outwash fans.

Substrate: Highly calcareous light clay (Woorinen Formation)

Vegetation: Mallee



Type Site: Site No.: CM001

1:50,000 sheet: 6530-3 (Lochiel)

Hundred:

Barunga

Annual rainfall: 400 mm

Sampling date:

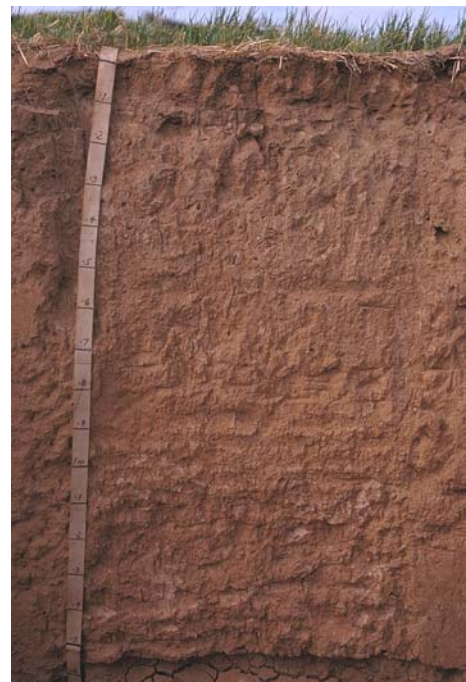
11/02/92

Landform: Lower slope of gently inclined fan, 3% slope

Surface: Firm with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-12	Reddish brown firm highly calcareous fine sandy loam with weak platy structure. Abrupt to:
12-24	Dark yellowish brown soft massive very highly calcareous fine sandy clay loam. Clear to:
24-62	Orange soft massive very highly calcareous fine sandy clay loam with 10-20% hard carbonate tubules and fragments. Diffuse to:
62-116	Orange soft massive very highly calcareous fine sandy clay loam. Gradual to:
116-160	Orange soft massive very highly calcareous light clay. Gradual to:
160-180	Orange soft massive very highly calcareous light clay.



Classification: Ceteric, Regolithic, Hypercalcic Calcarosol; medium, non-gravelly, loamy / clay loamy, deep

Summary of Properties

Drainage	Well drained. Soil never remains wet for more than a few days.
Fertility	Surface fertility relies on organic matter levels which are adequate, and on phosphorus levels which are adequate at this site. The subsoil's ability to retain nutrients is moderate. Free lime to the soil surface may cause marginal trace element deficiencies. There is a slight possibility of a response to applied zinc.
pH	Alkaline at the surface, strongly alkaline at depth.
Rooting depth	160 cm in pit, but few roots below 60 cm
Barriers to root growth	
Physical:	There are no physical barriers.
Chemical:	High pH and sodium levels at depth. Toxic boron levels at depth. Nutrient availability problems due to high free lime content in subsoil.
Water holding capacity	Over 100 mm in rootzone.
Seedling emergence:	Fair to good.
Workability:	Good.
Erosion Potential	
Water:	Low to moderately low.
Wind:	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	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	8.5	7.5	8.3	0.17	1.1	1.27	30	790	-	-	0.99	2.5	9.0	0.49	16.8	15.88	2.07	0.11	2.45	0.7
0-12	8.5	7.6	7.5	0.17	1.2	1.27	34	800	-	-	0.99	2.6	7.1	0.44	16.4	16.42	2.13	0.10	2.38	0.6
12-24	8.9	7.8	16.0	0.10	0.4	0.60	8	440	-	1.7	0.87	1.7	3.4	0.11	11.1	10.97	1.50	0.06	1.44	0.5
24-62	9.0	7.9	22.4	0.09	0.2	0.41	5	180	-	1.5	0.85	2.2	2.5	0.09	8.9	8.90	2.33	0.12	0.46	1.3
62-116	9.1	8.0	26.5	0.10	0.3	0.27	4	180	-	2.0	0.74	2.5	1.8	0.05	7.9	5.42	5.33	0.20	0.50	2.5
116-160	9.6	8.3	28.8	0.20	0.7	0.16	2	490	-	9.2	0.49	2.2	1.1	0.17	7.7	1.65	6.18	1.12	1.38	14.5
160-180	10.0	8.5	32.6	0.42	1.2	0.13	6	590	-	21.9	0.48	2.6	1.2	0.08	8.9	1.44	5.02	4.17	1.70	46.9

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.