

CALCAREOUS LOAMY SAND

General Description: *Reddish brown calcareous sandy topsoil becoming more clayey with depth, and grading to a Class III A or III B carbonate layer*

Landform: Slopes of undulating rises and low hills

Substrate: Very highly calcareous clay loam with 20-50 % rubbly calcrete (Class III B carbonate layer)

Vegetation: Mallee



Type Site: Site No.: CM019

1:50,000 sheet: 6530-2 (Blyth)

Hundred: Boucaut

Annual rainfall: 375 mm

Sampling date: 04/12/91

Landform: Midslope of undulating low hill, 6% slope

Surface: Soft with no stone

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-12	Reddish brown soft loamy sand. Clear to:
12-28	Reddish brown moderately calcareous soft loamy sand. Abrupt to:
28-63	Yellowish red highly calcareous light sandy clay loam. Clear to:
63-85	Yellowish red highly calcareous light sandy clay loam with 20-50% fine carbonate nodules. Gradual to:
85-135	Brown very highly calcareous sandy clay loam with 20-50% carbonate nodules (Class III B carbonate). Diffuse to:
135-170	Reddish yellow very highly calcareous clay loam with 20-50% carbonate nodules.



Classification: Ceteric, Regolithic, Supracalcic Calcarosol; very thick, non-gravelly, sandy/clay loamy, very deep

Summary of Properties

Drainage	Rapidly drained. The soil is unlikely to ever be saturated for more than a couple of hours.
Fertility	Natural fertility is marginal due to low clay content and low organic matter levels. High pH may induce deficiencies of copper, zinc and manganese in some situations, and will reduce phosphorus availability. Phosphorus is low at time of sampling type site.
pH	Alkaline grading to strongly alkaline with depth (8.3 at surface, 9.1 at 135 cm).
Rooting depth	135 cm.
Barriers to root growth	
Physical:	No physical barriers.
Chemical:	High pH may induce trace element deficiencies, especially at depth, but this is unlikely to be significant. Neither salt or boron are present in harmful concentrations.
Water holding capacity	160 mm in root zone (high).
Seedling emergence	Good (no surface sealing).
Workability	Good (no surface structure problems or stones).
Erosion Potential	
Water:	Moderate due to slope, although soil has low erodibility due to rapid infiltration capacity.
Wind:	Moderately low but significant (sandy surface is easily pulverized).

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	
0-12	8.3	7.8	0.4	0.11	0.6	0.81	11	401	-	1.5	0.2	1.8	3.1	0.7	6.4	5.9	0.7	0.71	0.87	11.1
12-28	8.7	8.2	1.5	0.11	0.5	0.38	<4	397	-	1.4	0.2	1.0	2.0	0.2	6.0	5.7	0.6	0.18	1.01	3.0
28-63	8.7	8.1	11.1	0.10	0.3	0.20	<4	139	-	1.6	0.5	1.7	1.8	0.1	7.8	7.3	1.2	0.20	0.45	2.6
63-85	8.8	8.2	25.9	0.12	0.4	0.02	<4	71	-	2.2	0.5	1.7	1.8	0.1	7.2	6.0	2.8	0.38	0.27	5.3
85-135	9.0	8.3	41.7	0.16	0.6	0.09	<4	126	-	5.8	0.6	1.5	0.7	0.1	7.3	2.9	6.1	0.65	0.47	8.9
135-170	9.1	8.4	36.4	0.17	0.7	0.02	<4	191	-	9.3	0.6	1.4	0.6	0.1	7.8	2.0	6.8	0.51	0.63	6.5

Note: 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.