

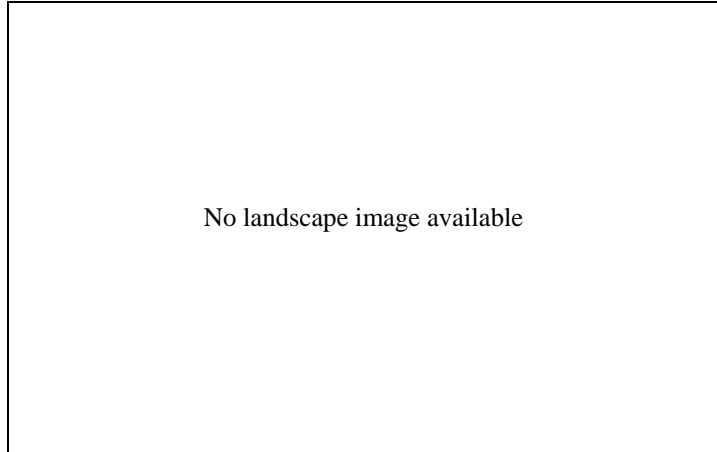
## CALCAREOUS SANDY LOAM (Bookabie soil)

**General Description:** *Calcareous sandy loam, becoming more clayey and calcareous with depth, continuing below 100 cm*

**Landform:** Undulating rises.

**Substrate:** Medium textured very highly calcareous windblown Woorinen Formation deposits, overlying granite.

**Vegetation:** Mallee.

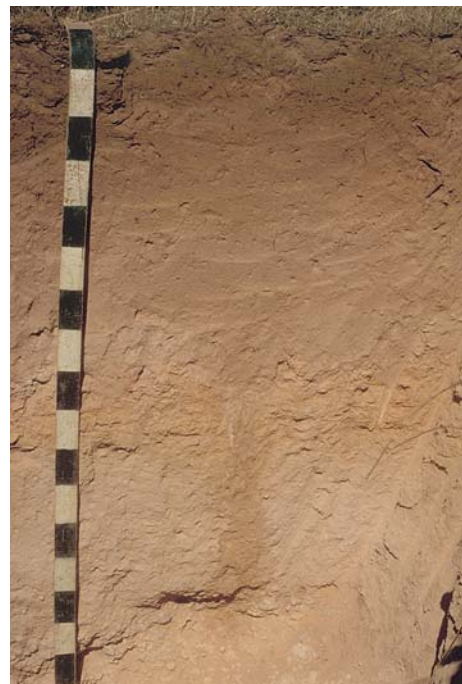


**Type Site:** Site No.: EW095

1:50,000 sheet:	5832-2 (Moorkitabie)	Hundred:	Karcultaby
Annual rainfall:	320 mm	Sampling date:	25/11/93
Landform:	Midslope of undulating rise, 3% slope		
Surface:	Firm with no stones		

**Soil Description:**

<i>Depth (cm)</i>	<i>Description</i>
0-8	Brown friable moderately calcareous sandy loam with weak fine subangular blocky structure. Clear to:
8-30	Dark brown loose highly calcareous sandy loam. Gradual to:
30-55	Reddish brown soft very highly calcareous sandy loam with weak subangular blocky structure and 2-10% carbonate concretions. Gradual to:
55-80	Reddish brown soft very highly calcareous weakly structured sandy loam with 2-10% carbonate concretions. Abrupt to:
80-150	Light brown friable very highly calcareous weakly structured sandy clay loam with 10-20% carbonate concretions. Abrupt to:
150-200	Class III C carbonate rubble over calcrete at 200 cm.



**Classification:** Endohypersodic, Petrocalcic, Hypercalcic Calcarosol; thick, non-gravelly, loamy / clay loamy, very deep

## Summary of Properties

<b>Drainage</b>	Rapid. The soil rarely remains wet for more than a few hours at a time.
<b>Fertility</b>	Inherent fertility is low as indicated by the exchangeable cation data. Phosphorus levels are very low. Zinc and copper deficiencies can be expected from time to time, and concentrations at the sampling site are marginal. Nitrogen levels depend on legume content of pastures and cropping history. Organic carbon concentrations are low.
<b>pH</b>	Alkaline at the surface, strongly alkaline at depth.
<b>Rooting depth</b>	200 cm in pit, but few roots below 30 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	There are no physical barriers above the calcrete.
<b>Chemical:</b>	High pH and sodicity from 80 cm restrict deeper root growth. Poor growth between 30 and 80 cm is probably attributable to low nutrient status.
<b>Water holding capacity</b>	Approximately 100 mm in the potential root zone.
<b>Seedling emergence:</b>	Satisfactory.
<b>Workability:</b>	Firm surface is easily worked.
<b>Erosion Potential</b>	
<b>Water:</b>	Moderately low.
<b>Wind:</b>	Moderately low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -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	
0-8	8.4	7.9	1	0.09	0.39	0.76	7.0	370	-	2.2	0.20	2.4	3.3	0.43	7.8	7.99	0.88	0.04	0.87	0.5
8-30	8.6	7.9	3	0.09	0.35	0.42	3.2	310	-	2.7	0.15	1.7	1.6	0.26	7.2	7.46	1.05	0.06	0.76	0.8
30-55	8.8	7.9	9	0.10	0.35	0.28	3.2	260	-	2.3	0.22	1.5	1.0	0.36	7.0	6.18	1.44	0.10	0.65	1.4
55-80	8.9	8.0	15	0.12	0.46	0.24	3.0	280	-	3.3	0.27	1.1	0.98	0.18	6.6	4.68	2.53	0.15	0.75	2.3
80-150	9.9	8.2	36	0.40	1.86	0.17	3.8	570	-	13	0.34	1.4	0.65	0.37	7.9	1.27	3.95	2.81	1.37	35.6

**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