

## SHALLOW CALCAREOUS SANDY LOAM OVER CALCRETE

**General Description:** *Calcareous sandy loam with variable rubble and slight clay increase with depth over calcrete at shallow depth*

**Landform:** Flats between undulating rises.

**Substrate:** Sheet or heavy boulder calcrete grading to medium textured highly calcareous material with decreasing calcrete fragments. Tertiary sediments at depth.

**Vegetation:** Mallee



<b>Type Site:</b>	Site No.:	MM020	1:50,000 mapsheet:	6727-1 (Mobilong)
	Hundred:	Burdett	Easting:	358500
	Section:	143	Northing:	6121400
	Sampling date:	31/10/1991	Annual rainfall:	345 mm average

Stony flat between undulating rises. Firm surface with more than 50% calcrete stones of 20-200 mm.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-9	Dark brown highly calcareous sandy loam with 2-10% calcrete fragments, 6-200 mm. Abrupt to:
9-15	Brown highly calcareous light sandy clay loam with 20-50% calcrete fragments, 20-200 mm. Clear to:
15-25	Brown very highly calcareous sandy clay loam with more than 50% calcrete fragments, 20-200 mm. Abrupt to:
25-55	Rubbly calcrete pan. Abrupt to:
55-95	Sheet calcrete pan. Clear to:
95-135	Yellowish red very highly calcareous sandy clay loam with 20-50% calcrete fragments, 20-60 mm. Clear to:
135-160	Sheet / rubbly calcrete pan.



**Classification:** Endohypersodic, Petrocalcic, Lithocalcic Calcarosol; medium, very gravelly, loamy / clay loamy, shallow



## Summary of Properties

<b>Drainage:</b>	Well drained. Calcrete may restrict water entry for a few days.
<b>Fertility:</b>	Inherent fertility is moderately low, as indicated by the exchangeable cation data. High organic carbon levels and about 20% clay provide reasonable nutrient retention capacity. Phosphorus, zinc and copper appear to be marginally deficient at sampling site.
<b>pH:</b>	Alkaline throughout.
<b>Rooting depth:</b>	55 cm in pit, but few roots penetrate calcrete at 25 cm.
<b>Barriers to root growth:</b>	
<b>Physical:</b>	The calcrete virtually prevents root growth.
<b>Chemical:</b>	High pH, sodicity and salinity from 95 cm, but out of range of roots.
<b>Waterholding capacity:</b>	15 mm.
<b>Seedling emergence:</b>	Slight limitations due to stoniness.
<b>Workability:</b>	Firm surface is easily worked, but stones abrade implements and may interfere with harvest operations. Cultivation continually brings stone to the surface.
<b>Erosion Potential:</b>	
<b>Water:</b>	Low.
<b>Wind:</b>	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	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	8.6	7.9	3	0.12	0.67	1.5	18	390	0.9	0.14	5.5	5.6	0.32	13.1	11.88	1.39	0.19	1.03	1.5
0-9	8.5	7.8	3	0.12	0.78	1.2	16	350	0.7	0.18	6.7	10	0.25	10.3	9.68	1.01	0.16	0.89	1.6
9-15	8.7	7.9	2	0.14	0.91	0.6	4	270	0.6	0.23	8.5	4.8	<0.06	10.9	9.67	1.91	0.30	0.80	2.8
15-25	8.8	8.1	8	0.38	3.01	0.8	5	210	1.6	0.13	4.9	5.3	0.38	9.2	7.85	2.59	0.81	0.59	8.8
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95-135	9.7	8.6	34	1.53	14.30	0.2	2	780	1.4	-	-	-	-	8.0	2.02	2.22	4.37	1.79	54.6

**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.

**Further information:** [DEWNR Soil and Land Program](#)

