

## CALCAREOUS SANDY LOAM

**General Description:** *Calcareous sandy loam grading to a very highly calcareous sandy clay loam with abundant rubble, decreasing with depth*

**Landform:** Undulating plain with sandhills.

**Substrate:** Calcrete and rubble capped Tertiary sandy clay.

**Vegetation:** Mallee



**Type Site:** Site No.: MM052

1:50,000 sheet:	6828-4 (Swan Reach)	Hundred:	Forster
Annual rainfall:	280 mm	Sampling date:	03/08/92
Landform:	Flat between sandhills		
Surface:	Firm with minor calcrete stone		

### Soil Description:

Depth (cm)	Description
0-6	Reddish brown slightly calcareous soft sandy loam. Abrupt to:
6-16	Yellowish red slightly calcareous soft sandy loam. Sharp to:
16-49	Yellowish red highly calcareous fine sandy clay loam with more than 50% carbonate nodules (6-20 mm). Clear to:
49-72	Reddish yellow highly calcareous hard fine sandy clay loam with minor carbonate nodules (2-6 mm). Gradual to:
72-113	Yellowish red highly calcareous hard fine sandy clay loam. Sharp to:
113-125	Sheet calcrete. Sharp to:
125-165	Red hard massive calcareous sandy light clay with 20-50% fine carbonate. Clear to:
165-185	Red and brown very hard massive light sandy clay.



**Classification:** Epihypersodic, Regolithic, Lithocalcic Calcarosol; medium, non-gravelly, loamy/clay loamy, moderate

## Summary of Properties

<b>Drainage</b>	Well drained. The soil never remains wet for more than a day or so.
<b>Fertility</b>	Inherent fertility is moderately low, as indicated by the exchangeable cation data. Phosphorus, nitrogen and zinc deficiencies can be expected. Copper and manganese may be required from time to time. Organic carbon levels are adequate.
<b>pH</b>	Alkaline at the surface, strongly alkaline with depth.
<b>Rooting depth</b>	65 cm in pit, but few roots below 50 cm.
<b>Barriers to root growth</b>	
<b>Physical:</b>	There are no physical barriers until the calcrete is reached.
<b>Chemical:</b>	High pH and sodicity from 16 cm, and salinity from 49 cm restrict root growth.
<b>Water holding capacity</b>	Approximately 40 mm in root zone.
<b>Seedling emergence:</b>	Satisfactory.
<b>Workability:</b>	Firm / soft surface is easily worked.
<b>Erosion Potential</b>	
<b>Water:</b>	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	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	8.0	7.7	<0.1	0.11	0.72	1.01	<5	490	1.2	0.2	4.5	10.3	0.3	9.4	6.8	1.2	0.12	1.08	1.3
0-6	8.0	7.7	0.1	0.14	0.87	1.02	6	450	1.3	0.3	5.0	10.6	0.5	11.2	7.9	1.5	0.12	1.15	1.1
6-16	8.6	8.2	0.4	0.10	0.49	0.55	<5	330	1.3	0.2	3.4	3.4	0.4	8.7	6.9	1.5	0.23	0.83	2.6
16-49	9.5	8.7	11.9	0.57	4.91	0.47	<5	370	3.5	0.4	2.2	3.5	0.5	9.0	3.4	4.3	2.28	0.80	25.3
49-72	9.8	8.7	26.9	1.15	12.81	1.09	<5	420	5.3	0.3	1.7	1.2	0.2	6.9	1.3	3.3	3.41	0.94	49.4
72-113	9.8	8.6	9.3	0.83	6.21	0.09	<5	460	10.0	0.2	2.3	0.2	0.2	7.9	1.0	2.7	4.28	0.91	54.2
113-125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125-165	9.8	8.7	33.6	1.02	7.19	0.01	<5	450	11.7	0.4	2.6	0.6	0.3	9.0	0.7	2.8	4.70	0.86	52.2
165-185	9.4	8.6	0.1	0.92	5.06	0.01	<5	530	10.2	0.3	3.5	0.7	0.2	12.8	0.5	3.4	5.68	1.04	44.4

**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.