

CALCAREOUS SANDY LOAM

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

Landform: Gently undulating rises.

Substrate: Tertiary sandy clay capped by nodular and fine carbonates (Woorinen Formation).

Vegetation: Mallee



Type Site: Site No.: MM053

1:50,000 sheet:	6828-4 (Swan Reach)	Hundred:	Forster
Annual rainfall:	280 mm	Sampling date:	03/08/92
Landform:	Crest of low rise		
Surface:	Firm with 2-10% calcrete stone (20-60 mm)		

Soil Description:

Depth (cm)	Description
0-9	Brown calcareous soft sandy loam. Clear to:
9-27	Yellowish red soft highly calcareous sandy loam. Abrupt to:
27-43	Light brown highly calcareous fine sandy clay loam with 20-50% carbonate nodules (6-20 mm). Clear to:
43-75	Yellowish red highly calcareous fine sandy clay loam. Gradual to:
75-121	Yellowish red and reddish yellow highly calcareous fine sandy clay loam. Clear to:
121-160	Yellowish red highly calcareous fine sandy clay loam with more than 50% carbonate nodules (20-60 mm). Diffuse to:
160-185	Yellowish red and light grey massive moderately calcareous sandy light clay. Minor quartz grit throughout.



Classification: Epihypersodic, Regolithic, Supracalclitic Calcarosol; medium, slightly gravelly, loamy / clay loamy, moderate

Summary of Properties

Drainage	Well drained. The soil never remains wet for more than a day or so.
Fertility	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 high.
pH	Alkaline at the surface, strongly alkaline with depth.
Rooting depth	Roots to 75 cm in pit, but few roots below 50 cm.
Barriers to root growth	
Physical:	No physical barriers.
Chemical:	High pH from 27 cm and high sodicity from 43 cm restrict root growth.
Water holding capacity	Approximately 50 mm in root zone.
Seedling emergence:	Satisfactory.
Workability:	Firm / soft surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	Moderately 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	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	8.4	7.9	2.6	0.12	0.65	1.46	5	470	1.9	0.2	4.2	6.9	0.3	9.5	8.4	1.2	0.16	0.98	1.7
0-9	8.4	8.0	0.5	0.11	0.61	1.33	7	470	1.5	0.2	3.7	5.8	0.4	7.9	7.1	0.9	0.16	0.82	2.0
9-27	8.6	8.1	2.5	0.11	0.50	1.00	<5	350	2.0	0.2	4.6	2.7	0.3	12.1	9.8	2.0	0.16	0.87	1.3
27-43	9.4	8.5	12.2	0.29	1.52	0.49	<5	270	3.2	0.4	2.1	2.6	0.2	8.4	3.6	4.3	1.49	0.62	17.7
43-75	10.0	8.8	16.0	0.69	2.23	0.19	<5	390	6.9	15.6	4.1	3.5	0.5	7.6	1.0	2.6	4.79	0.94	63.0
75-121	10.0	8.9	5.5	0.72	2.69	0.06	<5	450	11.7	4.6	4.0	0.8	0.3	9.8	0.9	2.5	5.59	1.01	63.5
121-160	9.8	8.7	10.0	0.92	4.57	0.01	<5	440	13.8	2.5	3.6	0.8	0.2	10.0	0.7	2.6	5.72	0.99	57.2
160-185	9.9	8.7	7.0	0.91	4.13	0.23	<5	470	15.6	1.1	3.9	0.5	0.2	9.9	1.0	2.8	6.29	1.20	64.0

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.