

SALINE CALCAREOUS SANDY LOAM

General Description: *Calcareous saline sandy loam grading to a very highly calcareous saline sandy clay loam with a saline water table shallower than a metre*

Landform: Low lying salinized plain.

Substrate: Lake floor Bungunnia Limestone.

Vegetation: Samphire / barley grass



Type Site: Site No.: MM108

1:50,000 sheet: 6827-3 (Moorlands)

Hundred: Roby

Annual rainfall: 375 mm

Sampling date: 01/04/93

Landform: Flat

Surface: Soft with no stones

Soil Description:

Depth (cm)	Description
0-9	Dark brown soft light sandy loam. Clear to:
9-20	Brown soft moderately calcareous light sandy loam. Gradual to:
20-34	Brown soft highly calcareous light sandy loam. Clear to:
34-57	Brown soft massive very highly calcareous light sandy clay loam. Gradual to:
57-72	Light brown massive very highly calcareous light sandy clay loam with minor hard carbonate nodules. Clear to:
72-93	Very pale brown soft massive very highly calcareous light sandy clay loam with minor hard carbonate nodules.
93-	Water table (31,000 mg/l).



Classification: Calcarosolic, Salic Hydrosol; thin, non-gravelly, loamy / clay loamy, moderate
OR Epibasic, Regolithic, Hypercalcic Calcarosol

Summary of Properties

Drainage Well to imperfectly drained. Soil may remain saturated for a week and up to several weeks following heavy or prolonged rainfall, depending on the depth to water table.

Fertility Inherent fertility is low as indicated by the exchangeable cation data. Regular phosphorus applications are essential. Nitrogen levels depend on legume status of pastures. Copper and zinc deficiencies can occur. Organic carbon concentrations are low at sampling site.

pH Mildly alkaline at the surface, more strongly alkaline with depth.

Rooting depth 34 cm in pit.

Barriers to root growth

Physical: There are no physical barriers.

Chemical: Salinity and fluctuating water table levels restrict root growth. Sandy textures help minimize capillary salt rise.

Water holding capacity 40 mm in root zone.

Seedling emergence: Satisfactory, except where highly saline.

Workability: Soft surface is easily worked.

Erosion Potential

Water: Low.

Wind: Low to 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	7.3	7.0	1	0.56	5.9	0.7	18	230	2.4	0.39	-	5.5	0.50	5.9	4.79	0.55	0.29	0.68	4.9
0-9	8.4	8.1	1	2.23	25.0	0.5	13	290	7.6	0.37	-	6.0	0.33	5.1	5.31	0.76	1.17	0.71	22.9
9-20	9.1	8.3	2	1.01	12.6	0.2	5	230	6.9	0.21	-	1.9	0.08	4.8	3.75	1.09	1.56	0.65	32.5
20-34	9.2	8.5	2	1.12	13.4	0.1	2	240	5.8	0.20	-	1.2	<0.06	5.0	3.51	1.49	1.91	0.67	38.2
34-57	9.1	8.6	11	1.65	19.8	0.2	4	210	6.8	0.41	-	0.76	0.07	4.4	3.50	1.62	1.90	0.55	43.2
57-72	9.1	8.6	23	1.87	20.9	0.1	3	210	5.9	0.37	-	1.1	<0.06	4.8	3.32	1.54	1.89	0.57	39.4
72-93	9.1	8.6	27	1.65	17.2	<0.1	3	180	4.2	0.39	-	2.0	<0.06	4.4	2.98	1.47	1.82	0.50	41.4

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.