

SANDY LOAM OVER SALINE RED CLAY (Saline alluvial soil)

General Description: *Thick sandy loam over a dispersive red clay with weak subsoil carbonate accumulation, moderately saline throughout*

Landform: Undulating rises.

Substrate: Alluvial clay with sandy lenses.

Vegetation:



Type Site: Site No.: EE067

1:50,000 sheet:	6230-1 (Cowell)	Hundred:	Miltalie
Annual rainfall:	350 mm	Sampling date:	21/01/93
Landform:	Alluvial flat between undulating slopes, 2% slope		
Surface:	Crusting and salt affected with no stones		

Soil Description:

Depth (cm)	Description
0-12	Dark reddish brown soft coarse sandy loam with moderate fine granular structure. Sharp to:
12-32	Red friable coarse sandy loam with weak subangular blocky structure. Gradual to:
32-56	Red friable medium clay with moderate fine angular blocky structure. Clear to:
56-94	Reddish brown firm light clay with moderate fine angular blocky structure. Clear to:
94-110	Red friable light clay with strong fine angular blocky structure and minor quartz gravel. Clear to:
110-160	Red friable wet sandy clay with moderate angular blocky structure. Abrupt to:
160-200	Red coarse sandy clay with coarse sandy lenses.



Classification: Sodic, Calcic, Red Dermosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage	Imperfect. The soil remains wet for several weeks at a time due to a shallow water table impeding deep percolation.
Fertility	Inherent fertility is moderate, as indicated by the exchangeable cation data. The soil is not susceptible to deficiencies of any nutrient elements other than phosphorus and nitrogen.
pH	Slightly alkaline at the surface, alkaline with depth.
Rooting depth	90 cm in pit (salt tolerant grass).
Barriers to root growth	
Physical:	The clayey subsoil restricts root densities, but does not prevent root growth.
Chemical:	Moderate to high salinity concentrations and high sodicity throughout the profile limit root growth of non tolerant species.
Water holding capacity	Approximately 100 mm in the potential root zone for salt tolerant grasses, through to nil for salt susceptible species.
Seedling emergence:	Poor for salt sensitive species. No physical impediment for salt tolerant plants.
Workability:	Salt affected surfaces are fluffy and easily worked, but wetness restricts opportunities.
Erosion Potential	
Water:	Low, except in water courses.
Wind:	Moderately low - surface is easily bared off by livestock and will blow.

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	SO ₄ -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	
0-12	7.4	7.5	<1	1.54	18.15	1.1	12	420	-	0.89	0.30	9.2	7.2	0.55	8.6	4.47	1.51	0.73	0.96	8.5
12-32	8.6	7.7	<1	0.67	10.44	0.1	2	180	-	1.5	0.40	8.6	3.7	0.21	7.1	2.11	1.86	1.99	0.51	28.0
32-56	8.9	8.3	2	1.72	13.25	0.2	2	450	-	4.5	1.0	16	2.8	0.15	20.0	5.04	6.17	7.95	1.58	39.8
56-94	9.0	8.4	8	1.57	15.23	-	-	-	-	3.5	0.73	7.0	1.2	0.09	13.8	4.39	4.15	5.13	1.17	37.2
94-110	9.1	8.5	6	1.66	15.24	-	-	-	-	5.3	0.86	6.6	2.3	0.21	15.7	4.02	4.72	6.03	1.38	38.4
110-160	9.2	8.6	5	1.25	14.31	-	-	-	-	7.0	0.40	6.8	1.5	<0.1	10.5	2.53	3.65	3.98	1.01	37.9
160-200	9.2	8.6	2	1.13	14.27	-	-	-	-	8.2	0.30	20	5.9	0.17	7.3	1.72	2.82	2.77	0.82	38.0

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