

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:

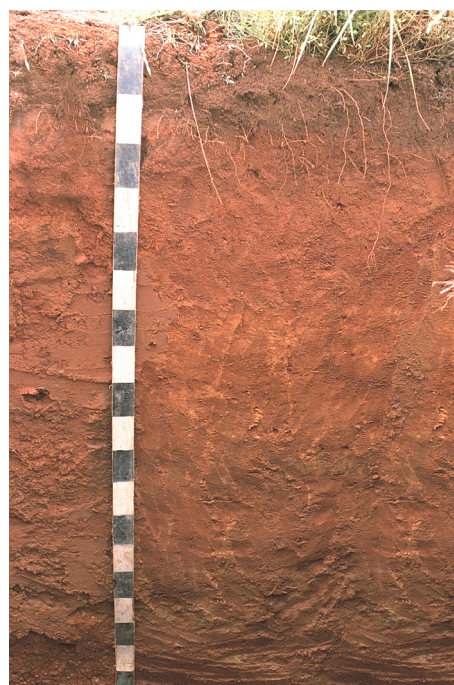


Type Site:	Site No.:	EE067	1:50,000 mapsheet:	6230-1 (Cowell)
	Hundred:	Miltalie	Easting:	670730
	Section:	53	Northing:	6286190
	Sampling date:	21/1/1993	Annual rainfall:	330 mm average

Alluvial flat between undulating slopes, 2% slope. Crusting, salt affected surface, no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
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 watertable 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.
- Waterholding capacity:** Approximately 100 mm in the potential rootzone 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 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

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

