

LOAM OVER PEDARIC RED CLAY

(Red loamy flat soil)

General Description: *Thin loamy surface soil over a red crumbly clayey subsoil, calcareous at depth, with gypsum accumulations in deep subsoil*

Landform: Flats and depressions

Substrate: Coarsely structured mottled red clay (Blanchetown Clay equivalent)

Vegetation: Atriplex spp., Casuarina spp. (belah), Marieana spp. (blackbush)



Type Site:	Site No.:	CM077	1:50,000 mapsheet:	6830-3 (Lindley)
	Hundred:	Bunyung	Easting:	380250
	Section:	Block 970	Northing:	6259000
	Sampling date:	18/11/96	Annual rainfall:	225 mm average

Depression on a gently undulating plain, flaking surface.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-8	Red firm massive fine sandy loam, with a thin bleached layer at base. Sharp to:
8-25	Dark reddish brown friable medium clay with strong polyhedral structure. Clear to:
25-45	Red very highly calcareous hard medium clay with moderate polyhedral structure. Clear to:
45-80	Yellowish red very highly calcareous medium clay with moderate coarse prismatic structure. Clear to:
80-110	Yellowish red and olive mottled firm very highly calcareous medium clay with strong coarse blocky structure and 20-50% gypsum crystals.



Classification: Gypsic, Pedaric, Red Sodosol; thin, non-gravelly, loamy / clayey, moderate.



Summary of Properties

Drainage: Moderately well drained. Water will perch on top of the clayey subsoil for a week or so following prolonged rain.

Fertility: Inherent fertility is high.

pH: Alkaline at the surface, strongly alkaline at moderate depth.

Rooting depth: 110 cm in pit but few roots below 45 cm.

Barriers to root growth:

Physical: None.

Chemical: High pH from 25 cm, high salinity from 45 cm, sodicity from 8 cm, (and boron?).

Waterholding capacity: Approximately 70 mm in rootzone.

Seedling emergence: Fair - surface may seal over.

Erosion Potential:

Water: Low.

Wind: Moderately low - pulverizing by stock will create a wind erosion hazard.

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	
Paddock	8.2	7.8	0	0.95	5.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-8	8.9	7.8	0	0.17	1.73	-	-	-	-	-	-	-	-	11.6	5.2	2.5	1.54	1.92	13.3	
8-25	9.1	7.8	0	0.16	0.64	-	-	-	-	-	-	-	-	29.8	11.4	7.4	4.84	2.58	16.2	
25-45	9.3	8.4	16	0.98	4.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45-80	8.9	8.5	11	2.54	10.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
80-110	8.3	8.2	10	4.71	12.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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.

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

