

CALCAREOUS LOAM

General Description: *Calcareous loam with abundant soft to rubbly carbonate at shallow depth over heavy clay*

Landform: Rises

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

Vegetation: *Marieana sedifolia* (bluebush), *Stipa* spp. (spear grass), *Medicago* spp. (burr medic)

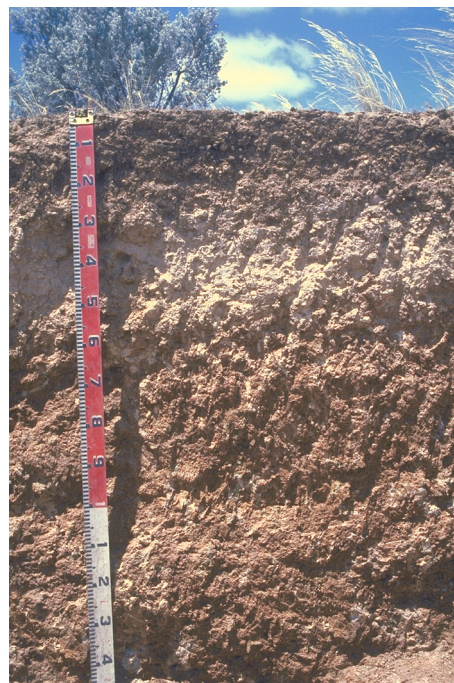


Type Site:	Site No.:	CM078	1:50,000 mapsheet:	6830-3 (Lindley)
	Hundred:	Lindley	Easting:	367600
	Section:	94	Northing:	6250750
	Sampling date:	18/11/96	Annual rainfall:	225 mm average

Upper slope of a gently undulating rise, 1% slope. Firm surface with less than 2% calcrete and quartzite stones.

Soil Description:

Depth (cm)	Description
0-15	Very highly calcareous brown loam with weak granular structure. Clear to:
15-30	Very highly calcareous brown massive fine sandy clay loam with 20-50% nodular (Class III B) carbonate. Clear to:
30-55	Very highly calcareous brown massive clay loam with more than 50% soft carbonate. Clear to:
55-90	Highly calcareous red and yellowish brown mottled medium clay with strong blocky structure and 2-10% nodular carbonate. Diffuse to:
90-150	Red and olive brown mottled medium clay with strong blocky structure, 10-20% crystalline gypsum, and 2-10% soft carbonate.



Classification: Hypervescent, Regolithic, Supracalcic Calcarosol; medium, slightly gravelly, loamy / clay loamy, moderate



Summary of Properties

- Drainage:** Rapidly drained - the soil is unlikely to remain wet for more than a few hours following prolonged rain.
- Fertility:** Moderately low inherent fertility - although clay content and cation exchange capacity are moderately high, high carbonate content induces nutrient deficiencies.
- pH:** Alkaline at the surface, strongly alkaline at moderate depth.
- Rooting depth:** 90 cm in pit, but few roots below 55 cm.
- Barriers to root growth:**
- Physical:** None above substrate clay. This clay inhibits root growth due to its high strength.
 - Chemical:** High pH from 30 cm, high sodicity and moderate salinity from 55 cm. Boron probably very high from 55 cm.
- Waterholding capacity:** Approximately 65 mm in rootzone.
- Seedling emergence:** Good.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderate - surface pulverizes easily.

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	8.5	7.9	11	0.14	0.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-15	8.5	7.8	12	0.14	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15-30	8.6	7.9	28	0.16	0.69	-	-	-	-	-	-	-	-	11.6	9.2	2.8	0.38	0.68	3.3	
30-55	9.6	8.5	52	1.19	6.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
55-90	8.6	8.3	22	2.76	8.92	-	-	-	-	-	-	-	-	16.0	5.6	7.3	5.18	0.70	32.4	
90-150	8.5	8.2	12	2.85	9.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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](#)

