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).

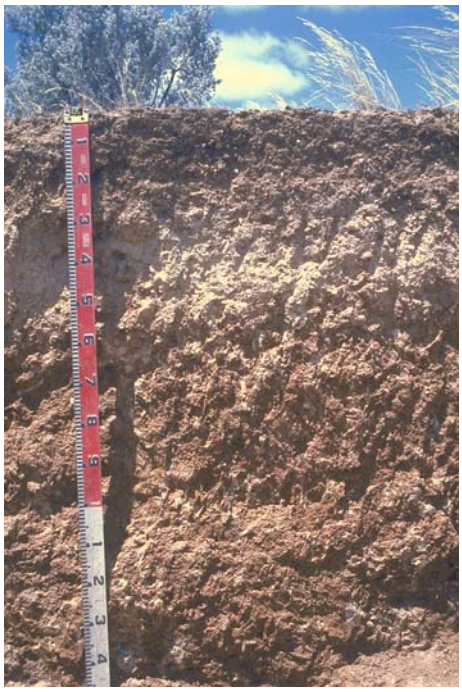
Vegetation: Marieana sedifolia (bluebush), Stipa spp. (spear grass), Medicago spp. (burr medic)

Type Site: Site No.: CM078

1:50,000 sheet:	6830-3 (Lindley)	Hundred:	Lindley
Annual rainfall:	220 mm	Sampling date:	18/11/96
Landform:	Upper slope of a gently undulating rise, 1% slope		
Surface:	Firm 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.

Water holding capacity Approximately 65 mm in root zone.

Seedling emergence: Good.

Erosion Potential

Water: Low.

Wind: Moderate - surface pulverizes easily.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	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	
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.