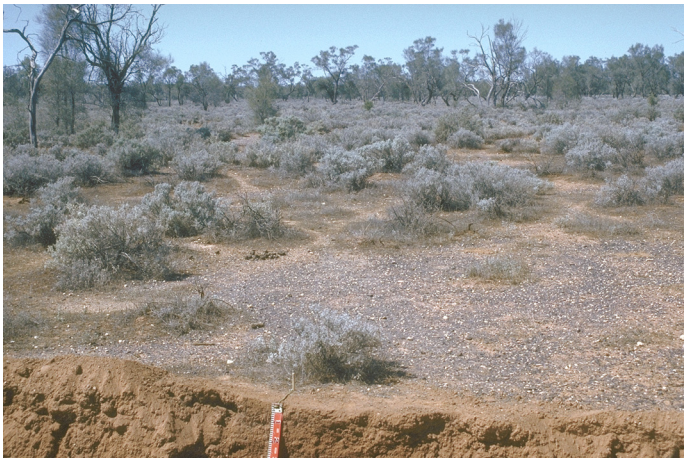
RED CALCAREOUS LOAM

General Description: *Calcareous loam grading to a very highly calcareous well structured red clayey subsoil*



Landform: Very gentle slopes and flats.

Substrate: Coarsely structured red clay with gypsum crystals.

Vegetation: Marieana astrosticha, Casuarina cristata, Atriplex vesicaria.

Type Site:

Site No.:	CM081	1:50,000 mapsheet:	6831-4
District:	Eastern Districts	Easting:	371100
Property:	Braemar:	Northing:	6326650
Sampling date:	19/11/96	Annual rainfall:	210 mm average

Lower slope (1%) on scalded patch with a surface crust. 20-50% surface ironstone and 2-10% quartz gravel.

Soil Description:

Depth (cm)	*Description*
0-10	Dark reddish brown highly calcareous light clay loam with moderate granular structure and 10-20% ironstone fragments. Clear to:
10-35	Red very highly calcareous clay loam with moderate polyhedral structure and 10-20% ironstone fragments. Clear to:
35-70	Red very highly calcareous light clay with strong polyhedral structure, 10-20% ironstone fragments and 10-20% soft carbonate. Diffuse to:
70-120	Red very highly calcareous light medium clay with strong polyhedral structure, 2-10% ironstone fragments and 20-50% soft carbonate. Diffuse to:
120-155	Dark red moderately calcareous heavy clay with strong coarse blocky structure and 10-20% crystalline gypsum.

Classification: Epihypersodic, Pedal, Hypercalcic Calcarosol; thick, moderately gravelly, clay loamy / clayey, deep

Summary of Properties

Drainage: Well drained. The soil is unlikely to remain wet for more than a few days following prolonged rain. The scalded surface tends to shed water.

Fertility: Natural fertility is high as indicated by the exchangeable cation data.

pH: Alkaline throughout.

Rooting depth: 120 cm in pit, but few roots below 70 cm.

Barriers to root growth:

Physical: None until the heavy substrate clay which is too hard and coarsely structured to allow good root distribution.

Chemical: High sodicity and marginal salinity. High boron above the substrate clay is probable.

Waterholding capacity: Approximately 80 mm in rootzone.

Seedling emergence: Fair to poor due to the crusted surface.

Erosion Potential:

Water: Moderate, due to poor cover.

Wind: Moderately low - stock will pulverize the surface creating a wind erosion hazard.

Laboratory Data

Depth cm	pH H_2O	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	8.3	7.9	3	0.85	5.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0-10	8.8	8.0	3	0.20	0.99	-	-	-	-	-	-	-	-	-	16.2	9.8	2.9	0.82	3.09	5.1
10-35	8.8	8.1	6	1.34	6.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35-70	8.5	8.2	22	2.33	8.02	-	-	-	-	-	-	-	-	-	15.4	5.4	6.1	4.04	0.97	26.2
70-120	8.8	8.5	35	2.29	8.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120-155	8.3	8.2	14	4.43	8.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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