

RUBBLY CALCAREOUS LOAM ON CLAY

General Description: *Calcareous sandy loam to sandy clay loam grading to rubbly carbonate, decreasing with depth, over a clayey substrate within 120 cm*

Landform: Gently sloping outwash fan.

Substrate: Coarsely structured red heavy clay, mantled by secondary carbonates.

Vegetation: Chenopod shrubland of *Myoporum platycarpum*, *Maireana sedifolia*, *M. pyramidata*, *Atriplex vesicaria*.



Type Site: Site No.: CU009

1:50,000 sheet: 6732 -2 (Pitcairn)

Hundred: Hardy

Annual rainfall: 270 mm

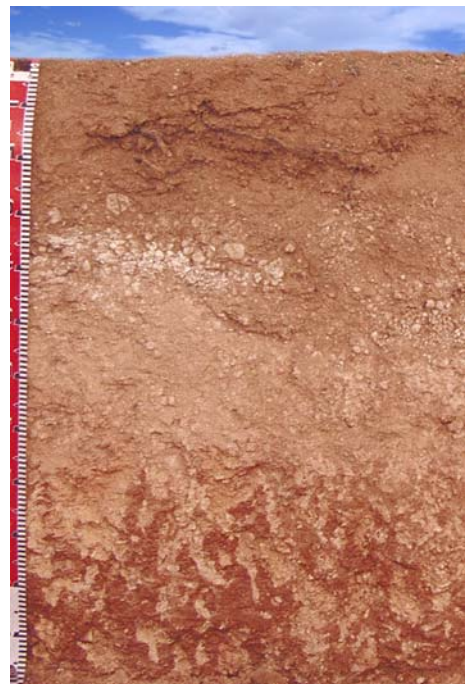
Sampling date: 02/07/92

Landform: Midslope of 1%

Surface: Hard setting with 20-50% gravel

Soil Description:

Depth (cm)	Description
0-20	Reddish brown soft highly calcareous sandy clay loam with strong polyhedral structure and 2-10% gravel. Gradual to:
20-45	Reddish brown soft massive very highly calcareous sandy clay loam with more than 50% carbonate concretions (6-20 mm). Sharp to:
45-50	Rubbly calcrete pan. Sharp to:
50-75	Yellowish red firm massive very highly calcareous sandy light clay with 10-20% carbonate concretions (2-6 mm). Gradual to:
75-120	Red friable highly calcareous sandy heavy clay with strong coarse prismatic structure, 10-20% veins of fine carbonate and 10-20% gravel.



Classification: Endohypersodic, Regolithic, Lithocalcic Calcarosol; medium, moderately gravelly, clay loamy / clayey, moderate

Summary of Properties

Drainage	Rapidly to well drained. Soil is never wet for more than a few days.
Fertility	Inherent fertility is moderate, as indicated by the exchangeable cation data. All tested elements are well supplied except zinc and probably nitrogen (organic carbon levels are low). Requirements of chenopods are not known.
pH	Alkaline throughout, strongly alkaline in the substrate.
Rooting depth	100 cm in pit, but most roots are in the top 20 cm.
Barriers to root growth	
Physical:	No significant barriers except where discontinuous hard calcrete layers occur.
Chemical:	No significant chemical barriers above the substrate, in which high pH and sodicity restrict deeper root growth.
Water holding capacity	40-50 mm in root zone.
Seedling emergence:	Fair. Surface tends to seal over.
Workability:	Fair to good. Broad moisture range for sandy clay loam surface soil, although here it sets hard when dry. Surface stones interfere with and abrade implements if used.
Erosion Potential	
Water:	Low to moderately low.
Wind:	Moderately low.

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 -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	8.7	8.1	3.9	0.14	0.6	0.55	21	609	-	0.9	0.9	28	6.9	0.3	19.5	13.8	2.2	1.13	1.94	6
0-20	8.8	8.1	11.0	0.11	0.3	0.23	17	395	-	1.2	1.0	2.0	5.1	0.3	15.9	12.7	1.4	0.33	1.20	2
20-45	8.8	8.0	26.4	0.12	0.3	0.23	9	105	-	1.5	1.2	2.1	3.2	0.2	16.1	12.5	2.9	0.32	0.38	2
45-50	8.8	8.0	52.4	0.12	0.3	0.10	12	166	-	1.5	0.8	3.3	1.6	0.2	13.1	8.9	4.2	0.34	0.38	3
50-75	9.1	8.2	46.2	0.13	0.3	0.08	6	132	-	1.9	0.8	2.1	1.3	0.4	13.3	7.0	5.2	0.67	0.42	5
75-120	9.7	8.5	34.5	0.36	0.7	0.02	7	247	-	14.5	0.6	3.7	1.2	0.5	17.2	4.7	6.6	4.37	0.78	25

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.