

SHALLOW CALCAREOUS LOAM

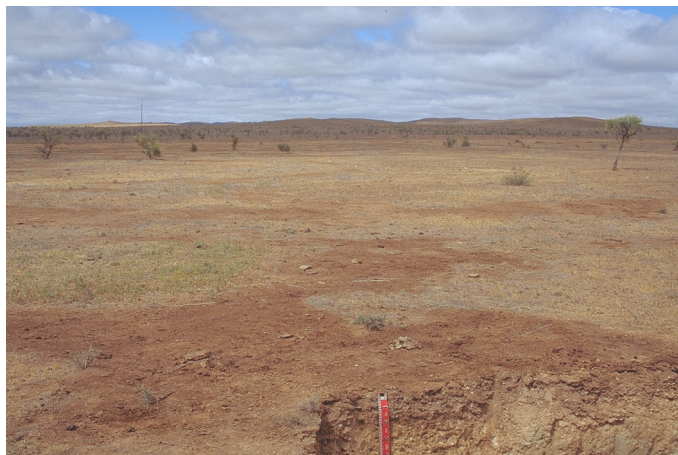
(Non scalded)

General Description: *Calcareous loam to clay loam having increasing carbonate rubble with depth, overlying highly weathered fine grained basement rock within a metre*

Landform: Low gently sloping rises lying between steeper rocky hills and outwash plains

Substrate: Basement siltstone or shale with soft carbonate in fissures

Vegetation: *Acacia victoriae* / *Maireana brevifolia* shrubland



Type Site:	Site No.:	CU044A	1:50,000 mapsheet:	6533-2 (Moockra)
	Hundred:	Yanyarrie	Easting:	264250
	Section:	17E	Northing:	6414350
	Sampling date:	02/11/1994	Annual rainfall:	280 mm average

Lower slope of a gently undulating rise with up to 10% surface siltstone fragments. The surface is firm with sporadic scalding. Slope is 2%. CU044A: non scalded. CU044B: scalded

Soil Description: CU044A (Non-scalded site)

<i>Depth (cm)</i>	<i>Description</i>
0-10	Dark reddish brown highly calcareous loam with moderate blocky structure and 2-10% carbonate nodules. Abrupt to:
10-18	Reddish brown very highly calcareous weakly structured clay loam with 20-50% rubbly Class III B carbonate. Abrupt to:
18-28	As above but with visible soft carbonate segregations. Clear to:
28-50	Reddish brown very highly calcareous clay loam with decreasing carbonate nodules. Diffuse to:
50-80	Light brown very highly calcareous clay loam with 10-20% carbonate nodules and 20-50% soft calcareous segregations. Gradual to:
80-160	Soft highly calcareous weathering siltstone. Minor siltstone gravel throughout



Classification: Endohypersodic, Paralithic, Supracalcic Calcarosol; medium, slightly gravelly, loamy / clay loamy, moderate.



Summary of Properties

- Drainage:** Well drained. The soil is porous and overlies strongly cleaved rocks.
- Fertility:** Natural fertility is moderate and relies on adequate surface organic carbon levels, because of the relatively low clay content of the soils. On scalded sites, organic carbon levels are low. Fertility is further reduced by high carbonate contents, especially on scalded sites.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 80 cm in covered soil; only dead roots (to 18 cm) in scalded soil.
- Barriers to root growth:**
- Physical:** Shallow depth to rock is the main barrier in these soils
 - Chemical:** High pH and associated nutrient unavailability is the main problem in natural soils. In scalded soils, salt levels are up to 100 times higher in the surface and insoluble sodium is significantly higher.
- Waterholding capacity:** 80 - 100 mm in the rootzone, depending on rubble content and depth to rock.
- Seedling emergence:** Good (natural soil), very poor (scalded soil), due to very high surface salt levels.
- Erosion Potential:**
- Water:** Moderately low (natural soil), moderately high (scalded soil)
 - Wind:** Moderately low, but pulverization of bare scalded surface leads to soil movement

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	SAR	Cl mg/kg
											Cu	Mn	Zn		Ca	Mg	Na	K			
0-10	8.5	8.1	4	0.11	0.78	1.2	-	-	<1	1.6	-	-	-	16.9	14.2	2.5	0.1	1.1	0.3	0.4	40
10-18	8.5	8.0	17	0.11	0.47	1.0	-	-	<1	1.4	-	-	-	15.8	17.9	2.9	0.1	0.6	0.4	0.4	23
18-28	8.5	8.0	18	0.23	0.83	0.8	-	-	<1	1.1	-	-	-	12.5	13.8	2.8	0.1	0.3	0.9	0.9	74
28-50	9.3	8.2	37	1.01	5.08	0.5	-	-	14	2.2	-	-	-	8.3	8.7	2.0	0.8	0.2	9.9	7.9	637
50-80	9.5	8.4	32	1.10	8.26	0.2	-	-	311	11.0	-	-	-	5.8	6.0	2.1	1.5	0.2	25.6	17.5	845
80-160	9.9	8.6	25	0.70	6.92	0.2	-	-	326	3.5	-	-	-	6.8	5.7	2.4	1.2	0.1	17.1	15.6	641

Note: 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. SAR is sodium adsorption ratio measured on the saturation extract

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

