

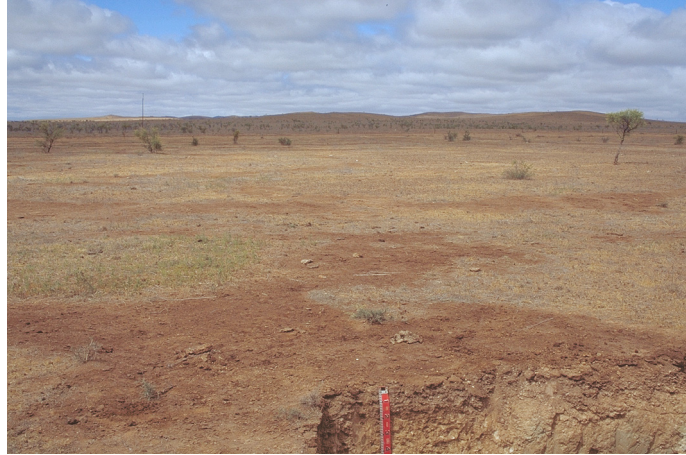
## SHALLOW CALCAREOUS LOAM (Scalded)

**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



<b>Type Site:</b>	Site No.:	CU044B	1:50,000 mapsheet:	6533-2 (Moockra)
	Hundred:	Yanyarrie	Easting:	264260
	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: CU044B (Scalded site)

<i>Depth (cm)</i>	<i>Description</i>
0-10	Yellowish red very highly calcareous, weakly structured clay loam with 2-10% carbonate nodules. Clear to:
10-18	Brown very highly calcareous weakly structured clay loam with 20-50% Class III B carbonate nodules. Clear to:
18-45	Brown very highly calcareous weakly structured clay loam with 20-50% soft carbonate segregations and 2-10% carbonate nodules. Gradual to:
45-80	As for 18-45 cm layer. Gradual to:
80-130	Soft highly calcareous weathering siltstone.
Minor siltstone gravel throughout.	



**Classification:** Hypervescent, Paralithic, Supracalcic Calcarosol; medium, slightly gravelly, clay 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 <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> 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	8.2	8.1	12	5.64	80.6	0.30	-	-	238	<1	-	-	-	15.5	12.8	3.7	1.0	0.6	6.4	13	13557
10-18	8.2	8.0	17	4.14	51.7	0.56	-	-	560	<1	-	-	-	12.4	9.8	2.8	1.2	0.4	9.3	11.1	8303
18-45	8.4	8.1	52	3.20	33.9	0.36	-	-	363	1.7	-	-	-	7.6	3.0	1.0	0.4	0.1	4.8	10.7	4949
45-80	8.5	8.4	38	1.32	20.5	0.17	-	-	113	6.5	-	-	-	7.0	4.9	2.4	1.2	0.2	17.4	16.6	2446
80-130	9.9	8.7	25	0.80	7.55	0.15	-	-	55	4.2	-	-	-	5.5	3.9	2.0	0.9	0.1	16.5	19.6	882

**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](#)

