

**SANDY CLAY LOAM OVER RED CLAY**

(Buckleboo soil)

**General Description:** *Firm to hard sandy loam to sandy clay loam over a red clay, calcareous with depth*

**Landform:** Gently undulating plain with moderate to low sandhills.

**Substrate:** Tertiary sandy clay to clay.

**Vegetation:** Mallee.

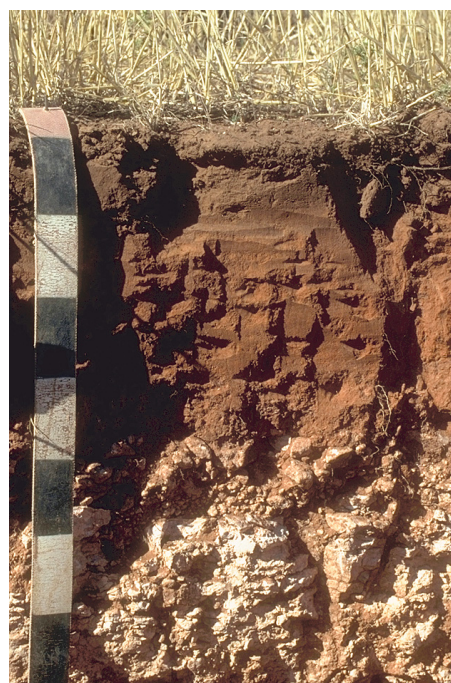


<b>Type Site:</b>	Site No.:	EC099	1:50,000 mapsheet:	6031-1 (Koongawa)
	Hundred:	Cootra	Easting:	578930
	Section:	22	Northing:	6326060
	Sampling date:	25/11/1993	Annual rainfall:	335 mm average

Lower slope of gently undulating plain, 1% slope. Soft surface with no stones.

**Soil Description:**

<i>Depth (cm)</i>	<i>Description</i>
0-12	Dark reddish brown friable sandy clay loam with weak fine subangular blocky structure. Abrupt to:
12-40	Reddish brown firm medium clay with strong very coarse prismatic structure, breaking to fine subangular blocky. Abrupt to:
40-90	Rubby Class III C carbonate. Gradual to:
90-140	Yellowish red friable very highly calcareous sandy clay loam with moderate fine subangular blocky structure. Gradual to:
140-170	Yellowish red friable very highly calcareous sandy clay with moderate fine subangular blocky structure.



**Classification:** Sodic, Lithocalcic, Red Chromosol; medium, non-gravelly, clay loamy / clayey, moderate



## Summary of Properties

- Drainage:** Moderately well drained. Water perches on the clayey subsoil for up to a week following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. Surface clay content is sufficient to provide sufficient nutrient retention capacity. This could be enhanced by organic matter - organic carbon levels are marginally low. Phosphorus levels are low, but other elements appear to be well supplied. Nitrogen concentrations depend on legume content of pastures, and cropping history.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 90 cm in pit.
- Barriers to root growth:**
- Physical:** The clayey subsoil reduces root densities, but does not prevent root growth.
  - Chemical:** High pH and high sodicity from 90 cm limit deeper root growth.
- Waterholding capacity:** Approximately 80 mm in the rootzone.
- Seedling emergence:** Satisfactory, except where surface soil is compacted.
- Workability:** Soft to firm surface is easily worked.
- Erosion Potential:**
- Water:** Low.
  - Wind:** Moderately low.

## 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
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-12	7.8	7.4	1	0.09	0.53	0.92	16	590	-	1.8	0.39	4.7	6.7	0.66	11.4	8.12	1.35	0.05	1.21	0.4
12-40	8.5	7.8	2	0.11	0.31	0.36	3.8	340	-	1.7	0.72	5.6	2.9	0.24	13.9	11.01	2.47	0.12	0.88	0.9
40-90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90-140	9.8	8.3	30	0.28	0.88	0.08	3.8	460	-	6.5	0.64	2.5	0.79	0.35	7.7	2.02	4.13	1.93	0.98	25.1
140-170	10.0	8.4	9	0.33	0.72	0.07	4.0	490	-	11	0.54	1.8	0.72	0.37	7.8	1.62	3.14	2.50	1.05	32.1

**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.

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

