

SANDY LOAM OVER RED CLAY ON CALCRETE (Wudinna soil)

General Description: *Thin to medium thickness sandy loam over a red sandy clay loam to sandy clay on calcrete within 50 cm*

Landform: Gently undulating dunefield of low to moderate parallel sandhills.

Substrate: Calcrete.

Vegetation: Mallee.



Type Site: Site No.: EC057

1:50,000 sheet: 6031-3 (Kopi)

Hundred: Warrambo

Annual rainfall: 325 mm

Sampling date: 1992

Landform: Stony swale between low sandhills

Surface: Soft

Soil Description:

Depth (cm)	Description
0-10	Brown soft sandy loam. Sharp to:
10-11	Dark yellowish brown light sandy clay loam. Sharp to:
11-17	Dark reddish brown massive fine sandy clay loam. Abrupt to:
17-22	Yellowish red massive slightly calcareous light clay. Abrupt to:
22-30	Yellowish red weakly structured very highly calcareous light clay. Sharp to:
30-	Calcrete.



Classification: Haplic, Petrocalcic, Red Kandosol; medium, non-gravelly, loamy / clayey, shallow

Summary of Properties

- Drainage** Well drained. Except where there are no fractures in the calcrete, the profile rarely remains wet for more than a day or so following heavy or prolonged rainfall.
- Fertility** Inherent fertility is moderate. Clay content, calcium saturation and associated nutrient retention capacity are favourable, although regular phosphorus applications are essential. Nitrogen levels depend on legume status of pastures and cropping history. Zinc levels are low at sampling site.
- pH** Alkaline throughout.
- Rooting depth** 30 cm in pit.
- Barriers to root growth**
- Physical:** The calcrete prevents virtually all deeper root growth except through fractures.
- Chemical:** There are no chemical barriers.
- Water holding capacity** Approximately 40 mm in the root zone.
- Seedling emergence:** Satisfactory.
- Workability:** Soft to firm surface is easily worked although surface stone interferes with and abrades equipment.

Erosion Potential

- Water:** Low.
- Wind:** 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	
0-10	7.9	7.6	5	0.20	0.92	-	-	-	-	1.4	0.32	-	6.52	0.34	6.10	4.46	0.89	0.02	0.57	0.3
10-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11-17	8.2	7.7	5	0.25	0.92	-	-	-	-	2.6	0.90	-	6.67	0.26	17.20	-	3.14	0.25	1.40	1.5
17-22	8.4	7.8	7	0.30	0.94	-	-	-	-	3.6	1.64	-	3.74	0.29	21.40	-	7.13	0.49	1.30	2.3
22-30	8.4	7.9	12	0.44	1.69	-	-	-	-	5.1	2.37	-	5.50	0.36	23.30	-	10.83	1.13	1.15	4.8
30+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.

* Exchangeable calcium (Ca) values not presented for lower layers due to use of inappropriate laboratory procedure.