

HIGHLY CALCAREOUS SANDY CLAY LOAM

(Calca soil)

General Description: *Highly calcareous sandy loam to clay loam grading to a very highly calcareous sandy loam to light clay with variable carbonate rubble*

Landform: Undulating rises.

Substrate: Very highly calcareous medium to fine grained wind blown material (Woorinen Formation).

Vegetation: Mallee.

Type Site:	Site No.:	EW077	1:50,000 mapsheet:	5831-4 (Venus)
	Hundred:	Witera	Easting:	465120
	Section:	70	Northing:	6338890
	Sampling date:	30/03/1993	Annual rainfall:	380 mm average

Midslope of an undulating rise, 3% slope. Firm surface with no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-20	Dark brown very highly calcareous friable clay loam with moderate fine subangular blocky structure. Clear to:
20-100	Light brown very highly calcareous soft light sandy clay loam with 20-50% carbonate concretions (Class III B carbonate). Gradual to:
100-180	Pink very highly calcareous soft light clay with 20-50% carbonate concretions (Class III B carbonate).



Classification: Hypervescent, Regolithic, Supracalcic Calcarosol; medium, non-gravelly, clay loamy / clayey, deep



Summary of Properties

- Drainage:** Moderately well drained. The soil never remains wet for more than a day or so following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderate. High carbonate levels to the surface reduce availability of phosphorus and trace elements. Regular phosphate applications are essential - levels are low at the sampling site. Nitrogen levels depend on legume content of pasture and cropping history.
- pH:** Alkaline at the surface, strongly alkaline with depth.
- Rooting depth:** 180 cm in pit, but few roots below 100 cm.
- Barriers to root growth:**
- Physical:** There are no physical barriers.
 - Chemical:** High pH and high sodicity from 100 cm restrict deeper root growth.
- Waterholding capacity:** Approximately 110 mm in the rootzone.
- Seedling emergence:** Satisfactory.
- Workability:** Firm surface is easily worked.
- Erosion Potential:**
- Water:** 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 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	
0-20	8.4	7.9	17	0.18	0.71	1.9	10	660	-	2.0	0.32	7.80	6.70	6.30	21.3	17.33	2.34	0.16	2.16	0.7
20-100	8.9	8.1	63	0.25	1.52	-	2	230	-	1.8	0.52	1.90	0.53	0.31	10.2	6.69	2.96	0.65	0.69	6.3
100-180	9.3	8.4	68	0.96	8.07	-	<2	310	-	4.3	0.14	0.80	0.34	0.45	7.8	1.56	4.08	1.97	0.86	25.2

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](#)

