

## SHALLOW SANDY LOAM OVER CALCRETE

**General Description:** *Calcareous sandy loam with variable rubble over calcrete at shallow depth*

**Landform:** Gently undulating plains and rises

**Substrate:** Calcrete capped highly calcareous sand overlying Pleistocene age clay.

**Vegetation:** Mallee



<b>Type Site:</b>	Site No.:	MP008	1:50,000 mapsheet:	6728-1 (Cambrai)
	Hundred:	Angas	Easting:	344150
	Section:	167	Northing:	6166500
	Sampling date:	04/08/1992	Annual rainfall:	325 mm average

Flat on a gently undulating plain. Loose (cultivated) surface, 20-50% calcrete stone to 200 mm diameter.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-11	Loose red sandy loam. Abrupt to:
11-26	Soft red sandy loam. Clear to:
26-57	Soft highly calcareous sandy loam with 70% carbonate nodules to 20 mm. Sharp to:
57-85	Calcrete pan. Clear to:
85-145	Pink highly calcareous loamy coarse sand with 75% carbonate nodules to 20 mm. Gradual to:
145-180	Reddish yellow highly calcareous sandy clay loam with 30% carbonate nodules to 6 mm. Gradual to:
180-210	Red and grey mottled firm sandy light clay with coarse prismatic structure and 20% carbonate nodules.



**Classification:** Lithocalcic, Petrocalcic, Calcenic Tenosol; medium, moderately gravelly, loamy / loamy, moderate



## Summary of Properties

- Drainage:** Rapidly drained. The soil is unlikely to remain wet for more than a few hours following heavy or prolonged rainfall.
- Fertility:** Natural fertility is low due to low clay content. Phosphorus and possibly zinc are deficient at the sampling site, and organic carbon levels are low.
- pH:** Alkaline throughout.
- Rooting depth:** 57 cm in pit.
- Barriers to root growth:**
- Physical:** The calcrete is a major restriction and marks the base of the potential rootzone.
  - Chemical:** There are no chemical barriers above the calcrete.
- Waterholding capacity:** Approximately 50 mm above the calcrete.
- Seedling emergence:** Good.
- Workability:** Good, although surface calcrete interferes with implement operation.
- Erosion Potential:**
- Water:** Low.
  - Wind:** Moderately low. The surface is sandy, but the stone provides some protection.

## 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	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	7.8	7.4	0.1	0.08	0.41	0.57	16	370	1.4	0.2	3.4	3.3	0.4	5.0	4.10	1.12	0.19	0.71	3.8
0-11	7.8	7.5	0.1	0.10	0.47	0.57	17	380	1.1	0.2	4.3	3.3	0.5	4.9	3.78	1.16	0.18	0.66	3.7
11-26	8.1	7.6	0.0	0.07	0.31	0.38	5	310	1.1	0.2	2.2	2.5	0.4	5.4	3.99	1.04	0.18	0.59	3.3
26-57	8.7	8.2	5.4	0.11	0.43	0.60	<5	140	2.0	0.5	5.5	1.0	0.4	4.3	6.68	1.90	0.23	0.29	5.3
57-85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
85-145	9.9	8.5	51.4	0.51	1.44	0.52	<5	540	8.5	0.4	0.4	0.2	0.4	7.9	1.58	3.46	6.63	1.35	83.9
145-180	9.9	8.7	49.5	0.57	2.15	0.03	<5	590	11.0	0.4	1.5	0.6	0.2	9.5	0.52	3.33	7.38	1.41	77.7
180-210	9.9	8.9	18.6	0.61	1.45	0.00	<5	760	16.1	0.4	3.0	0.7	0.3	11.2	0.55	4.43	10.04	1.79	90.0

**Note:** Paddock sample bulked from 20 cores (0-10 cm) taken around the pit.  
 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](#)

