

SHALLOW LOAMY SAND OVER CALCRETE

General Description: *Loamy sand to sandy loam with variable rubble overlying calcrete at shallow depth*

Landform: Flats marked by depressions, stony rises and sandhills

Substrate: Bakara Calcrete.

Vegetation: Mallee



Type Site:	Site No.:	MM137	1:50,000 mapsheet:	6928-2 (Nobah)
	Hundred:	Mindarie	Easting:	436430
	Section:	23	Northing:	6147280
	Sampling date:	22/02/1999	Annual rainfall:	295 mm average

Rise on a gently undulating plain. Soft surface with 2-10% calcrete stone (20-60 mm)

Soil Description:

Depth (cm)	Description
0-10	Brown soft loamy sand. Sharp to:
10-17	Reddish brown soft light sandy loam. Clear to:
17-30	Reddish brown very highly calcareous light sandy loam with more than 50% carbonate rubble (20-200 mm). Abrupt to:
30-	Sheet calcrete.



Classification: Calcareous, Petrocalcic, Leptic Tenosol; medium, slightly gravelly, sandy / loamy, shallow



Summary of Properties

Drainage:	Well drained. Soil is never wet for more than a few days.
Fertility:	Inherent fertility is low, as indicated by the exchangeable cation data. Regular phosphorus and nitrogen applications are essential; zinc and copper deficiencies can be expected (both are deficient at the sampling site). Organic carbon levels are low.
pH:	Neutral at the surface, alkaline with depth.
Rooting depth:	30 cm in pit, but few roots below 17 cm.
Barriers to root growth:	
Physical:	The calcrete severely restricts deeper root growth.
Chemical:	No chemical limitations above the calcrete.
Waterholding capacity:	Approximately 20 mm in rootzone.
Seedling emergence:	Slight limitation due to stoniness.
Workability:	Soft / firm surface is easily worked, but stones interfere with and abrade 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 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	6.9	6.8	-	0.08	1.1	0.61	11	272	-	1.0	0.2	-	7.7	0.4	6.0	3.5	0.88	< 0.1	0.64	1.7
0-10	7.3	7.0	< 0.1	0.10	1.4	0.60	8	310	-	1.0	0.1	-	6.2	0.5	4.6	2.7	0.85	< 0.1	0.52	2.2
10-17	8.4	7.8	0.6	0.13	1.9	0.56	2	410	-	1.3	0.2	-	2.3	0.2	9.6	6.9	1.2	< 0.1	1.0	1.0
17-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Paddock sample bulked from 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](#)

