SHALLOW SANDY LOAM OVER SANDY CLAY

General Description: *Sandy loam with variable rubble over a thin red sandy clay on calcrete at shallow depth*

Landform: Undulating rises with intervening flats. Sandhills are superimposed over the landscape.

Substrate: Calcreted calcarenite (Bridgewater Formation).

Vegetation: Mallee

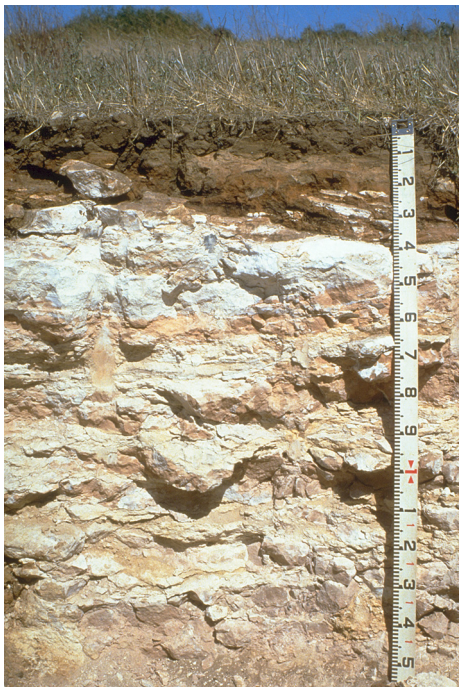
Type Site:

Site No.:	MM101	1:50,000 mapsheet:	6926-3 (Tintinara)
Hundred:	Lewis	Easting:	420900
Section:	21	Northing:	6039850
Sampling date:	09/03/1993	Annual rainfall:	470 mm average

Slope of undulating rise, 10% gradient. Firm surface with 10-20% calcrete stone (60-200 mm).

Soil Description:

Depth (cm)	*Description*
0-10	Dark greyish brown firm sandy loam with 10-20% calcareous nodules. Abrupt to:
10-15	Brown firm light sandy loam. Sharp to:
15-30	Yellowish red very hard massive sandy clay. Sharp to:
30-60	Laminar calcrete. Clear to:
60-160	Laminar calcrete with 60% hard nodules (20-60 mm).



Classification: Haplic, Petrocalcic, Red Chromosol; medium, gravelly, loamy / clayey, shallow

Summary of Properties

Drainage: Well drained. Soil rarely remains wet for more than a few days.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data. Regular phosphorus applications are essential. Nitrogen content depends on legume status of pastures and cropping intensity. Zinc and copper may show intermittent deficiencies, although levels are satisfactory at the sampling site. Manganese may be required by cereals. Organic carbon levels are adequate.

pH: Alkaline throughout.

Rooting depth: 30 cm in pit.

Barriers to root growth:

Physical: The calcrete severely restricts root growth.

Chemical: There are no chemical barriers, other than the low nutrient retention capacity of the carbonate layers, which are usually below the rootzone anyway.

Waterholding capacity: 40 mm in the rootzone.

Seedling emergence: Satisfactory but can be reduced by stones.

Workability: Firm surface is easily worked, but stones can interfere with and abrade equipment.

Erosion Potential:

Water: Moderately low to moderate due to the slope.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	pH $CaCl_2$	CO_3 %	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	8.0	7.5	<1	0.13	0.82	1.4	13	190	1.3	0.24	11	2.6	0.52	11.8	10.23	0.73	0.76	0.42	6.4
0-10	8.0	7.5	<1	0.11	0.82	1.3	19	190	1.1	0.23	8.9	3.3	0.78	10.0	8.34	0.62	0.53	0.48	5.3
10-15	7.9	7.4	<1	0.05	0.38	0.4	4	87	0.61	0.1	12	0.61	0.17	7.7	5.73	0.59	0.55	0.48	7.1
15-30	8.2	7.6	2	0.12	0.48	0.5	3	240	1.3	0.06	17	0.33	0.15	19.2	14.26	2.18	0.72	0.27	3.8
30-60	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	
60-160	9.0	8.2	69	0.23	1.54	0.3	<2	72	1.2	0.1	1.1	0.23	0.18	5.7	4.26	1.29	1.06	0.71	18.6

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