SHALLOW CALCAREOUS SANDY LOAM OVER CALCRETE

General Description: Calcareous sandy loam with variable rubble over sheet or rubbly calcrete at shallow depth

Landform: Flat to gently undulating

plains.

Substrate: Calcreted calcarenite of the

Bridgewater Formation

Vegetation: Mallee



Type Site: Site No.: MM071 1:50,000 mapsheet: 6827-3 (Moorlands)

Hundred:RobyEasting:378250Section:2Northing:6083850

Sampling date: 1992 Annual rainfall: 385 mm average

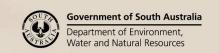
Low rise. Firm surface with 10-20% calcrete stone (60-200 mm).

Soil Description:

Depth (cm)	Description	
0-11	Dark greyish brown soft sandy loam with 2-10% calcrete fragments (60-200 mm). Clear to:	
11-22	Brown highly calcareous soft sandy loam with 2-10% calcrete fragments (60-200 mm). Clear to:	
22-60	Rubbly calcrete pan with very pale brown very highly calcareous light sandy clay loam between the calcrete fragments. Clear to:	
60-80	As above with manganese segregations. Sharp to:	
80-95	Rubbly calcrete. Clear to:	
95-140	Very pale brown very highly calcareous sandy clay loam with 2-10% calcrete nodules (6-20 mm) and manganese segregations. Diffuse to:	
140-200	As above with less than 2% calcrete nodules.	



Classification: Epibasic, Petrocalcic, Lithocalcic Calcarosol; medium, gravelly, loamy / loamy, moderate





Summary of Properties

Drainage: Well drained. Soil is never saturated for more than a few days.

Fertility: Inherent fertility is moderately low to low, as indicated by the exchangeable cation

data. Regular phosphorus and nitrogen applications are essential; zinc and copper deficiencies can be expected, although levels are adequate at sampling site.

Manganese may be required for cereals. Organic carbon levels are satisfactory.

pH: Alkaline at the surface, strongly alkaline at depth.

Rooting depth: 80 cm in pit.

Barriers to root growth:

Physical: Calcrete severely restricts downward root extension, although a few roots penetrate

between the rubble.

Chemical: No barriers above the calcrete, although low nutrient retention capacity limits growth.

Waterholding capacity: 70 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 to moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	Org.C %	P K		mg/kg (DTPA)			g/kg	CEC cmol	Exchangeable Cations cmol(+)/kg				ESP	
							mg/kg mg	mg/kg	g	Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	8.1	7.3	1	0.12	0.69	1.2	15	270	1.4	0.25	-	7.2	0.68	7.4	7.05	0.92	0.05	0.72	0.7
0-11	7.6	7.1	<1	0.12	0.77	1.4	33	28	1	0.22	-	6.8	0.83	7.9	7.11	0.94	0.06	0.75	0.8
11-22	8.6	7.9	6	0.09	0.48	0.3	25	220	0.95	0.19	-	1.9	0.12	4.7	5.66	0.69	0.07	0.62	1.5
22-60	8.7	8.0	35	0.12	0.54	0.5	7	110	1.5	0.7	-	1	0.15	3.5	5.33	0.84	0.13	0.28	3.7
60-80	9.0	8.0	37	0.10	0.53	0.4	5	100	1.3	0.56	-	1	0.11	3.8	4.18	1.21	0.12	0.27	3.2
80-95	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
95-140	9.5	8.3	40	0.25	1.75	0.1	<2	190	3.2	0.35	-	0.69	0.08	2.3	1.07	2.30	0.73	0.54	na
140-200	9.5	8.4	28	0.28	2.05	<0.1	<2	200	2.3	0.26	-	0.54	<0.06	2.1	1.01	1.66	0.73	0.50	na

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: <u>DEWNR Soil and Land Program</u>



