SHALLOW SAND OVER SANDY CLAY ON CALCRETE

General Description: Medium thickness sand over a thin brown sandy clay overlying

calcrete

Landform: Undulating to rolling rises

and low hills overlain by

irregular sandhills

Calcreted calcarenite **Substrate:**

(Bridgewater Formation).

Vegetation: Mallee



Type Site: Site No.: MM094 1:50,000 mapsheet: 6726-2 (Magrath Flat)

> Hundred: Glyde Easting: 363950 Section: 44 Northing: 6021950

1992 Annual rainfall: Sampling date: 510 mm average

Slope of undulating low hill, 15% slope. Soft surface, no stones.

Soil Description:

Depth (cm) Description

0-12 Very dark greyish brown loose loamy sand.

Abrupt to:

12-38 Very pale brown (bleached) sand. Sharp to:

38-55 Yellowish brown firm massive sandy clay.

Clear to:

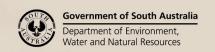
Laminar calcrete. Gradual to: 55-110

110-130 Very pale brown very highly calcareous hard

loamy sand (weak calcarenite).



Classification: Bleached, Petrocalcic, Brown Chromosol; thick, non-gravelly, sandy / clayey, moderate





Summary of Properties

Drainage: Rapidly drained. Soil rarely remains wet for more than a few hours.

Fertility: Inherent fertility is low, as indicated by the exchangeable cation data. Phosphorus

applications are needed regularly and nitrogen status depends on legume component of pastures. Zinc and copper deficiencies occur from time to time - both are marginal at sampling site. Manganese may be required by lupins. Organic carbon level is very

low at sampling site.

pH: Neutral at the surface, alkaline at depth.

Rooting depth: 55 cm in pit.

Barriers to root growth:

Physical: The calcrete layer effectively prevents further root growth.

Chemical: There are no chemical barriers.

Waterholding capacity: 50 mm in rootzone.

Seedling emergence: Satisfactory, but can be reduced by water repellence in dry years.

Workability: Soft / loose surface is easily worked.

Erosion Potential:

Water: Moderate due to slope.

Wind: Moderately low to moderate.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	%	Avail.	K	Boron mg/kg	0 0				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg		Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	7.6	7.1	<1	0.05	0.38	0.3	30	67	0.83	0.18	20	0.91	0.46	5.1	5.38	0.64	0.09	0.23	1.8
0-12	7.5	7.0	<1	0.05	0.36	1	25	78	0.5	0.13	23	1.2	0.85	7.0	7.11	0.77	0.08	0.20	1.1
12-38	7.8	7.3	<	0.03	0.23	0.2	7	50	< 0.40	<0.05	11	0.11	< 0.06	2.0	2.28	0.35	0.08	0.11	na
38-55	8.6	7.7	2	0.11	0.47	0.3	4	200	1.0	0.07	18	0.18	0.07	9.2	7.48	1.97	0.23	0.60	2.5
55-110	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	
110-130	9.3	8.2	55	0.16	1.16	0.2	<2	93	1.2	<0.05	1.6	0.61	0.5	1.7	1.93	1.05	0.30	0.23	17.6

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



