SHALLOW CALCAREOUS SANDY LOAM ON CALCRETE

General Description: Calcareous sandy loam with variable rubble overlying sheet or boulder calcrete at shallow depth

Landform: Low rises on gently

undulating plains

Substrate: Pleistocene (Blanchetown)

Clay capped by calcrete

rubble

Mallee **Vegetation:**



Type Site: Site No.: MM011 1:50,000 mapsheet: 6827-1 (Karoonda)

Hundred: Easting: 389900 Hooper Section: Northing: 6108400 60

Sampling date: 03/10/1991 Annual rainfall: 365 mm average

Stony rise, 20-50% surface calcrete (60-200 mm), firm surface.

Soil Description:

Depth (cm) Description

0-9 Dark brown slightly calcareous light sandy loam

with 20-50% calcrete rubble (60-200 mm).

Abrupt to:

9-18

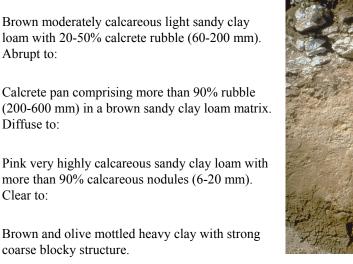
18-81

81-170

170-210

Classification: Epihypersodic, Petrocalcic, Supracalcic Calcarosol; thin, moderately gravelly, loamy / clay

loamy, very shallow









Summary of Properties

Drainage: Well drained. The soil never remains saturated for more than a few days.

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

Phosphorus, copper and zinc are deficient at the sampling site, and organic carbon levels are extremely low. There is very little nutrient retention capacity in the calcrete,

so maintenance of organic matter is critical for fertility.

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

Rooting depth: 81 cm in pit.

Barriers to root growth:

Physical: Although root growth occurs between the boulders, the calcrete restricts soil volume,

and consequently water availability and root growth.

Chemical: High pH and sodicity and moderate salinity in the carbonate layers impede root

growth.

Waterholding capacity: 30 mm in rootzone.

Seedling emergence: Slight limitation due to stoniness.

Workability: Soil itself is easily worked, but stones abrade implements.

Erosion Potential:

Water: Low.

Wind: 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	0 0				CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg		Cu	Fe	Mn	Zn	(+)/kg	Ca	Mg	Na	K	
Paddock	8.0	7.4	1	0.11	0.69	0.1	18	220	1.0	0.082	ı	5.2	0.25	6.0	5.67	1.07	0.08	0.44	1.3
0-9	7.8	7.2	2	0.07	0.42	0.1	26	270	1.6	0.12	-	7.5	0.34	6.7	5.96	1.13	0.10	0.56	1.5
9-18	8.6	7.9	3	0.14	0.64	0.1	12	240	5.9	0.13	1	4.6	0.16	8.1	7.25	1.05	0.08	0.46	1.0
18-81	9.4	8.5	52	0.74	7.06	< 0.1	5	94	4.1	0.23	ı	1.1	< 0.06	7.4	3.96	2.91	1.74	0.20	23.5
81-120	9.5	8.6	70	1.74	12.53	0.1	2	270	6.8	0.29	-	1.1	<0.06	5.9	1.00	2.20	3.11	0.58	52.7
120-170	9.8	8.5	61	1.08	4.42	< 0.1	3	1200	17	0.21	-	1.6	< 0.06	10.3	0.73	3.29	4.77	1.12	46.3
170-210	9.4	8.5	3	1.22	3.67	<0.1	2	500	2.8	0.78	ı	1.1	0.07	29.1	0.42	10.24	17.77	2.70	61.1

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



