CALCAREOUS SAND TO SANDY LOAM ON CALCAREOUS RUBBLE

General Description: Variable thickness loamy sand over calcareous firm sandy loam on

medium to fine grained wind-blown deposits with abundant soft and

nodular carbonate

Landform: Gently undulating dunefield.

Substrate: Fine grained highly

calcareous windblown material (Woorinen

Formation).

Vegetation:

Type Site: Site No.: CM108 1:50,000 mapsheet: 6530-3 (Lochiel)

Hundred:KulparaEasting:227300Section:114Northing:6234355

Sampling date: 15/02/2013 Annual rainfall: 405 mm average

Crest of low sand dune, with slope of 5%. Soft surface with no stones.

Soil Description:

Depth (cm) Description

0-5 Dark reddish brown soft loamy sand. Abrupt to:

5-35 Strong brown firm (compact) massive moderately

calcareous loamy sand. Gradual to:

35-70 Reddish yellow firm massive very highly

calcareous sandy loam. Gradual to:

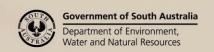
70-130 Pinkish grey firm massive very highly calcareous

coarse sandy clay loam to coarse sandy light clay

with 20-50% carbonate nodules to 6 mm.



Classification: Epibasic, Regolithic, Supracalcic Calcarosol; thick, non-gravelly, sandy / clay loamy, deep





Summary of Properties

Drainage: Well to rapidly drained. No part of the soil is likely to be saturated for more than a few

hours, or a day at most.

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

mainly due to the low clay content of the surface layers. The data indicate copper deficiency, and marginally low phosphorus concentration. Organic carbon levels are

satisfactory for this rainfall / soil type.

pH: Alkaline throughout.

Rooting depth: Moderate root growth in the upper 90 cm, with no roots observed below this depth.

Barriers to root growth:

Physical: There are no apparent physical barriers.

Chemical: Very highly calcareous medium to fine textured material from 70 cm severely restricts

root growth, partly due to very low nutrient availability.

Waterholding capacity: Approximately 90 mm in potential rootzone.

Seedling emergence: Satisfactory. Surface soil is not water repellent, nor does it set hard.

Workability: Sandy soil is easily worked, but predisposes surface to wind erosion.

Erosion Potential

Water: Low due to high water infiltration rate of surface.

Wind: High due to weakly coherent surface soil and exposed position in the landscape.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃ %	EC 1:5	ECe dS/m	Org.C %	mg/kg	P	K	mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				cations	Exchangeable Cations cmol(+)/kg				Est. ESP
				dS/m				mg/kg	mg/kg			Cu	Fe	Mn	Zn	cmol (+)/kg	Ca	Mg	Na	K	
Paddock	8.5	7.9	0.3	0.126	1.22	1.04	18	23	282	20.2	0.7	0.17	3	6.48	1.91	8.81	7.47	0.77	0.08	0.49	0.9
0-5	8.0	7.4	0.4	0.196	1.85	0.93	14	17	246	63.9	0.6	0.19	4	6.6	1.79	9.36	7.90	0.79	0.06	0.61	0.6
5-35	8.8	7.9	2.5	0.076	0.36	0.30	< 1	< 2	186	3.7	0.4	0.22	3	0.82	0.16	10.6	9.35	0.73	0.04	0.48	0.4
35-70	8.8	7.8	8.5	0.081	0.40	0.36	< 1	< 2	131	7.4	0.5	0.32	4	0.57	0.12	11.8	10.6	0.89	0.04	0.29	0.3
70-130	9.1	8.1	26.5	0.113	0.44	0.40	1	< 2	104	6.6	1.7	0.78	4	0.71	0.19	15.6	10.3	4.85	0.18	0.27	1.2

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.

Sum of cations, in a neutral to alkaline soil, approximates the CEC (cation exchange capacity), 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, in this case estimated by the sum of cations.

Further information: DEWNR Soil and Land Program

