

DEEP CARBONATE SAND

(Haslam soil)

General Description: *Very thick yellowish brown sand to loamy sand, dominantly carbonate*

Landform: Gently undulating dunefield.

Substrate: Highly calcareous sand (Class IV carbonate) over rubbly (Class III B/C) carbonate.

Vegetation:

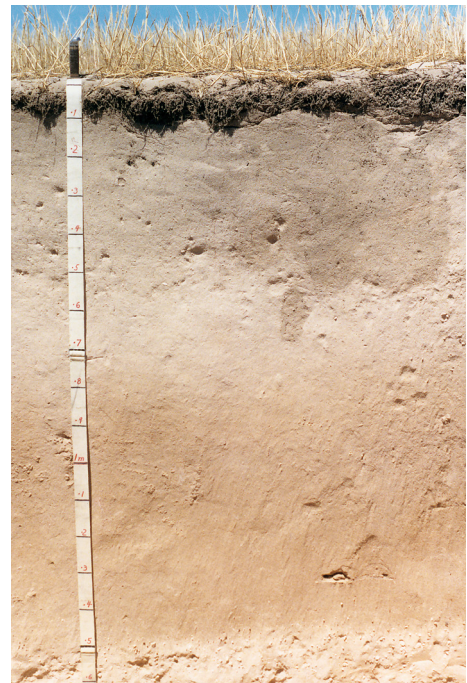


Type Site:	Site No.:	EF024	1:50,000 mapsheet:	5533-4 (Nunong)
	Hundred:	Keith	Easting:	330400
	Section:		Northing:	6445050
	Sampling date:	25/10/1988	Annual rainfall:	325 mm average

Midslope of dune, 3% slope. Loose surface with no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-8	Brown loose highly calcareous loamy sand. Abrupt to:
8-20	Yellowish brown soft highly calcareous loamy sand. Clear to:
20-50	Yellowish brown soft very highly calcareous loamy sand. Clear to:
50-80	Brownish yellow soft very highly calcareous loamy sand. Gradual to:
80-115	Brownish yellow soft very highly calcareous loamy sand. Diffuse to:
115-150	Brownish yellow soft very highly calcareous loamy sand (Class IV carbonate). Clear to:
150-180	Very pale brown friable very highly calcareous light sandy loam with more than 50% calcrete concretions. Abrupt to:
180-	Rubbly calcrete pan.



Classification: Shelly Calcarosol; non-gravelly, sandy / sandy, deep



Summary of Properties

Drainage:	Rapidly drained. The soil never remains wet for more than a few hours.
Fertility:	Inherent fertility is very low, as indicated by the exchangeable cation data. Retention capacity is poor due to lack of clay, and capacity to fix P, Zn, Cu and Mn is high. Phosphorus applications are required regularly and levels are satisfactory at the sampling site. Zinc and copper concentrations are low. Organic carbon levels are adequate.
pH:	Alkaline at the surface, strongly alkaline with depth.
Rooting depth:	80 cm in pit, but few roots below 50 cm.
Barriers to root growth:	
Physical:	There are no physical barriers.
Chemical:	High pH from 50 cm, combined with very low nutrient retention capacity restricts root growth.
Waterholding capacity:	Approximately 25 mm in the rootzone.
Seedling emergence:	Satisfactory.
Workability:	Loose surface is easily worked.
Erosion Potential:	
Water:	Low.
Wind:	Moderate to high.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ 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	
0-8	8.4	7.5	86	0.28	2.35	1.20	25	-	-	2.6	0.18	4.76	4.13	0.23	4.5	6.06	1.16	0.11	0.33	2.4
8-20	8.7	7.8	85	0.22	1.47	0.64	10	-	-	3.3	0.13	3.84	2.32	0.11	3.3	4.37	1.43	0.13	0.29	3.9
20-50	9.0	8.1	87	0.20	1.76	0.51	6	-	-	4.5	0.10	2.33	1.35	0.06	3.0	3.74	2.04	0.35	0.27	na
50-80	9.4	8.4	89	0.18	1.18	0.10	4	-	-	3.9	0.05	0.61	0.48	0.04	1.5	1.32	1.55	0.33	0.36	na
80-115	9.6	8.5	91	0.13	0.88	<0.1	3	-	-	2.2	0.07	0.62	0.27	0.04	1.2	1.06	1.04	0.32	0.27	na
115-150	9.5	8.5	90	0.14	0.94	<0.1	<2	-	-	2.6	0.07	0.84	0.40	0.06	1.2	0.95	1.05	0.29	0.29	na
150-180	9.7	8.4	88	0.30	2.35	<0.1	4	-	-	6.0	0.08	0.91	0.63	0.06	1.7	0.84	1.91	0.83	0.46	na

Note: 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](#)

