

DEEP BLEACHED SILICEOUS SAND

General Description: *Very thick bleached sand over a brown slightly more clayey subsoil, calcareous with depth*

Landform: Gently undulating dunefields

Substrate: Windblown Molineaux Sand, with minor fine carbonate accumulations

Vegetation: Mallee



Type Site: Site No.: MM014

1:50,000 sheet: 6827-1 (Karoonda)
Annual rainfall: 360 mm
Landform: Low sandhill
Surface: Loose with no stones

Hundred: Hooper
Sampling date: 07/10/91

Soil Description:

Depth (cm)	Description
0-9	Dark grey brown loose sand. Clear to:
9-52	Very pale brown (bleached) loose sand. Diffuse to:
52-74	Reddish yellow and pale brown loose sand. Sharp to:
74-93	Yellowish red soft loamy sand with 20-50% lamellae of light sandy clay loam. Abrupt to:
93-111	Reddish yellow soft loamy sand with minor lamellae (as above). Diffuse to:
111-129	Reddish yellow soft sand. Sharp to:
129-136	Light brown highly calcareous sandy loam. Sharp to:
136-179	Very pale brown highly calcareous loamy sand. Abrupt to:
179-195	Reddish yellow moderately calcareous sandy loam.



Classification: Calcareous, Argic, Bleached-Orthic Tenosol; thin, non-gravelly, sandy / sandy, deep

Summary of Properties

Drainage	Rapidly drained. The soil never remains saturated for more than a couple of hours.
Fertility	Inherent fertility is very low, according to the exchangeable cation data. Low clay and organic matter contents limit nutrient retention capacity. Phosphorus, nitrogen, copper and zinc deficiencies are likely.
pH	Neutral at the surface, alkaline with depth.
Rooting depth	52 cm in pit.
Barriers to root growth	
Physical:	No physical barriers.
Chemical:	No chemical barriers other than low nutrient status and retention capacity.
Water holding capacity	30 mm in root zone.
Seedling emergence:	Satisfactory, although reduced in dry seasons by water repellence.
Workability:	Good.
Erosion Potential	
Water:	Low.
Wind:	Moderate to moderately 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	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	7.0	6.3	<1	0.05	0.38	0.6	10	130	<0.50	<0.05	10	2.7	0.13	3.1	2.79	0.57	0.20	0.39	6.5
0-9	6.9	6.4	<1	0.05	0.44	0.6	12	77	<0.50	<0.56	8.9	3.0	0.14	3.3	3.30	0.65	0.16	0.14	4.8
9-30	7.1	6.5	<1	0.02	0.16	0.1	3	71	<0.50	<0.05	6.3	0.51	<0.06	1.9	1.47	0.36	0.14	0.12	na
30-52	7.5	6.8	1	0.02	0.12	<0.1	<2	81	<0.50	<0.05	3.5	0.13	<0.06	1.6	1.27	0.34	0.16	0.13	na
52-74	7.7	7.0	2	0.02	0.13	<0.1	2	77	<0.50	<0.05	3.3	0.14	<0.06	1.8	1.43	0.40	0.16	0.13	na
74-93	8.1	7.2	2	0.03	0.27	<0.1	<2	78	<0.50	<0.05	5.8	0.14	<0.06	6.2	4.17	2.00	0.23	0.18	3.7
93-129	8.4	7.4	5	0.02	0.17	<0.1	<2	84	<0.50	<0.05	3.0	0.45	<0.06	3.4	2.62	1.44	0.21	0.16	6.2
129-136	9.1	8.1	4	0.07	0.30	0.1	<2	97	0.54	0.10	3.4	0.27	<0.06	4.4	4.26	1.40	0.20	0.21	4.5
136-179	9.3	8.3	4	0.07	0.27	<0.1	<2	87	0.69	0.06	2.4	0.38	<0.06	3.4	3.77	1.15	0.19	0.22	5.6
179-195	9.3	8.3	1	0.09	0.28	<0.1	<2	210	1.1	0.09	2.8	0.39	<0.06	5.1	4.23	2.02	0.32	0.48	6.3

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.