

THICK BLEACHED SAND OVER SANDY CLAY LOAM

General Description: *Thick to very thick bleached sand over a brown or red sandy clay loam, becoming sandier and containing variable carbonate with depth*

Landform: Undulating rises and intervening flats.

Substrate: Windblown Molineaux Sand overlying calcreted calcarenite.

Vegetation: Mallee / heath.



Type Site: Site No.: MM084

1:50,000 sheet: 6826-4 (Binnie)

Hundred: Coolinong

Annual rainfall: 440 mm

Sampling date: 1992

Landform: Crest of low rise

Surface: Loose with no stones

Soil Description:

Depth (cm)	Description
0-10	Very dark grey single grain loose loamy sand. Clear to:
10-45	Light yellowish brown (bleached when dry) loose single grain sand. Gradual to:
45-63	Light brown soft single grain loamy sand. Sharp to:
63-70	Yellowish red hard massive sandy clay. Abrupt to:
70-80	Yellowish red soft massive sandy loam. Clear to:
80-115	Reddish yellow and brown firm massive loamy sand. Abrupt to:
115-150	Very pale brown highly calcareous friable massive sandy loam. Diffuse to:
150-210	Very pale brown friable massive highly calcareous sandy loam.



Classification: Bleached, Calcic, Red Chromosol; very thick, non-gravelly, sandy / clayey, moderate

Summary of Properties

Drainage	Rapidly drained. The soil never remains wet for more than a few hours.
Fertility	Inherent fertility is low, as indicated by the exchangeable cation data. Phosphorus, nitrogen, zinc and copper deficiencies are most likely, with manganese required by lupins. Phosphorus and copper levels are low at the sampling site. Organic carbon levels are satisfactory.
pH	Neutral at the surface, alkaline with depth.
Rooting depth	80 cm in pit.
Barriers to root growth	
Physical:	There are no physical barriers.
Chemical:	There are no chemical barriers, although low nutrient retention capacity inhibits optimum root growth.
Water holding capacity	65 mm in root zone.
Seedling emergence:	Usually reduced by water repellence.
Workability:	Soft / loose surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	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	6.8	6.3	<1	0.04	0.34	0.8	12	99	<0.40	0.13	-	1.5	0.59	2.9	3.31	0.53	0.08	0.28	na
0-10	6.7	6.3	<1	0.04	0.32	0.9	12	98	<0.40	0.16	-	1.6	0.7	3.6	4.03	0.60	0.08	0.24	2.2
10-45	6.7	6.6	<1	0.02	0.18	0.1	6	50	<0.40	<0.05	-	0.11	<0.06	1.7	1.12	0.24	0.06	0.08	na
45-63	7.5	7.0	<1	0.03	0.21	<0.1	7	87	<0.40	<0.05	-	<0.06	<0.06	2.0	1.55	0.36	0.07	0.21	na
63-70	7.6	6.7	<1	0.04	0.39	0.2	2	250	0.76	<0.05	-	0.07	<0.06	11.2	7.89	1.70	0.22	0.59	2.0
70-80	7.5	6.9	1	0.03	0.18	0.1	<2	160	<0.40	<0.05	-	<0.06	<0.06	8.1	6.29	1.33	0.15	0.44	1.9
80-115	8.2	7.3	1	0.03	0.26	<0.1	<2	65	<0.40	<0.05	-	0.3	<0.06	3.5	2.90	0.66	0.13	0.26	3.7
115-150	9.1	8.0	8	0.06	0.27	<0.1	<2	53	<0.40	<0.05	-	0.23	<0.06	2.1	2.81	0.35	0.07	0.11	na
150-210	9.2	8.0	7	0.06	0.28	<0.1	<2	71	<0.40	<0.05	-	0.45	<0.06	2.2	2.92	0.48	0.08	0.18	na

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.