

VERY THICK BLACK SAND OVER DARK GREY CLAY

General Description: *Very thick black sand without a bleached subsurface layer, over a dark grey clay grading to sandier sediment below 100 cm*

Landform: Very gently undulating plain of swamps and low rises

Substrate: Loamy sand.

Vegetation:



Type Site:	Site No.:	SE171	1:50,000 mapsheet:	7022-4 (Kalangadoo)
	Hundred:	Young	Easting:	467870
	Section:		Northing:	5827040
	Sampling date:	04/01/2013	Annual rainfall:	765 mm average

Lower slope of low rise on gently undulating plain, 2% slope. Firm surface with no stones.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-20	Black soft single grain loamy sand. Diffuse to:
20-95	Black soft single grain sandy loam. Clear to:
95-130	Dark grey firm massive to weakly coarse columnar sandy light clay. Gradual to:
130-150	Light brownish grey friable single grain loamy sand.



Classification: Eutrophic, Subnatric, Grey Sodosol; very thick, non-gravelly, sandy / clayey, deep



Summary of Properties

Drainage: Moderately well drained. No part of the profile is likely to remain wet for more than a week or two at a time following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low due to the coarse textured surface. However, high organic matter levels provide significant nutrient retention capacity, as indicated by the exchangeable cation data. According to the data, phosphorus and potassium levels are marginal, as is sub-surface zinc.

pH: Acidic throughout.

Rooting depth: Not recorded – estimate that most root growth occurs in the upper 95 cm, with some persisting in the deep subsoil clay to 130 cm.

Barriers to root growth:

Physical: The clayey subsoil presents a marginal barrier to root growth.

Chemical: Low pH and associated aluminium toxicity affect root growth in the upper 95 cm.

Waterholding capacity: Approximately 130 mm in the estimated potential rootzone.

Seedling emergence: Good, assuming no water repellence.

Workability: The surface soil is readily worked.

Erosion Potential

Water: Low.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	Ext. Al mg/kg	EC 1:5 dS/m	Cl mg/kg	Org.C %	NO ₃ + NH ₄ mg/kg	Avail. P mg/kg	PBI	Avail. K mg/kg	SO ₄ -S mg/kg	Boron mg/kg	Trace elements mg/kg (DTPA)				Sum cations cmol (+)/kg	Exchangeable cations cmol(+)/kg				ESP
													Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.0	4.7	NR	NR*	NR*	4.73	165	37	80	113	331	1.2	1.22	334	10.4	3.13	NR*	14.8	5.00	NR*	0.29	NR
0-20	6.1	5.4	1.85	0.396	362	5.39	30	22	155	132	38.4	1.5	0.91	643	15.8	2.49	28.9	20.7	5.12	2.74	0.34	9.5
20-95	6.0	5.3	1.61	0.235	148	3.83	7	8	85	52	33.7	0.5	0.39	331	1.12	0.37	17.7	13.1	3.19	1.36	0.10	7.7
95-130	6.0	5.3	0.74	0.264	131	0.86	4	<2	91	72	54.4	0.2	1.19	149	1.24	0.95	14.4	9.44	3.51	1.22	0.19	8.5
130-150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.

- * High EC, Cl and exch. Na recorded in paddock sample, possibly containing soil from downslope swamp. These values are not included in above table.

Further information: [DEWNR Soil and Land Program](#)

