

DEEP BLEACHED SAND

General Description: *Thick brown sand with a bleached subsurface layer, extending below 100 cm*

Landform: Gently undulating rises with low sandhills.

Substrate: Clayey sand formed from accumulation of translocated clay.

Vegetation:



Type Site:	Site No.:	CH172	1:50,000 mapsheet:	6627-3 (Alexandrina)
	Hundred:	Alexandrina	Easting:	320550
	Section:	12	Northing:	6069950
	Sampling date:	20/03/2009	Annual rainfall:	435 mm average

Crest of low sandhill. Loose, water repellent surface with no stones.

Soil Description:

Depth (cm)	Description
0-10	Dark brown loose single grain light loamy sand. Gradual to:
10-30	Brown soft single grain light loamy sand. Diffuse to:
30-70	Brown soft single grain light loamy sand. Gradual to:
70-125	Pink (bleached) soft single grain sand. Diffuse to:
125-180	Very pale brown (bleached) soft single grain sand. Sharp to:
180-185	Strong brown friable massive clayey sand.



Classification: Basic, Arenic, Bleached-Orthic Tenosol; very thick, non-gravelly, sandy / sandy, very deep



Summary of Properties

Drainage: Rapidly drained. No part of the profile is likely to remain saturated for more than a couple of hours.

Fertility: Inherent fertility is low, as indicated by the exchangeable cation data. Low clay content soils rely on organic matter for nutrient retention. The soil at this site has above average organic carbon levels (for the prevailing rainfall). Test data indicate that phosphorus, potassium and zinc levels are marginal.

pH: Neutral at the surface, alkaline with depth.

Rooting depth: 185 cm in the sampling pit, but few roots below 125 cm.

Barriers to root growth:

Physical: There are no physical barriers to root growth.

Chemical: Low nutrient status / retention capacity is the only chemical barrier.

Waterholding capacity: Approximately 100 mm in the potential rootzone.

Seedling emergence: Water repellence causes patchy emergence in some seasons.

Workability: Sandy surfaced soils are easily worked.

Erosion Potential:

Water: Low.

Wind: Moderate due to sandy surface and exposed position.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC 1:5 dS/m	ECe dS/m	Cl mg/kg	Org.C %	NO ₃ + NH ₄ mg/kg	Avail. P mg/kg	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				Est. ESP
													Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-10	7.5	6.3	0	0.06	0.65	152	1.38	15	14	109	58.4	0.5	0.38	14	4.71	0.50	6.6	4.94	1.06	0.28	0.32	4.2
10-30	6.7	6.0	0	0.05	0.47	49	0.44	10	16	114	12.1	0.4	0.29	26	1.14	0.20	3.4	2.41	0.50	0.11	0.36	3.3
30-70	6.9	5.9	0	0.04	0.26	22	0.21	4	7	168	5.1	0.3	0.38	33	0.54	0.17	4.6	3.41	0.60	0.13	0.44	2.8
70-125	7.7	6.6	0	0.02	0.17	8	0.05	3	2	81	2.8	0.3	0.17	11	0.25	0.13	0.9	0.53	0.15	0.04	0.22	4.3
125-180	8.2	7.3	0	0.04	0.18	12	0.05	4	2	103	2.8	0.3	0.22	6	0.20	0.19	2.4	1.47	0.58	0.12	0.26	4.9
180-185	8.3	7.4	0	0.10	0.67	42	0.09	5	-1	342	4.1	0.7	0.21	8	0.33	0.50	8.8	4.41	2.97	0.59	0.84	6.7

Note: 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](#)

