

BLEACHED SILICEOUS SAND

General Description: *Thick to very thick bleached loose sand with an organically darkened surface, and a yellow or brown sandy subsoil overlying more clayey material at variable depth*

Landform: Sand spreads and rises superimposed on relict coastal dunes

Substrate: Windblown Molineaux Sand.

Vegetation: Euc. baxteri scrub



Type Site: Site No.: SE035

1:50,000 sheet: 6825-4 (Santo)

Hundred: Santo

Annual rainfall: 500 mm

Sampling date: 24/03/95

Landform: Upper slope of undulating rise, slope 10%

Surface: Loose with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-10	Greyish brown loose sand. Clear to:
10-20	White with yellow speckles, loose sand. Clear to:
20-40	Yellow loose sand. Gradual to:
40-80	Yellow and white loose sand. Diffuse to:
80-150	White and yellow loose sand with yellowish brown sandy loam lamellae.



Classification: Basic, Arenic, Bleached-Orthic Tenosol; medium, non-gravelly, sandy / sandy, moderate.

Summary of Properties

Drainage	Rapidly drained. The profile is never saturated.
Fertility	Natural fertility is very low, due to the low clay content. Any capacity to store nutrients is provided by organic matter. In sandy soils, more than 1% organic carbon is needed. The pit site is in an area fenced off from the main paddock, so nutrient levels are very low (refer values for phosphorus, potassium, sulphur and boron). The calcium : magnesium is satisfactory, but absolute values are low, so these elements, along with trace elements are also likely to be deficient.
pH	Acidic at the surface, neutral with depth.
Rooting depth	150 cm in pit.
Barriers to root growth	
Physical:	No physical barriers.
Chemical:	Lack of nutrients and low storage capacity are the main chemical limitations to root growth.
Water holding capacity	Approximately 100 mm in root zone.
Seedling emergence	Good to fair depending on water repellence which will be severe in some seasons. The upper three layers are repellent.
Workability	Good.
Erosion Potential	
Water:	Low.
Wind:	High due to the low fertility, water repellent sandy surface, and exposed position on rise.

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 -S 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	6.3	5.3	0	0.05	0.48	1.6	6	40	9	0.3	-	-	-	-	2.7	2.28	0.67	0.13	0.12	na
0-10	6.4	5.4	0	0.05	0.53	0.8	<4	<20	6	0.2	-	-	-	-	1.7	1.17	0.41	0.14	0.15	na
10-20	5.8	4.8	0	0.04	0.42	0.6	<4	<20	4	0.2	-	-	-	-	1.3	0.59	0.29	0.13	0.05	na
20-40	6.4	5.4	0	0.02	0.22	0.3	<4	<20	6	0.3	-	-	-	-	0.7	0.27	0.20	0.11	0.07	na
40-80	6.8	6.0	0	0.02	0.21	0.1	<4	<20	2	0.1	-	-	-	-	0.8	0.26	0.25	0.12	0.07	na
80-150	7.2	6.3	0	0.02	0.14	<0.1	<4	28	2	0.1	-	-	-	-	0.9	0.41	0.45	0.16	0.10	na

Note: Paddock sample bulked from 20 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. Values not applicable at this site due to low CEC.