

HIGHLY LEACHED SILICEOUS SAND

General Description: *Very thick bleached sand, organically darkened at the surface, over a dark weakly coherent sandy subsoil*

Landform: Gently undulating sand plain.

Substrate: Windblown sand.

Vegetation:



Type Site: Site No.: SE013

1:50,000 sheet: 7022-2 (Gambier)

Hundred: Gambier

Annual rainfall: 725 mm

Sampling date: 10/02/93

Landform: Dune crest

Surface: Soft with no stones

Soil Description:

Depth (cm)	Description
0-15	Dark grey soft loamy fine sand. Diffuse to:
15-35	Dark grey soft fine sand. Diffuse to:
35-75	Pinkish grey soft fine sand.
75-115	Pinkish grey soft fine sand.
115-125	Pinkish grey soft fine sand. Clear to:
125-145	Dark reddish brown with very pale brown mottles loamy fine sand with 20-50% soft organic segregations.



Classification: Fragic, Humic, Aeric Podsol; thick, non-gravelly, sandy / sandy, deep

Summary of Properties

Drainage	Well drained. The soil rarely remains wet for more than a day or so.
Fertility	Inherent fertility is very low as indicated by the exchangeable cation data. Most nutrient retention capacity is attributable to organic matter. Surface phosphorus levels are very low, but there is substantial subsoil accumulation due to leaching. Concentrations of copper, potassium, calcium, magnesium and boron are low or marginal. Subsoil reserves are very low.
pH	Acidic at the surface, acidic to strongly acidic in the subsoil.
Rooting depth	Not recorded. Estimate low density root growth to 125 cm, with most in the upper 35 cm.
Barriers to root growth	
Physical:	There are no physical barriers.
Chemical:	There are no toxic chemical barriers, but very low nutrient status / retention capacity, and low pH restrict root growth.
Water holding capacity	Approximately 70 mm in the potential root zone.
Seedling emergence:	Fair due to water repellent surface.
Workability:	Soft 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	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	5.8	5.2	0	0.04	0.29	1.1	5.8	86	-	0.3	0.1	17	4.3	1.2	6.7	3.47	0.54	0.06	0.19	na
0-15	5.2	4.5	0	0.03	0.28	0.75	5.5	63	-	0.1	0.2	18	2.1	0.9	4.3	1.66	0.37	0.06	0.07	na
15-35	4.5	3.7	0	0.02	0.16	0.72	4.7	47	-	0.1	0.1	28	1.7	0.3	4.3	1.17	0.15	0.04	0.06	na
35-75	4.9	4.2	0	0.02	0.08	0.11	6.2	47	-	0.1	<0.1	13	0.3	<0.1	1.3	0.20	0.03	0.04	0.02	na
75-115	5.3	4.8	0	0.02	0.05	<0.02	6.2	39	-	<0.1	<0.1	10	0.1	0.1	0.7	0.08	0.01	0.05	<0.01	na
115-125	5.0	4.4	0	0.02	0.10	0.10	47	47	-	0.3	0.1	55	0.2	0.1	1.7	0.28	0.03	0.07	0.04	na
125-145	5.5	4.8	0	0.02	0.07	0.28	120	55	-	0.1	0.1	50	0.4	0.1	3.1	0.82	0.13	0.09	0.03	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