

BLEACHED SILICEOUS SAND

General Description: *Very thick bleached sand to loamy sand with an organically darkened surface over calcrete or a buried soil*

Landform: Gently undulating rises.

Substrate: Calcrete over a buried sand over clay soil.

Vegetation:



Type Site: Site No.: CK013

1:50,000 sheet:	6426-3 (Destrees)	Hundred:	Haines
Annual rainfall:	550 mm	Sampling date:	24/05/95
Landform:	Flat between gently undulating rises, 1% slope		
Surface:	Soft with no stones		

Soil Description:

Depth (cm)	Description
0-18	Very dark greyish brown loose loamy fine sand. Abrupt to:
18-45	White loose fine sand. Gradual to:
45-74	Pale yellow loose sand with clayey lamellae. Abrupt to:
74-76	Brown soft light sandy loam. Abrupt to:
76-125	Massive calcrete. Abrupt to:
Buried soil:	
125-150	Yellowish brown firm massive light sandy clay loam. Sharp to:
150-160	Pale yellow loose fine sand. Sharp to:
160-175	Light olive brown and red hard heavy clay with strong angular blocky structure.



Classification: Basic, Petrocalcic, Bleached-Orthic Tenosol; medium, non-gravelly, sandy / loamy, moderate over buried soil:
Mottled-Subnatric, Brown Sodosol; thick, non-gravelly, loamy / clayey

Summary of Properties

Drainage	Moderately well drained. Soil may remain wet for up to a week following heavy or prolonged rainfall.
Fertility	Natural fertility is very low due to the leached sandy nature of this soil. Most nutrient retention capacity is attributable to the organic matter fraction. Phosphorus and potassium are both deficient, and magnesium levels are low. A range of deficiencies can be expected.
pH	Neutral at the surface, alkaline at depth (calcrete).
Rooting depth	Approximately 80 cm in pit.
Barriers to root growth	
Physical:	Broken calcrete layer at around 80 cm severely restricts deeper root growth.
Chemical:	Low nutrient retention capacity and status limit root growth.
Water holding capacity	Effectively 30-40 mm in rootzone.
Seedling emergence:	Satisfactory, but water repellence reduces establishment in some seasons.
Workability:	Soft surface is easily worked.
Erosion Potential	
Water:	Low.
Wind:	Moderate.

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	Ext Al mg/kg	React Fe mg/kg	
											Cu	Mn	Zn		Ca	Mg	Na	K				
Paddock	7.0	6.3	<1	0.04	0.4	1.2	15	59	6.0	1.5	0.97	2.58	9.9	6.1	7.08	0.54	0.10	0.13	na	1.6	200	
											*2.2	-	*12									
0-18	6.9	6.0	<1	0.03	0.3	1.0	5	39	3.6	1.3	-	-	-	4.8	6.02	0.32	0.06	0.07	na	<1	152	
18-45	6.9	6.2	<1	0.02	0.1	0.2	4	20	3.1	0.4	-	-	-	0.8	1.06	0.09	0.07	0.02	na	<1	165	
45-74	7.1	6.5	<1	0.02	0.2	0.1	2	21	4.1	0.3	-	-	-	0.9	1.03	0.14	0.08	0.05	na	<1	232	
74-76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
76-125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125-150	8.8	8.1	6	0.14	0.6	0.1	2	75	13.3	1.0	-	-	-	4.4	3.66	1.45	0.22	0.20	5.0	<1	276	
150-160	7.6	7.5	<1	0.01	0.1	0.1	3	18	3.1	0.3	-	-	-	0.7	0.51	0.12	0.06	0.03	na	<1	176	
160-175	8.6	7.8	1	0.28	1.5	0.2	2	150	56	1.4	-	-	-	13.6	7.36	4.38	1.37	0.45	10.1	<1	387	

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.

* EDTA trace element analyses for paddock sample.

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.