

WET HIGHLY LEACHED SAND

General Description: *Bleached sand with a dark brown weakly cemented subsoil and a watertable within 100 cm*

Landform: Gently undulating rises.

Substrate: Sand, usually windblown.

Vegetation:



Type Site:	Site No.:	CK006	1:50,000 mapsheet:	6326-3 (Vivonne)
	Hundred:	Newland	Easting:	687500
	Section:	17	Northing:	6019050
	Sampling date:	9/3/93	Annual rainfall:	675 mm average

Valley flat between gently undulating rises, 1% slope. Soft surface with no stones. Watertable at 95 cm.

Soil Description:

Depth (cm)	Description
0-12	Black soft single grained light loamy sand. Clear to:
12-30	White soft single grained sand. Diffuse to:
30-52	White soft single grained sand. Abrupt but tongued (depth varies from 52 to 75 cm) boundary to:
52-70	Ortstein pan (coffee rock) – moderately cemented iron – organic pan in the upper 5 cm, over a dark reddish brown and strong brown firm massive clayey sand with 20-50% organic - aluminous - ferruginous nodules (2-6 mm). Clear to:
70-95	Yellowish brown and dark brown soft massive clayey sand with more than 50% ferruginous - organic segregations.
95-	Watertable.



Classification: Parapanic, Humic/Humosesquic, Semiaquic Podosol; medium, non-gravelly, sandy/sandy, deep



Summary of Properties

- Drainage:** Poorly drained, due to shallow water table (95 cm at time of sampling - 9th March, 1993). The soil may remain wet for several months.
- Fertility:** Natural fertility is very low, as indicated by the exchangeable cation data. Due to the low clay content, nutrient retention capacity relies on high organic matter levels (2% organic carbon minimum). Apart from nitrogen and phosphorus, this soil is susceptible to potassium, calcium, magnesium, sulphur, zinc, copper, manganese, molybdenum and boron deficiencies.
- pH:** Strongly acidic at surface, acidic with depth.
- Rooting depth:** 70 cm in pit, but few roots below 30 cm.
- Barriers to root growth:**
- Physical:** Hard coffee rock restricts deeper root growth. No root growth below water table.
 - Chemical:** Low nutrient status and retention capacity, especially in the subsoil, limits root growth.
- Waterholding capacity:** 40 mm in rootzone (low).
- Seedling emergence:** Good.
- Workability:** Good. Soft surface is easily worked, although wetness limits accessibility.
- Erosion Potential:**
- Water:** Low.
 - Wind:** Moderately low to 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 mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Exch Al cmol (+)/kg
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
Paddock	4.7	4.1	0	0.12	0.81	2.4	27	86	-	0.5	0.4	57	0.7	0.7	8.1	2.66	0.65	0.28	0.09	3.5	0.18
0-12	4.6	4.1	0	0.11	0.82	2.6	9	55	-	0.4	0.4	45	0.6	0.3	7.5	2.99	0.67	0.27	0.02	3.6	0.12
12-30	4.3	3.7	0	0.04	0.33	0.66	8	23	-	0.2	<0.1	13	<0.1	0.1	1.2	0.34	0.09	0.11	0.02	na	0.09
30-52	4.7	4.1	0	0.02	0.15	0.20	8	31	-	0.1	<0.1	5	<0.1	0.8	0.3	0.10	0.04	0.09	0.02	na	0.05
52-70	4.9	4.5	0	0.05	0.28	1.8	6	39	-	0.4	0.1	36	<0.1	0.1	7.8	0.56	0.14	0.22	0.02	2.8	2.05
70-95	5.0	4.8	0	0.06	0.26	0.67	5	39	-	0.4	<0.1	18	<0.1	0.1	3.3	0.18	0.11	0.16	0.02	4.8	0.63

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

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

