

HIGHLY LEACHED SAND

General Description: *Thick bleached sand with an iron and / or organic enriched subsurface layer*

Landform: Level sandplain.

Substrate: Windblown sand.

Vegetation: *Euc. obliqua* (stringybark) and *Banksia marginata*



Type Site: Site No.: SE042

1:50,000 sheet: 7023-2 (Penola)
Annual rainfall: 650 mm
Landform: Flat plain, 0% slope
Surface: Loose with no stones

Hundred: Comaum
Sampling date: 11/10/95

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-20	Dark grey soft fine sand with single grain structure. Diffuse to:
20-105	Pinkish grey loose fine sand with single grain structure. Sharp to:
105-125	Black hard massive loamy fine sand dominated by accumulation of organic aluminium and iron rich compounds. Gradual to:
125-135	Yellowish brown soft fine sand with single grain structure and over 50% organic-iron rich nodular segregations.



Classification: Parapanic, Pipey, Aeric Podsol; medium, non-gravelly, sandy / sandy, deep

Summary of Properties

Drainage	Rapidly drained. The soil never remains wet for more than a few hours.
Fertility	Inherent fertility is very low, as indicated by the exchangeable cation data. Clay and organic matter contents are low, so there is very little nutrient retention capacity. At the sampling site, phosphorus, potassium, calcium, magnesium, sulphur, copper, zinc and manganese are all deficient. Surface organic carbon is very low, but there is significant subsoil accumulation due to leaching.
pH	Strongly acidic throughout.
Rooting depth	105 cm in pit.
Barriers to root growth	
Physical:	The hard organic rich layer at 105 cm impedes deeper root growth.
Chemical:	Very low nutrient status and retention capacity restrict root growth.
Water holding capacity	Approximately 70 mm in the root zone.
Seedling emergence:	Fair due to water repellence.
Workability:	The loose 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 (EDTA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Ext Al mg/kg
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
Paddock	5.3	4.2	0	0.01	0.11	0.9	<4	83	5	0.1	<0.1	42	3.7	0.53	2.3	1.12	0.36	0.10	<0.1	na	-
0-20	5.3	4.2	0	0.02	0.11	0.5	<4	64	6	0.1	-	-	-	-	1.7	0.91	0.18	<0.1	<0.1	na	-
20-60	4.8	4.0	0	0.01	0.10	0.2	<4	43	6	<0.1	-	-	-	-	0.7	0.31	0.08	<0.1	<0.1	na	2.4
60-105	5.1	4.3	0	0.01	0.08	0.1	<4	31	5	0.1	-	-	-	-	0.5	0.15	0.02	<0.1	<0.1	na	-
105-125	5.1	4.3	0	0.02	0.09	1.8	<4	64	23	0.2	-	-	-	-	6.7	1.23	0.26	0.12	<0.1	na	-
125-135	5.9	5.1	0	0.02	0.11	0.2	<4	64	7	<0.1	-	-	-	-	1.0	0.54	0.14	0.10	<0.1	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