ACIDIC LOAM OVER RED CLAY ON ROCK

General Description: *Dark brown loam to clay loam with a paler coloured and gravelly A2 horizon, overlying a reddish clay with strong blocky structure, grading to weathering fine grained metamorphic rock*

Landform: Slopes of undulating to rolling low hills

Substrate: Phyllites of the Strangway Hill Formation

Vegetation: Blue gum woodland

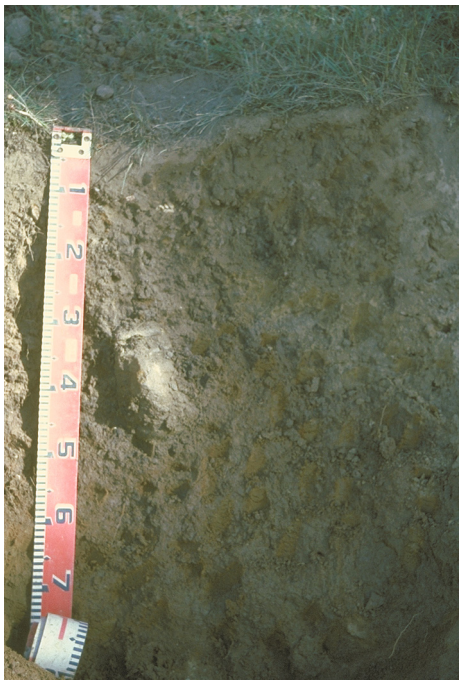
Type Site:

Site No.:	CH105	1:50,000 mapsheet:	6526-4 (Cape Jervis)
Hundred:	Yankalilla	Easting:	249950
Section:	1560	Northing:	6063900
Sampling date:	17/10/96	Annual rainfall:	690 mm average

Midslope of rolling low hills, with a gradient of 24%, hard setting surface and 2-10% surface metasandstone rocks and stones.

Soil Description:

Depth (cm)	*Description*
0-10	Dark brown loam with moderate granular structure and 2-10% metasandstone fragments. Clear to:
10-20	Brown loam with weak blocky structure and 2-10% metasandstone fragments. Abrupt to:
20-50	Dark reddish brown medium clay with strong polyhedral structure and 10-20% phyllite fragments. Gradual to:
50-80	Dark reddish brown and dark brown mottled medium clay with strong polyhedral structure and 10-20% phyllite fragments. Clear to:
80-100	Dark greyish brown and orange mottled heavy clay with weak polyhedral structure and 20-50% phyllite fragments. Clear to:
100-120	Weathering phyllite.



Classification: Sodic, Eutrophic, Red Chromosol; medium, slightly gravelly, loamy / clayey, deep

Summary of Properties

Drainage: Moderately well drained. Water will "perch" on top of the clay subsoil for up to a week at a time following prolonged rainfall.

Fertility: Natural fertility is moderate. Phosphorus is very low and the fixation capacity of the soil is high. Copper and zinc levels are low. Organic carbon is high.

pH: Acidic at the surface, neutral with depth. Lime is required to correct problem.

Rooting depth: 80 cm in cutting.

Barriers to root growth:

Physical: Shallow depth to bedrock in places.

Chemical: There are no chemical barriers, although acidity needs control.

Waterholding capacity: Approximately 100 mm.

Seedling emergence: Fair, due to hard setting, sealing surface soil.

Workability: Fair to poor due to slope and surface stone.

Erosion Potential:

Water: High, due to the slope.

Wind: Moderately low.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	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 (EDTA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.5	4.7	0	0.07	0.33	4.6	8	228	16	1.3	1.21	536	147	1.86	13.8	7.1	2.3	0.29	0.61	2.1
0-10	5.8	4.9	0	0.07	0.40	2.5	4	386	15	1.0	-	-	-	-	10.5	5.3	1.6	0.24	1.0	2.3
10-20	6.2	5.2	0	0.03	0.16	1.1	<4	263	11	0.9	-	-	-	-	6.5	4.0	1.5	0.20	0.85	3.0
20-50	6.6	5.8	0	0.06	0.15	1.2	<4	486	22	2.0	-	-	-	-	16.5	7.3	7.7	0.69	1.5	4.2
50-80	6.8	6.0	0	0.06	0.14	0.8	<4	458	18	1.9	-	-	-	-	18.3	5.8	8.6	0.73	1.4	4.0
80-100	7.2	6.2	0	0.06	0.21	0.4	<4	292	20	2.0	-	-	-	-	15.2	4.6	8.9	1.1	0.61	7.1

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