

ACIDIC LOAM OVER RED CLAY ON ROCK

General Description: *Red brown loam over a red well structured clay grading to fine grained metamorphic rock*

Landform: Slopes of the central Mt. Lofty Ranges

Substrate: Precambrian age phyllite or meta-siltstone

Vegetation: Red gum - blue gum woodland



Type Site: Site No.: CH111

1:50,000 sheet:	6627-1 (Echunga)	Hundred:	Macclesfield
Annual rainfall:	800 mm	Sampling date:	04/03/97
Landform:	Mid slope of a moderately steep rise, 20% slope		
Surface:	Hard setting with less than 2% phyllite fragments		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-15	Dark brown loam with moderate granular structure and 10-20% phyllite fragments. Clear to:
15-25	Dark brown loam with moderate granular structure and more than 50% phyllite fragments. Abrupt to:
25-50	Dark reddish brown medium clay with strong polyhedral structure and 20-50% phyllite fragments. Clear to:
50-75	Weathering phyllite.



Classification: Melanic, Subnatric, Red Sodosol; medium, gravelly, loamy / clayey, moderate

Summary of Properties

Drainage	Moderately well drained. The soil may remain wet for up to a week following prolonged rain.
Fertility	Natural fertility is high. Test data indicate that phosphorus is deficient. Levels of other elements are satisfactory. Calcium : magnesium ratio is correct. Organic carbon levels are very high.
pH	Acidic at the surface, neutral at depth. Dolomitic lime is needed to correct acidity.
Rooting depth	50 cm in pit.
Barriers to root growth	
Physical:	Shallow depth to rock.
Chemical:	Possible manganese toxicity if soil becomes too acidic.
Water holding capacity	Approximately 60 mm in root zone.
Seedling emergence:	Good to fair - surface is prone to seal over and set down hard.
Workability:	Fair to good. Hard setting surface is prone to compaction.
Erosion Potential	
Water:	Moderately high due to the slope.
Wind:	Low.

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
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	5.5	4.7	0	0.13	-	4.2	18	305	9.6	1.2	1.8	653	105	5.9	17.4	9.7	2.8	0.23	0.55	1.3
0-15	5.8	4.9	0	0.07	-	3.3	7	238	5.7	0.8	1.5	377	180	3.1	15.6	8.8	2.8	0.39	0.35	2.5
15-25	6.6	5.4	0	0.04	-	1.1	5	377	2.5	0.4	1.6	89	55	1.5	12.7	7.3	3.0	0.82	0.26	6.4
25-50	6.7	5.6	0	0.05	-	0.8	2	342	11	0.6	2.4	45	8.0	1.6	24.8	10.9	5.9	1.60	0.70	6.5
50-75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.