

ACIDIC SANDY LOAM OVER BROWN CLAY ON ROCK

General Description: *Stony grey sandy loam with a bleached A2 horizon overlying a brown, yellow and red friable clayey subsoil grading to weathering sandstone*

Landform: Hillslopes throughout the central and western Mt. Lofty Ranges

Substrate: Precambrian sandstone

Vegetation: Stunted stringybark forest



Type Site: Site No.: CH110

1:50,000 sheet: 6628-1 (Barossa)

Hundred:

Para Wirra

Annual rainfall: 750 mm

Sampling date:

03/03/97

Landform: Mid slope of a steep low hill, 40% slope.

Surface: Firm with 10-20% sandstone and quartzite fragments.

Soil Description:

Depth (cm)	Description
0-10	Dark brown massive sandy loam with 20-50% sandstone and quartzite fragments. Clear to:
10-40	Pink (bleached) massive sandy loam with 20-50% sandstone and quartzite fragments. Abrupt to:
40-70	Yellowish red light medium clay with moderate polyhedral structure and 2-10% sandstone fragments. Gradual to:
70-100	Hard sandstone.



Classification: Bleached, Eutrophic, Brown Kurosol; thick, moderately gravelly, loamy / clayey, moderate

Summary of Properties

Drainage	Well drained. The soil is never likely to be saturated for more than a day or so following prolonged rain.
Fertility	Natural fertility is low. Test data indicate that phosphorus is low, and calcium, magnesium, copper and sulphur are marginal. Low calcium + magnesium and high potassium can lead to hypomagnesia (grass tetany) in cattle.
pH	Acidic at the surface, strongly acidic with depth. Dolomitic lime needed for correction.
Rooting depth	70 cm in cutting.
Barriers to root growth	
Physical:	Shallow depth to rock is the main limitation.
Chemical:	Acidity will affect sensitive species.
Water holding capacity	Approximately 50 mm in root zone.
Seedling emergence:	Fair to good - soil is prone to compaction and hard setting.
Workability:	Not relevant - too steep. On gentler slopes poor soil structure and abrasive stones hinder effective working.

Erosion Potential

Water:	Very high due to the slope. The soil itself is also highly erodible.
Wind:	Moderately 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	5.9	4.9	0	0.05	-	2.9	14	352	5.7	1.2	0.9	221	61	4.2	10.8	5.3	1.1	0.11	0.76	1.0
0-10	5.7	4.7	0	0.04	-	2.6	19	252	4.8	0.8	0.6	174	33	2.7	7.9	3.0	0.8	0.13	0.57	1.6
10-40	5.4	4.4	0	0.02	-	0.4	4	116	2.4	0.4	0.4	35	10	0.5	3.8	0.9	0.6	0.11	0.23	2.9
40-70	5.2	4.1	0	0.02	-	0.4	2	178	2.2	0.6	0.4	51	1.5	0.6	13.6	1.9	4.4	0.22	0.42	1.6
70-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the cutting.

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.