ACIDIC SANDY LOAM OVER BROWN CLAY ON ROCK

General Description: *Thick sandy surface soil with abundant stone and gravel, overlying a yellow brown and grey brown firm clay subsoil, grading to weathering metamorphosed sandstone.*

Landform: Slopes of undulating to rolling low hills of the north eastern Mt. Lofty Ranges

Substrate: Metamorphosed sandstones of the Backstairs Passage Formation

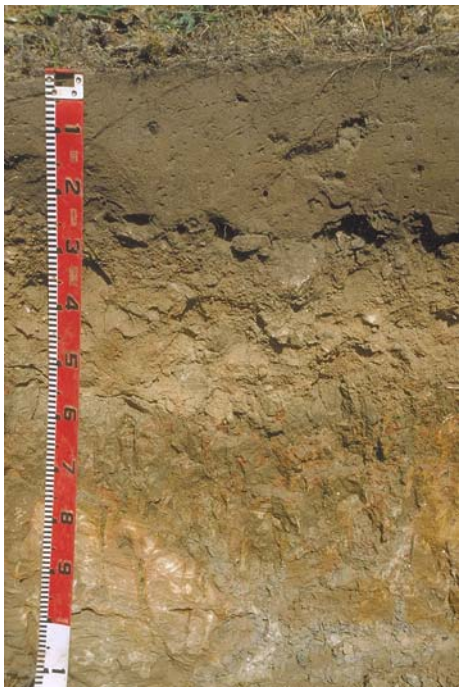
Vegetation: Blue gum and red gum woodland

Type Site: Site No.: CH035

1:50,000 sheet:	6728-4 (Angaston)	Hundred:	Jutland
Annual rainfall:	600 mm	Sampling date:	11/12/92
Landform:	Lower slope of undulating low hills, 8% slope.		
Surface:	Firm with negligible stone.		

Soil Description:

Depth (cm)	*Description*
0-20	Very dark grey soft sandy loam with weak granular structure. Abrupt to:
20-35	Brown soft massive coarse sandy loam, with more than 50% quartz gravel and stones. Clear to:
35-50	Yellowish brown and brown soft massive loamy sand. Abrupt to:
50-70	Greyish brown, brown and red mottled medium clay with coarse blocky structure and up to 50% metasandstone fragments. Abrupt to:
70-120	Weathering metasandstone with clay in fissures.



Classification: Bleached-Mottled, Eutrophic, Grey Chromosol; thick, non-gravelly, loamy / clayey, moderate

Summary of Properties

Drainage Moderately well drained. The soil is unlikely to remain wet for more than a week or so.

Fertility Moderate natural fertility, as indicated by the exchangeable cation data. Acidification will further reduce nutrient retention capacity. Extractable phosphorus and potassium levels are high at pit site, but copper and exchangeable calcium, magnesium and potassium levels are low. Organic carbon levels are satisfactory.

pH Acidic at surface, slightly acidic with depth. Dolomitic lime will correct pH problem.

Rooting depth 70 cm in pit.

Barriers to root growth

Physical: None apparent.

Chemical: Low fertility in subsurface layers, particularly the 35-50 cm layer.

Water holding capacity 70 mm in rootzone (moderate).

Seedling emergence Good, except where organic matter is severely depleted.

Workability Good.

Erosion Potential

Water: Moderate (8% slope).

Wind: Moderately low to 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	5.6	5.1	0	0.09		1.8	58	330	-	0.7	0.62	284	18.6	2.87	4.3	3.31	0.72	0.17	0.36	4.0
0-20	5.3	4.8	0	0.05	0.25	1.6	91	380	-	0.5	-	-	-	-	5.6	3.46	0.59	0.21	0.28	3.8
20-35	5.3	4.8	0	0.03	0.10	0.37	20	200	-	0.5	-	-	-	-	3.4	2.07	0.64	0.11	0.13	3.2
35-50	5.7	5.1	0	0.03	0.08	0.20	8	190	-	0.2	-	-	-	-	2.9	1.42	1.10	0.15	0.06	5.2
50-70	5.6	5.0	0	0.04	0.10	0.27	3	210	-	0.6	-	-	-	-	8.2	2.51	5.28	0.32	0.19	3.9
70-120	6.5	5.7	0	0.03	0.12	0.01	3	220	-	<0.1	-	-	-	-	2.4	1.09	3.27	0.77	0.05	n.a.

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.