

# ACIDIC SANDY LOAM OVER BROWN CLAY ON ROCK

**General Description:** *Stony sandy loam with a bleached A2 layer, over a brown well structured clayey subsoil forming in weathering coarse grained rock*

**Landform:** Hillslopes in the higher rainfall districts

**Substrate:** Coarse grained basement rocks, including sandstone, greywacke, schist and gneiss

**Vegetation:** Blue gum woodland



**Type Site:** Site No.: CH071

1:50,000 sheet: 6728-4 (Angaston)      Hundred: Moorooroo

Annual rainfall: 625 mm      Sampling date: 27/07/92

Landform: Midslope on undulating low hills, 6% slope

Surface: Firm with less than 2% sandstone fragments

## Soil Description:

Depth (cm)	Description
0-21	Dark grey sandy loam with a thin bleached and gravelly A2 layer. Abrupt to:
21-65	Strong brown medium clay with strong medium polyhedral structure and minor quartz gravel. Gradual to:
65-100	Decomposing mica schist.



**Classification:** Bleached, Mesotrophic, Brown Kurosol; medium, non-gravelly, loamy / clayey, moderate

## Summary of Properties

- Drainage:** Moderately well to imperfectly drained. Water will perch on the subsoil clay in wet years, keeping the upper profile saturated for up to several weeks.
- Fertility:** Natural fertility is low, as indicated by the exchangeable cation data. These low values are caused by low organic carbon and clay levels in the surface soil, and the predominantly low activity clay minerals in the subsoil. Phosphorus and potassium levels are adequate, but cation leaching will continuously deplete calcium, magnesium and potassium. Correction of soil acidity with lime or dolomitic lime will arrest leaching and improve calcium (and possibly magnesium) status.
- pH:** Acidic throughout.
- Rooting depth:** Good root growth to 65 cm, few roots below this.
- Barriers to root growth:**
- Physical:** No apparent barriers.
  - Chemical:** No apparent barriers, apart from low nutrient status.
- Water holding capacity:** Approximately 80 mm total available water, and approximately 35 mm readily available water in the root zone.
- Seedling emergence:** Good, provided that surface structure is maintained. Excessive cultivation will result in compaction and surface sealing which affects emergence.
- Workability:** Good.
- Erosion Potential**
- Water:** Moderately high. Soil is highly erodible but slope is gentle.
  - Wind:** Moderately low. Excessive soil disturbance will lead to erosion hazard.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Row	6.0	5.7	0	0.06	0.28	0.80	81	206	-	0.5	1.8	58	1.0	1.7	2.6	2.4	0.6	0.12	0.17	na
0-21	5.6	5.1	0	0.05	0.17	0.62	48	104	-	0.5	0.9	67	0.4	0.9	2.6	1.8	0.5	0.12	0.12	na
21-65	5.2	5.0	0	0.07	0.22	0.33	6	80	-	1.1	0.5	14	0.1	0.1	4.2	1.4	2.0	0.20	0.12	4.8
65-100	5.3	5.1	0	0.08	0.23	0.15	<5	60	-	1.1	0.3	4.2	0.1	<0.1	3.0	0.7	2.3	0.17	0.08	5.7

- Note:** Row sample bulked from cores (0-15 cm) taken from along the vine rows 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.