

SHALLOW LOAM OVER WEATHERING ROCK

General Description: *Hard reddish loam to clay loam with increasing gravel content over weathering fine grained basement rock within 50 cm*

Landform: Slopes of rolling to steep low hills and hills

Substrate: Fine grained basement rocks, mainly siltstones (Saddleworth Formation at sampling site)

Vegetation: Blue gum / red gum (*Euc. leucoxylon* / *camaldulensis*) woodland



Type Site: Site No.: CH169

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

Hundred: Para Wirra

Annual rainfall: 725 mm

Sampling date: 09/01/07

Landform: Lower slope of rolling low hills, 40% slope.

Surface: Hard setting with 2-10% siltstone fragments to 200 mm.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-15	Dark reddish brown firm loam with weak granular structure and 10-20% siltstone fragments to 60 mm). Gradual to:
15-50	Reddish brown firm massive loam with more than 50% siltstone fragments to 200 mm. Gradual to:
50-80	Weathering siltstone with minor pockets of loam (as above).



Classification: Basic, Paralithic, Leptic Tenosol; medium, gravelly, loamy / loamy, moderate

Summary of Properties

Drainage: Rapidly to well drained. The profile is never likely to remain wet for more than a few hours at a time.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data. At the sampling site, P levels are low, and Cu, Zn and S levels are marginal. However, the site is not representative of the paddock as a whole. Phosphate fixation can be expected due to the high reactive iron levels.

pH: Acidic throughout.

Rooting depth: Some roots to 80 cm (i.e. in fissures of weathering rock), but most root growth is in the upper 50 cm.

Barriers to root growth:

Physical: The underlying rock is the only barrier. Where rock strata dip steeply (as at this site), roots can penetrate to some depth.

Chemical: There are no apparent chemical barriers. Salinity, alkalinity and boron toxicity are never problems on these soils.

Water holding capacity: Approximately 35 mm in the potential root zone.

Seedling emergence: Fair to good.

Workability: These soils generally occur on land which is too steep for cultivation.

Erosion Potential

Water: High due to the land slope.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Cl mg/kg	SO ₄ -S mg/kg	Boron mg/kg	React Fe mg/kg	Trace Elements mg/kg (EDTA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
													Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-15	6.0	5.0	0	0.06	0.38	2.64	9	462	25	5.3	0.6	2083	1.01	118	85.9	0.71	9.6	6.23	2.04	0.24	1.12	2.5
15-50	6.1	5.3	0	0.06	0.32	0.99	14	438	28	3.4	0.3	1386	0.72	74	21.9	0.26	10.6	6.02	3.67	0.24	0.69	2.3
50-80	6.5	5.6	0	0.04	0.36	0.08	8	654	26	2.1	0.2	407	0.54	53	5.2	0.05	13.9	4.94	8.43	0.26	0.31	1.9

Note: Sum of cations, in a neutral to alkaline soil, approximates the CEC (cation exchange capacity), a measure of the soil's capacity to store and release major nutrient elements.

Est. ESP (estimated exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the sum of cations.