

## SHALLOW SILTY LOAM OVER WEATHERING ROCK

**General Description:** Firm silty loam to loam with increasing gravel content over weathering fine grained basement rock within 50 cm

- Landform:** Slopes of undulating to rolling low hills and hills
- Substrate:** Fine grained basement rocks including siltstones and phyllites (Balhannah Formation at sampling site)
- Vegetation:** Blue gum (Euc. Leucoxydon) woodland



- Type Site:** Site No.: CH150  
 Hundred: Barossa  
 Section: 966  
 Sampling date: 23/09/03
- 1:50,000 mapsheet: 6628-1 (Barossa)  
 Easting: 309600  
 Northing: 6162350  
 Annual rainfall: 700 mm average

Midslope of rolling low hills, 20% slope. Hard setting surface with 2-10% phyllite fragments to 200 mm.

### Soil Description:

Depth (cm)	Description
0-20	Very dark greyish brown friable silty loam with moderate granular structure and 2-10% phyllite fragments (6-20 mm). Clear to:
20-50	Very dark greyish brown friable light silty clay loam with weak polyhedral structure and more than 50% phyllite fragments (6-60 mm). Clear to:
50-100	Weathering phyllite with minor pockets of light silty clay loam (as above).



- Classification:** Melacic, Paralithic, Chernic Tenosol; medium, slightly gravelly, silty / silty, moderately deep



## Summary of Properties

**Drainage:** Well drained. The profile is never likely to remain wet for more than a couple of days at a time.

**Fertility:** Inherent fertility is moderately high, as indicated by the exchangeable cation data. Note that most of the nutrient retention capacity of the surface soil is attributable to organic matter. Test data suggest that concentrations of all nutrients are adequate.

**pH:** Acidic throughout.

**Rooting depth:** Some roots to 100 cm (i.e. in fissures of weathering rock).

### 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.

**Waterholding capacity:** Approximately 45 mm in the potential rootzone.

**Seedling emergence:** Fair to good.

**Workability:** Fair to good. Provided that surface condition is maintained by high levels of organic matter, the soil can be worked over a range of moisture conditions.

### Erosion Potential:

**Water:** Moderately high, due to the land slope.

**Wind:** Low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC 1:5 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 (EDTA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-20	5.3	4.8	0	0.30	2.75	4.61	33	453	14.7	1.0	2.46	431	62.0	6.59	21.3	14.2	6.15	0.28	0.65	1.3
20-50	5.7	4.9	0	0.10	0.92	0.91	9	374	5.7	0.5	0.98	115	6.91	0.42	7.9	5.22	2.15	0.19	0.29	2.4
50-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**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.

**Further information:** [DEWNR Soil and Land Program](#)

