

## ACIDIC GRADATIONAL LOAM OVER ROCK

**General Description:** *Dark shaly loam with a pale brown clay loamy subsurface layer grading to a well structured friable orange clay forming in weathering shale*

**Landform:** Slopes of rolling to steep hills.

**Substrate:** Shaly siltstone, commonly yellow in colour

**Vegetation:** *E. obliqua* (stringybark) forest.



**Type Site:** Site No.: CH119

1:50,000 sheet: 6628-3 (Adelaide)

Hundred:

Onkaparinga

Annual rainfall: 1150 mm

Sampling date:

29/03/98

Landform: Upper slope of rolling low hills, slope 16%

Surface: Hard setting with 2-10% siltstone gravel

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-15	Dark brown hard loam with moderate granular structure and 2-10% siltstone gravel. Gradual to:
15-35	Brown weakly structured light clay loam with 20-50% siltstone gravel. Clear to:
35-50	Friable orange medium clay with strong polyhedral structure. Gradual to:
50-80	Yellow and orange friable light clay with moderate polyhedral structure and more than 50% weathering siltstone fragments. Gradual to:
80-100	Semi hard siltstone.



**Classification:** Haplic, Eutrophic, Brown Chromosol; thick, slightly gravelly, loamy/clayey, moderate

## Summary of Properties

**Drainage** The soil is well drained, and is unlikely to remain wet for more than a day or so even after substantial rainfall.

**Fertility** Natural fertility is moderate but nutrient leaching is likely under the high rainfall conditions. Acidification will exacerbate this potential problem.

**pH** Acidic to strongly acidic throughout.

**Rooting depth** Strong vine root growth to 50 cm, few roots below 80 cm.

### Barriers to root growth

**Physical:** No physical barriers other than hard basement rock, which is only likely to be a problem when shallower than 50 cm.

**Chemical:** No chemical barriers.

**Water holding capacity** Approximately 100 mm in root zone. Readily available capacity is approximately 45 mm.

**Seedling emergence:** Good.

**Workability:** Good.

### Erosion Potential

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

**Wind:** Low

## 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 (EDTA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Exch Al mg/kg
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
Row	5.7	4.9	0	0.06	-	2.95	13	259	15.9	1.0	38.0	191	16.1	15.6	-	5.26	2.10	0.14	0.44	-	25.6
0-15	5.2	4.4	0	0.07	-	2.56	9	117	9.4	1.0	5.27	124	1.89	2.48	-	2.40	0.99	0.22	0.20	-	121
15-35	5.5	4.6	0	0.02	-	1.34	3	69	1.5	0.7	0.96	50.8	0.22	0.74	-	1.54	0.73	0.12	0.06	-	89.4
35-50	5.8	5.0	0	0.03	-	0.41	4	136	20.6	0.7	0.59	16.3	<0.1	1.31	-	2.90	6.18	0.20	0.27	-	7.18
50-80	5.6	4.9	0	0.03	-	0.23	12	87	30.0	0.8	0.78	13.7	<0.1	1.33	-	1.69	4.39	0.17	0.13	-	6.86
80-100	Weathering rock – no analyses																				

**Note:** Row sample bulked from 20 cores (0-15 cm) taken along the planting rows.

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.