

ACIDIC GRADATIONAL LOAM OVER ROCK

General Description: *Dark brown loamy surface with a paler coloured subsurface horizon overlying a brown, yellow and red mottled clay loamy to clayey subsoil forming in weathering fine grained metamorphic rock*

- Landform:** Slopes of undulating low hills
- Substrate:** Proterozoic phyllite or schist
- Vegetation:** Blue gum (*Euc. leucoxylon*) woodland



- Type Site:** Site No.: CH098
 Hundred: Onkaparinga
 Section: 5263
 Sampling date: 06/09/96
- 1:50,000 mapsheet: 6628-2 (Onkaparinga)
 Easting: 309250
 Northing: 6130900
 Annual rainfall: 795 mm average

Midslope of undulating low hill with a gradient of 8% and a firm surface.

Soil Description:

Depth (cm)	Description
0-13	Very dark greyish brown silty loam with weak coarse blocky structure and 2-10% phyllite gravel. Clear to:
13-28	Greyish brown silty clay loam with weak coarse blocky structure and 2-10% phyllite gravel. Clear to:
28-40	Brown, red and yellowish brown silty medium clay with strong polyhedral structure and 2-10% phyllite gravel. Clear to:
40-75	Soft weathering phyllite with pockets of dark yellowish brown and brown silty clay loam with weak polyhedral structure.



Classification: Sodic, Eutrophic, Brown Dermosol; medium, slightly gravelly, silty / clayey, moderate



Summary of Properties

Drainage: Moderately well drained. Saturation within the profile is unlikely for more than a week.

Fertility: Natural fertility is moderately high as indicated by the exchangeable cation data. Levels of all measured elements are adequate. Organic carbon is satisfactory.

pH: Neutral at the surface, slightly acidic with depth.

Rooting depth: 75 cm in pit (in rock cleavages at the base).

Barriers to root growth:

Physical: Moderately shallow depth to rock.

Chemical: There are no chemical barriers.

Waterholding capacity: Approx. 80 mm total available, 40 mm readily available.

Surface condition: Firm, easy to work.

Erosion Potential:

Water: Moderate due to the slope.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl 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	Exch Al mg/kg
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
Row	7.1	6.1	0	0.07	0.31	1.82	49	308	7.5	1.0	17.5	183	52.7	5.17	14.2	11.7	2.00	0.26	0.46	1.8	3.1
0-13	7.2	6.3	0	0.06	0.32	2.10	35	279	5.0	0.9	-	-	-	-	12.0	10.8	1.45	0.21	0.51	1.8	2.9
13-28	6.8	5.7	0	0.05	0.20	1.46	13	137	3.5	0.6	-	-	-	-	10.9	8.12	1.63	0.40	0.18	3.7	3.4
28-40	6.2	5.0	0	0.07	0.34	0.89	8	126	20.7	0.7	-	-	-	-	19.5	11.6	5.24	1.56	0.39	8.0	19.1
40-75	6.2	5.0	0	0.10	0.49	0.47	8	97	30.2	0.3	-	-	-	-	12.3	7.71	3.70	1.52	0.16	12.4	32.6

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

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.

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

