

ACIDIC SANDY LOAM OVER RED CLAY ON ROCK

General Description: *Medium to thick dark sandy loam overlying a friable red, orange and brown clay grading to gneissic parent rock within 100 cm*

Landform: Rises and low hills

Substrate: Albitized gneiss of the Barossa Complex

Vegetation: Euc. camaldulensis - Euc. leucoxydon woodland

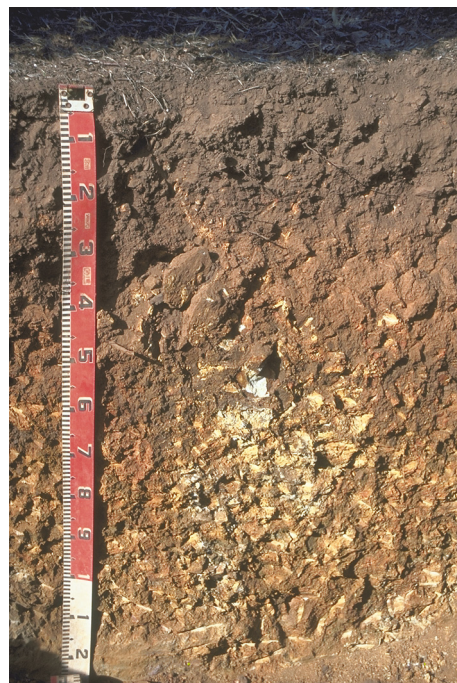


Type Site:	Site No.:	CH106	1:50,000 mapsheet:	6628-2 (Onkaparinga)
	Hundred:	Para Wirra	Easting:	303050
	Section:	6089	Northing:	6147800
	Sampling date:	03/03/97	Annual rainfall:	745 mm average

Mid slope of an undulating rise. 10% slope. Firm surface with no stone.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-20	Dark brown soft sandy loam with moderate granular structure. Clear to:
20-40	Reddish brown firm light sandy clay loam with weak granular structure and 20-50% gneiss gravel and stone. Abrupt to:
40-60	Red and orange friable medium clay with strong polyhedral structure and 10-20% gneiss stone and gravel. Clear to:
60-100	Orange and red firm fine sandy clay loam with weak polyhedral structure and more than 50% weathering gneiss fragments. Gradual to:
100-130	Weathering gneiss.



Classification: Melanic, Eutrophic, Red Chromosol; thick, slightly gravelly, loamy / clayey, deep



Summary of Properties

Drainage: Well drained. The soil is unlikely to remain saturated for more than a day or so after heavy rain.

Fertility: All measured nutrient elements are well supplied in the surface soil and organic carbon levels are satisfactory.

pH: Acidic at the surface, neutral with depth.

Rooting depth: 100 cm in pit, with a few roots in the weathering rock.

Barriers to root growth:

Physical: None, except where bedrock is close to the surface.

Chemical: None, although there is sodium concentration at the base of the profile (possibly due to irrigation).

Waterholding capacity: Approximately 80 mm in rootzone.

Seedling emergence: Good.

Workability: Prone to compaction, but easily worked.

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
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Row	6.4	5.7	0	0.16	-	2.6	112	428	20	1.5	103	257	54.2	18.4	12.8	9.0	1.8	0.16	0.77	1.2
0-20	5.6	4.8	0	0.11	-	2.2	87	331	16	0.9	73	256	40.6	10.2	11.0	6.2	0.9	0.09	0.56	0.8
20-40	6.4	5.4	0	0.02	-	0.5	7	146	2.4	0.3	6.6	68	2.8	1.1	8.0	4.4	1.9	0.21	0.14	2.6
40-60	6.5	5.5	0	0.04	-	0.7	2	152	2.8	0.3	0.98	96	1.3	1.3	19.3	8.8	7.3	0.73	0.24	3.8
60-100	6.9	6.0	0	0.06	-	0.2	35	152	17	0.5	0.21	45	1.7	1.2	10.7	5.2	9.9	1.27	0.08	11.9
100-130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Row sample bulked from 20 cores (0-10 cm) taken along tree lines near 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.

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

