

## DARK GREY CRACKING CLAY

**General Description:** *Dark grey to black self-mulching and cracking clay*

**Landform:** Elevated very gently undulating plains and low lying alluvial flats. Crabholes (gilgai) are common.

**Substrate:** Pleistocene clays (Blanchetown Clay equivalent)

**Vegetation:** Open woodland of bullock and box



<b>Type Site:</b>	Site No.:	SE003	1:50,000 mapsheet:	7025-2 (Tatiara)
	Hundred:	Tatiara	Easting:	480350
	Section:	Racecourse	Northing:	5982050
	Sampling date:	23/01/1991	Annual rainfall:	490 mm average

Alluvial flat, 0% slope. Self-mulching, cracking surface.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-2	Very dark grey strongly granular medium clay (self-mulching). Abrupt to:
2-20	Dark grey moderately subangular blocky medium clay. Gradual to:
20-40	Grey moderately subangular blocky medium heavy clay. Gradual to:
40-60	Dark grey moderately angular blocky moderately calcareous heavy clay. Gradual to:
60-100	Brownish grey strongly angular blocky, moderately calcareous heavy clay. Gradual to:
100-150	Light grey strongly angular blocky highly calcareous medium clay (Class I carbonate layer).



**Classification:** Epicalcareous-Endohypersodic, Self-mulching, Grey Vertosol; non-gravelly, medium fine / very fine, deep



## Summary of Properties

**Drainage:** Imperfectly drained. Soil may remain wet for some weeks, due to its high clay content and low lying position.

**Fertility:** Natural fertility is very high, as indicated by the CEC values throughout the soil. The only likely deficiency (apart from phosphorus - highly deficient at time of sampling - and nitrogen) is zinc, which is low at the type site and is commonly deficient on clay soils.

**pH:** Slightly alkaline at surface, strongly alkaline with depth.

**Rooting depth:** 100 cm in pit.

### Barriers to root growth:

**Physical:** No physical limitations apart from possible damage to roots from cracking. Waterlogging will retard root growth in wet years.

**Chemical:** Class I carbonate layer and excessive boron from 100 cm limit root growth.

**Waterholding capacity:** 150 to 200 mm in rootzone (very high).

**Seedling emergence:** Good, provided that self-mulching surface is maintained.

**Workability:** Fair. Soil becomes sticky and boggy when wet.

### Erosion Potential:

**Water:** Low.

**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> mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Cl mg/kg
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K		
0-20	7.9	7.8	<0.1	0.19	-	1.7	9	550	-	3.1	0.5	14.9	3.1	0.3	36.0	25.3	8.1	0.5	2.0	1	78
20-40	8.2	7.9	3.3	0.21	-	0.8	4	420	-	4.6	0.6	13.3	3.8	<0.1	36.9	22.4	11.5	1.5	1.7	4	83
40-60	8.9	8.3	10.1	0.32	-	0.3	<2	440	-	10.4	0.7	9.1	1.6	<0.1	38.2	16.9	15.1	4.4	1.8	12	74
60-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100-150	9.1	8.4	21.1	0.39	-	0.2	3	450	-	23.7	0.6	8.8	1.2	<0.1	39.2	12.4	16.7	7.3	1.9	19	87

**Note:** 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](#)

