

ACIDIC LOAM OVER RED CLAY ON ROCK

General Description: *Sandy loam to clay loam overlying a brown, red and yellowish mottled well structured clay, forming in weathering siltstone or fine sandstone*

- Landform:** Slopes of rises and low hills
- Substrate:** Precambrian siltstone or fine sandstone
- Vegetation:** Red gum - blue gum woodland



Type Site:	Site No.:	CH114	1:50,000 mapsheet:	6627-4 (Noarlunga)
	Hundred:	Kuitpo	Easting:	290700
	Section:	960	Northing:	6106650
	Sampling date:	4/3/97	Annual rainfall:	810 mm average

Midslope of a moderately inclined rise. Firm surface, 10% slope.

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-18	Dark brown hard loam with moderate granular structure. Gradual to:
18-28	Brown (bleached when dry) massive loam with 20-50% quartz gravel. Abrupt to:
28-70	Dark reddish brown medium heavy clay with strong polyhedral structure and 2-10% quartz gravel. Gradual to:
70-100	Dark brown, red and yellow mottled medium clay with strong polyhedral structure and 20-50% weathering siltstone fragments. Gradual to:
100-110	Hard siltstone.



Classification: Bleached, Eutrophic, Red Chromosol; medium, non-gravelly, loamy / clayey, deep



Summary of Properties

- Drainage:** Moderately well to imperfectly drained. Water will "perch" on top of the clay for weeks after prolonged rain.
- Fertility:** Natural fertility is moderate. Test data indicate that only magnesium is likely to be deficient - hypomagnesia is probable in cattle. Some element concentrations (especially phosphorus) are high. Organic carbon levels are very high.
- pH:** Acidic at the surface, neutral with depth. Dolomite is needed to correct acidity.
- Rooting depth:** 100 cm in pit, but few roots below 70 cm.
- Barriers to root growth:**
- Physical:** None.
- Chemical:** None apparent, but manganese toxicity can be expected if pH falls further.
- Waterholding capacity:** Approximately 75 mm in rootzone.
- Seedling emergence:** Fair to good. Surface is prone to compaction.
- Workability:** Fair to good. Surface will set hard with a narrow moisture range for effective working.
- Erosion Potential:**
- Water:** Moderate due to 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	
Paddock	5.4	4.6	0	0.18	-	4.3	237	670	14	1.2	1.7	994	64	12	13.8	6.2	1.5	0.14	1.44	1.0
0-18	5.3	4.5	0	0.17	-	5.1	328	647	14	1.7	2.2	1335	90	20	14.4	7.3	1.4	0.15	1.31	1.0
18-28	5.5	4.6	0	0.05	-	1.3	120	407	5.2	0.8	1.0	407	25	4.0	9.0	3.2	1.2	0.12	0.88	1.3
28-70	5.8	4.8	0	0.05	-	0.8	23	1282	5.1	1.4	2.1	67	7.9	1.7	19.6	6.2	5.0	0.26	3.30	1.3
70-100	6.4	5.7	0	0.07	-	0.4	4	1161	38	0.5	1.5	42	2.0	1.0	17.6	4.6	6.4	0.28	3.72	1.6

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the 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](#)

