GRADATIONAL RED CLAY

General Description: *Friable medium to fine textured surface soil overlying a reddish brown well structured clay, highly calcareous with depth, formed over fine grained bedrock*

Landform: Gently undulating to undulating rises

Substrate: Medium to fine grained basement rock, strongly calcified

Vegetation: Blue gum woodland

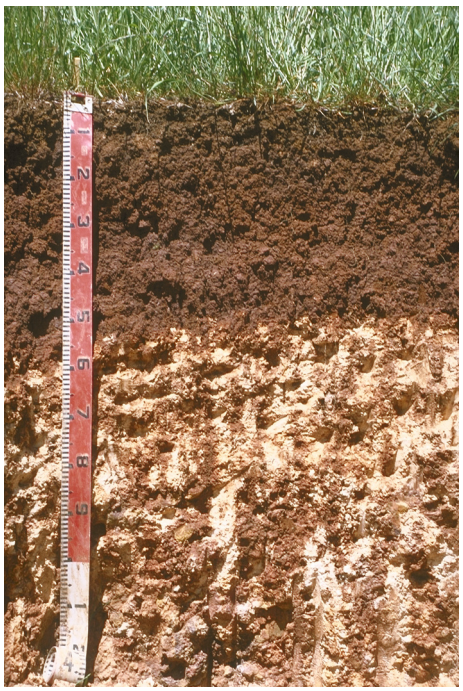
Type Site:

Site No.:	CM037	1:50,000 mapsheet:	6630-2 (Apoinga)
Hundred:	Hanson	Easting:	295100
Section:	420	Northing:	6256100
Sampling date:	20/05/93	Annual rainfall:	495 mm average

Upper slope of a very gently undulating rise, with a 1% slope, a self-mulching surface and minor surface ironstone gravel

Soil Description:

Depth (cm)	*Description*
0-10	Dark red friable medium clay with blocky structure. Clear to:
10-30	Dark red heavy clay with strong prismatic breaking to blocky structure. Diffuse to:
30-60	Dark red medium clay with strong blocky structure. Clear to:
60-90	Yellowish red highly calcareous light medium clay with weak polyhedral structure, 20-50% soft carbonate segregations and about 10% sandstone fragments. Gradual to:
90-130	Red highly calcareous light medium clay with weak polyhedral structure, 20-50% soft carbonate segregations and up to 50% sandstone fragments. Gradual to:
130-140	Weathering ferruginized fine sandstone.



Classification: Haplic, Hypercalcic, Red Dermosol; medium, non-gravelly, clayey / clayey, deep

Summary of Properties

Drainage: The soil is moderately well drained and is unlikely to remain wet for more than a week at a time.

Fertility: The soil has a very high level of natural fertility, as indicated by the exchangeable cation data. Organic carbon and phosphorus are also high, indicating good surface nutrition.

pH: Slightly acidic at the surface, becoming alkaline with depth.

Rooting depth: 90 cm in sampling pit.

Barriers to root growth:

Physical: There are no physical barriers above the weathering rock, which would limit the rooting depth if it occurred within a metre of the surface.

Chemical: There are no apparent chemical barriers to root growth.

Waterholding capacity: Approximately 140 mm in rootzone.

Seedling emergence: Good.

Workability: Good.

Erosion Potential:

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	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 (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	6.0	5.7	0	0.13	0.68	2.7	50	950	-	2.5	1.5	51	35.9	0.5	24.1	13.45	3.45	0.21	2.40	0.9
0-10	6.5	6.4	0	0.17	0.76	2.5	36	1103	-	2.6	1.4	25	26.8	0.4	30.8	20.47	3.98	0.22	3.10	0.7
10-30	6.9	6.7	0	0.08	0.28	1.3	9	875	-	3.9	1.2	10	11.6	0.2	34.7	23.33	4.33	0.28	2.74	0.8
30-60	7.9	7.6	0.2	0.12	0.23	0.8	4	368	-	3.1	1.1	7	3.6	<0.1	39.9	27.43	6.16	0.46	1.24	1.2
60-90	8.3	7.9	41.4	0.15	0.33	0.3	6	210	-	2.4	0.7	5	1.9	<0.1	23.7	16.18	5.50	0.50	0.73	2.1
90-130	8.6	8.0	35.7	0.17	0.36	0.4	4	281	-	3.5	0.6	5	2.0	<0.1	21.0	12.06	6.77	0.96	0.81	4.6

Note: Paddock sample bulked from 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