

LOAM OVER RED CLAY ON ROCK

General Description: *Massive red brown loamy surface overlying a red well structured clayey subsoil forming in weathering rock with variable soft carbonate*

Landform: Slopes of undulating to rolling low hills and rises

Substrate: Weathering siltstone, fine sandstone or shale with soft carbonate segregations

Vegetation: Blue gum - peppermint box woodland



Type Site: Site No.: CM017

1:50,000 sheet: 6630-2 (Apoinga)

Hundred:

Waterloo

Annual rainfall: 430 mm

Sampling date:

14/02/92

Landform: Midslope of an undulating rise, 4% slope

Surface: Hard setting with no stones

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-5	Reddish brown, massive hard setting loam with shale fragments. Abrupt to:
5-15	Reddish brown clay loam with weak polyhedral structure and shale fragments. Abrupt to:
15-55	Red medium clay with strong coarse polyhedral structure and 5% shale fragments. Diffuse to:
55-140	Weathering shale with 20% clay pockets and soft carbonate in rock cleavages.



Classification: Haplic, Hypocalcic, Red Chromosol; medium, non-gravelly, loamy/clayey, moderate

Summary of Properties

Drainage	The soil is well drained and is unlikely to remain wet for more than a few days.
Fertility	The soil has a moderate to high inherent fertility as indicated by the exchangeable cation data. Organic carbon and phosphorus levels are high.
pH	Acidic at surface, alkaline with depth
Rooting depth	100 cm in pit, but few roots below 55 cm (weathering rock)
Barriers to root growth	
Physical:	Shallow depth to rock is the only significant barrier to root growth.
Chemical:	There are no apparent chemical barriers.
Water holding capacity	Approximately 65 mm in root zone.
Seedling emergence	Fair to good depending on surface condition (surface sealing is a problem if organic matter levels are low).
Workability	Fair to good (provided that high organic matter levels are maintained).
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 -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP	Ext Al mg/kg	
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K			
Paddock	5.6	4.6	0	0.09	0.7	2.89	58	450	-	-	1.15	223	20.2	1.31	12.0	6.80	1.75	0.22	0.82	1.8	1.3	
0-5	6.4	5.7	0	0.22	1.4	3.19	61	470	-	-	1.18	222	27.1	1.16	15.0	10.67	2.06	0.27	1.01	1.8	0.4	
5-15	5.9	4.7	0	0.04	0.3	1.72	30	210	-	1.3	1.23	158	15.4	0.60	12.2	6.93	1.99	0.21	0.49	1.7	0.6	
15-55	7.4	6.2	2	0.05	0.2	0.67	4	200	-	1.8	1.39	17	3.9	0.05	27.8	12.56	7.22	1.23	0.57	4.4	-	
55-140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.