

## 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 mapsheet: | 6630-2 (Apoinga) |
| Hundred:       | Waterloo | Easting:           | 309950           |
| Section:       | 358      | Northing:          | 6238100          |
| Sampling date: | 14/02/92 | Annual rainfall:   | 490 mm average   |

Midslope of an undulating rise, 4% slope, hard setting surface.

### 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.

**Waterholding capacity:** Approximately 65 mm in rootzone.

**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 <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	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.

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

