

## SANDY LOAM OVER RED CLAY ON ROCK

**General Description:** *Sandy loam to sandy clay loam over a well structured red clay forming in weathering schistose basement rock within a metre*

**Landform:** Undulating rises.

**Substrate:** Schists of the Mangalo /  
Cooke Gap Formations.

**Vegetation:**



**Type Site:** Site No.: EE201  
 1:50,000 sheet: 6130-1 (Rudall)      Hundred: Yadnarie  
 Annual rainfall: 410 mm      Sampling date: 17/09/01  
 Landform: Upper slope of undulating rise, 4% slope  
 Surface: Soft with no stones

### Soil Description:

Depth (cm)	Description
0-10	Dark reddish brown massive firm sandy loam. Clear to:
10-25	Red massive firm light sandy clay loam. Abrupt to:
25-50	Red firm medium clay with moderate medium subangular blocky structure and 10-20% schist fragments to 20 mm. Gradual to:
50-80	Weathering schist.



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

## Summary of Properties

- Drainage:** Well drained. The soil is unlikely to remain wet for more than a day or so following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderately high, as indicated by the exchangeable cation data. Phosphorus and potassium levels are high, soil measured trace elements are adequate. Organic carbon / nitrogen reserves are satisfactory, although not high.
- pH:** Slightly acidic at the surface, neutral with depth
- Rooting depth:** 70 cm in pit.

### Barriers to root growth:

**Physical:** The only barrier to root growth is the underlying basement rock. Hardness varies substantially over short distances.

**Chemical:** There are no apparent chemical barriers.

**Water holding capacity:** Approximately 75 mm in the root zone.

**Seedling emergence:** Satisfactory, except where surface seals.

**Workability:** Satisfactory provided that surface condition is maintained.

### Erosion Potential

**Water:** Moderate due to the slope and high erodibility of the surface soil.

**Wind:** Low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC 1:5 dS/m	Org.C %	NO <sub>3</sub> mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum of cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Zn	Mn		Ca	Mg	Na	K	
0-10	6.3	5.7		0.05	1.13	8	64	331	2.7	0.7	0.91	19.4	7.46	31.5	6.1	4.08	1.11	0.11	0.80	1.8
10-25	6.7	6.2		0.03	0.41	2	27	176	2.9	0.9	0.56	8.7	0.50	20.0	7.8	5.10	2.05	0.19	0.44	2.4
25-50	7.0	6.3		0.06	0.54	2	7	93	9.7	1.7	0.68	4.7	0.41	9.76	18.8	8.38	9.51	0.67	0.27	3.6
50-80	7.4	6.7		0.10	0.28	2	3	149	14.6	1.2	0.30	5.1	0.26	6.25	22.6	8.53	12.4	1.27	0.37	5.6

**Note:** Sum of cations in neutral to alkaline soils is an approximation of cation exchange capacity (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 sum of cations.