## **CLAY LOAM OVER RED CLAY ON ROCK**

General Description: Hard setting sandy loam to clay loam abruptly overlying a

strongly structured red clay, calcareous with depth, grading to

weathering basement rock

**Landform:** Undulating to rolling rises

and low hills.

**Substrate:** Fine sandstones and

siltstones of the Mintaro

**Shale Formation** 



**Type Site:** Site No.: CM904

1:50,000 sheet: 6630-1 (Burra) Hundred: Hanson
Annual rainfall: 450 mm Sampling date: March 1990

Landform: Lower slope of low hill, 7% slope Surface: Hard setting with no stones

**Soil Description:** 

Depth (cm) Description

0-10 Reddish brown hard fine sandy clay loam with

weak granular structure. Clear to:

10-17 Light reddish brown hard massive clay loam.

Abrupt to:

17-35 Dark reddish brown hard heavy clay with strong

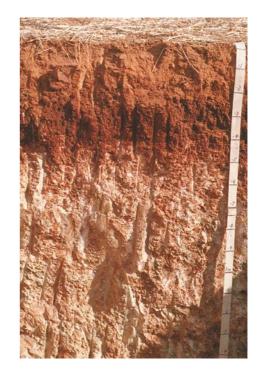
medium prismatic structure. Clear to:

35-45 Yellowish red hard highly calcareous heavy clay

with moderate angular blocky structure and 2-10% fine carbonate segregations. Gradual to:

45-130 Reddish yellow hard massive calcareous light

clay (highly weathered fine sandstone).



 $\textbf{Classification:} \quad \text{Calcic, Red Chromosol / Sodosol; medium, non-gravelly, clay loamy / clayey, moderate} \\$ 

## Summary of Properties

**Drainage:** Moderately well drained. Water may perch on the clayey subsoil for up to a week

following heavy or prolonged rainfall.

**Fertility:** Inherent fertility is moderately high due to the relatively high clay and organic matter

contents of the surface soil. However, the tendency towards acidification will reduce

nutrient retention capacity.

**pH:** Acidic at the surface, strongly alkaline with depth.

**Rooting depth:** Poor root growth throughout – no roots below 35 cm.

**Barriers to root growth:** 

**Physical:** Hard consistence throughout restricts, but does not prevent root growth.

**Chemical:** High boron concentration, high pH (and probably sodicity) inhibit root growth below

35 cm. However, the data do not explain the poor root growth in the upper 35 cm.

Water holding capacity: Approximately 50 mm in the potential root zone.

**Seedling emergence:** Fair. Hard setting surface tends to seal over, preventing full seedling emergence.

Workability: Fair. The surface soil tends to shatter if worked too dry, and puddle if worked too

wet.

**Erosion Potential** 

Water: Moderate.

Wind: Low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaC1 <sub>2</sub>	CO <sub>3</sub> %	EC 1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Boron mg/kg
0-10	5.7	5.3	0	0.18	1	1.52	93	2.4
10-17	5.9	5.2	0	0.10	-	0.85	34	2.4
17-35	7.5	6.6	0	0.18	-	0.56	5	9.7
35-45	8.8	7.7	8	0.45	-	0.39	3	16.1
45-130	9.5	8.7	2	0.78	4.41	0.22	3	15.3