

## 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

**Vegetation:**



<b>Type Site:</b>	Site No.:	CM904	1:50,000 mapsheet:	6630-1 (Burra)
	Hundred:	Hanson	Easting:	295550
	Section:	995	Northing:	6273300
	Sampling date:	March 1990	Annual rainfall:	470 mm average

Lower slope of low hill, 7% slope. Hard setting surface.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
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).



**Classification:** 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.
- Waterholding capacity:** Approximately 50 mm in the potential rootzone.
- 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 CaCl <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	-	1.52	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

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

