

## SANDY LOAM OVER RED BROWN CLAY ON ALLUVIUM

**General Description:** *Medium to thick sandy loam over a coarsely structured red to brown clay, calcareous with depth, forming in coarse textured alluvial sediments*

**Landform:** Very gently undulating alluvial plains with well defined water courses.

**Substrate:** Coarse textured alluvium, mantled by soft windblown carbonates.

**Vegetation:**

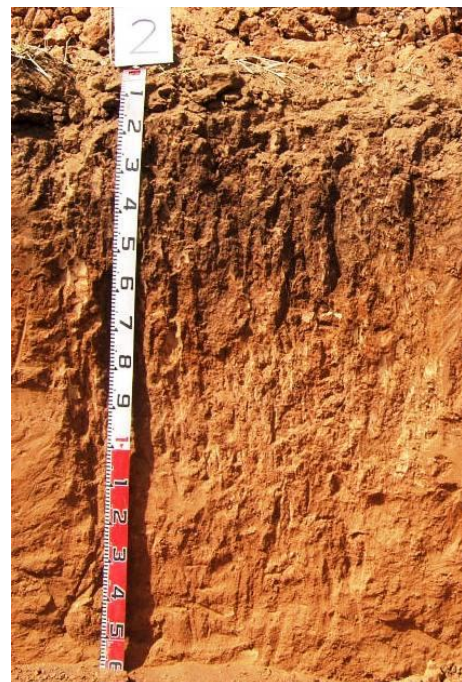


<b>Type Site:</b>	Site No.:	CU075	1:50,000 mapsheet:	6532-2 (Booleroo)
	Hundred:	Willowie	Easting:	247460
	Section:	31	Northing:	6370400
	Sampling date:	13/02/2013	Annual rainfall:	375 mm average

Alluvial terrace, 1% slope. Firm surface with no stones.

### Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-15	Dark brown firm sandy loam with weak coarse platy structure. Abrupt to:
15-54	Dark brown hard medium clay with strong coarse prismatic, breaking to angular blocky structure. Gradual to:
54-80	Yellowish red hard sandy light clay with weak coarse prismatic structure. Gradual to:
80-110	Strong brown massive firm very highly calcareous coarse sandy loam. Gradual to:
110-160	Strong brown massive firm very highly calcareous coarse sandy loam with 2-10% quartz gravel and carbonate nodules to 6 mm.



**Classification:** Haplic, Calcic, Brown Chromosol; medium, non- gravelly, loamy / clayey, moderate



## Summary of Properties

- Drainage:** Well to moderately well drained. The clay subsoil has low permeability, but the underlying alluvium allows free deep drainage. The profile is unlikely to remain wet for more than a week following heavy or prolonged rainfall.
- Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. The sandy loam surface soil has limited nutrient retention capacity, due to relatively low and organic matter content. The subsoil clay provides adequate reserves. There are no deficiencies according to the data.
- pH:** Slightly acidic at the surface, alkaline with depth.
- Rooting depth:** 110 cm.
- Barriers to root growth:**
- Physical:** The coarsely structured subsoil clay restricts root proliferation to some extent. Deep subsoil provides good physical root growth conditions
  - Chemical:** There are no apparent chemical limitations.
- Waterholding capacity:** Approximately 140 mm in potential rootzone.
- Seedling emergence:** The surface seals when dry, affecting emerging seedlings in unfavourable weather conditions.
- Workability:** The soil can be worked over a range of moisture conditions.
- Erosion Potential**
- Water:** Moderately low. Soil is erodible, but slope is negligible.
  - 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 %	NO <sub>3</sub> mg/kg	Avail. P mg/kg	Avail. K mg/kg	SO <sub>4</sub> -S mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				Sum cations cmol (+)/kg	Exchangeable Cations cmol(+)/kg				Est. ESP
												Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	6.2	5.8	0	0.084	0.87	0.64	14	37	388	7.7	0.3	1.01	18	43.0	0.95	5.3	3.46	1.14	0.08	0.66	1.5
0-15	6.4	5.7	0	0.075	0.48	0.87	6	37	480	7.0	0.3	1.03	18	36.3	0.98	6.3	4.12	1.17	0.06	0.95	1.0
15-54	8.1	7.2	0	0.071	0.43	0.39	1	5	201	6.1	0.7	0.96	12	8.64	0.07	13.2	9.39	3.12	0.24	0.49	1.8
54-80	8.6	7.9	0.4	0.104	0.61	0.24	< 1	11	176	5.6	0.6	0.69	3	2.73	0.04	12.0	8.88	2.46	0.25	0.39	2.1
80-110	9.0	8.0	4.4	0.13	0.76	0.14	1	2	128	9.5	0.5	0.54	2	1.67	0.06	11.5	8.93	1.91	0.37	0.33	3.2
110-160	9.1	8.2	4.0	0.128	1.00	0.13	< 1	3	121	6.1	0.5	0.48	2	1.63	0.07	10.0	7.59	1.65	0.47	0.3	4.7

**Note:** Paddock sample bulked from cores (0-10 cm) taken around the pit.

Sum of cations, in a neutral to alkaline soil, approximates the CEC (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 CEC, in this case estimated by the sum of cations.

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

