

SANDY CLAY LOAM OVER BROWN CLAY

General Description: *Sandy loam to sandy clay loam over a brown or dark coloured well structured clay, calcareous with depth*

Landform: Gently undulating rises.

Substrate: Calcareous clay.

Vegetation: Red gum (*Eucalyptus camaldulensis*).



Type Site: Site No.: SE071

1:50,000 sheet:	7024-2 (Hynam)	Hundred:	Jessie
Annual rainfall:	550 mm	Sampling date:	28/08/97
Landform:	Midslope of gentle rise, 1% slope		
Surface:	Firm with no stones.		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-11	Very dark greyish brown soft fine sandy clay loam with moderate coarse subangular blocky structure. Gradual to:
11-20	Dark brown friable sandy clay loam with moderate coarse subangular blocky structure. Abrupt to:
20-39	Brown, light brown and strong brown friable light medium clay with moderate polyhedral structure. Gradual to:
39-61	Brown and yellowish red friable slightly calcareous medium clay with moderate polyhedral structure. Abrupt to:
61-94	Yellowish brown firm massive calcareous medium clay with 20-50% carbonate concretions (6-20 mm). Diffuse to:
94-150	Light yellowish brown and yellowish brown firm massive calcareous medium heavy clay with 20-50% fine carbonate.



Classification: Melanic-Mottled, Supracalcic, Brown Chromosol; medium, non-gravelly, clay loamy / clayey, moderate

Summary of Properties

- Drainage:** Well drained. The soil rarely remains wet for more than a week.
- Fertility:** Inherent fertility is moderate, as indicated by the exchangeable cation data. High clay and organic matter levels of surface soil provide ample nutrient retention capacity. The only element which appears to be deficient is copper.
- pH:** Acidic at the surface, alkaline with depth.
- Rooting depth:** 94 cm in pit, but few roots below 61 cm.
- Barriers to root growth:**
- Physical:** There are no physical barriers.
- Chemical:** High carbonate content in a clayey matrix from 61 cm restricts root growth.
- Water holding capacity:** Approximately 100 mm in the root zone.
- Seedling emergence:** Satisfactory, although loss of organic matter may cause hard setting and surface sealing, which will impact on emergence.
- Workability:** Firm surface is easily worked.

Erosion Potential

- Water:** Low.
- Wind:** Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO ₄ -S 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	6.6	5.8	0	0.21	-	3.31	43	486	25.9	1.6	0.51	242	32.9	1.67	-	10.3	1.88	0.35	1.20	-	1.4
0-11	5.4	4.7	0	0.14	-	2.44	21	212	16.6	1.0	0.56	256	39.8	1.37	-	7.19	1.21	0.19	0.63	-	1.6
11-20	5.9	5.1	0	0.05	-	1.08	4	249	6.4	0.9	0.50	99	45.0	1.16	-	7.76	1.76	0.17	0.56	-	1.2
20-39	6.9	6.1	0	0.05	-	0.98	1	342	4.3	1.2	0.71	44	22.2	1.20	28	20.41	4.13	0.37	0.93	1.3	1.1
39-61	8.8	7.7	0.5	0.09	-	0.87	1	365	4.8	1.5	0.89	46	25.5	1.28	32	24.23	4.60	0.48	0.94	1.5	1.0
61-94	8.8	7.6	35	0.10	-	0.56	<1	256	4.6	1.1	0.59	7	2.51	1.23	20	16.15	3.36	0.40	0.63	2.0	0.8
94-150	9.0	7.9	21	0.10	-	0.21	<1	243	3.4	1.1	0.36	6	1.80	1.07	17	13.12	3.76	0.50	0.54	2.9	1.0

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.