## GRADATIONAL CLAY LOAM

General Description: Red brown medium to fine textured, well structured surface soil, grading to a friable clay subsoil overlying rubbly carbonate

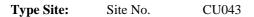
**Landform:** Slopes of undulating rises

**Substrate:** Variable alluvium mantled

by variable, usually rubbly carbonate (Class III A, B or

C)

Vegetation: Blue gum woodland



1:50,000 sheet: 6532-3 (Melrose) Hundred: Wongyarra Annual rainfall: 550 mm Sampling date: 06/06/94 Landform: Upper slope of a weakly dissected pediment, 3% slope

Surface: Firm with minor quartz gravel

## **Soil Description:**

Depth (cm) Description

0-12 Dark reddish brown light clay with moderate

granular structure. Clear to:

12-27 Dark reddish brown heavy clay with strong fine

polyhedral structure. Abrupt to:

27-45 Reddish brown very highly calcareous massive

light clay with 20-50% carbonate nodules (Class

III B carbonate). Clear to:

45-75 Orange very highly calcareous massive light clay

with 10-20% carbonate nodules (Class III A

carbonate). Clear to:

75-130 Greyish brown, red and dark brown massive

moderately calcareous light sandy clay loam with

20-50% quartzite gravel.



Classification: Haplic, Supracalcic, Red Dermosol; medium, non-gravelly, clayey / clayey, moderate

## Summary of Properties

**Drainage** The soil is well drained and is unlikely to remain wet for more than a day or so

following rain.

**Fertility** The soil has a high level of natural fertility (high CEC dominated by calcium).

Organic carbon (and therefore total nitrogen) is high. There are no deficiencies

indicated by the data, although phosphorus levels are marginal.

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

**Rooting depth** 120 cm in pit.

Barriers to root growth

**Physical:** There are no apparent barriers to root development. The soil is well structured and

has no hard pans.

**Chemical:** Salt, boron and sodicity levels are low and the pH is not excessively high.

Water holding capacity Approximately 140 mm.

**Seedling emergence** Good provided that surface organic matter levels are maintained.

**Workability** Good, although the soil may tend to be sticky when wet.

**Erosion Potential** 

Water: Moderately low.

Wind: Low.

## Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaC1 <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	K	mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
							mg/kg	mg/kg			Cu	Fe	Mn	Zn	(1)/16	Ca	Mg	Na	K	
Paddock	5.6	5.3	0	0.17	0.96	2.5	26	388	-	1.6	1.0	41	31.7	1.9	20.3	14.2	2.8	0.20	1.27	1.0
0-12	5.7	5.3	0	0.09	0.37	2.3	33	272	-	1.3	1.0	36	19.1	1.7	19.3	13.4	2.3	0.16	0.79	0.8
12-27	7.8	7.5	0.3	0.15	0.50	1.1	5	146	-	1.1	0.7	9	5.6	0.5	26.1	21.0	2.3	0.20	0.54	0.8
27-45	8.6	7.9	45.2	0.12	0.45	0.9	4	90	-	0.7	0.5	5	1.9	0.2	13.3	11.6	1.4	0.22	0.26	1.7
45-75	8.6	7.9	40.7	0.13	0.59	0.2	<4	97	1	0.9	0.4	4	1.0	0.2	15.6	12.7	2.6	0.22	0.25	1.4
75-130	8.8	8.2	13.8	0.17	0.72	0.2	<4	114	-	0.8	0.2	2	0.2	0.2	24.0	13.3	7.9	1.57	0.33	6.5

**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.