GRADATIONAL CLAY LOAM

General Description: Medium thickness clay loam grading to a well structured red clay,

highly calcareous with depth

Landform: Undulating rises.

Substrate: Coarsely structured heavy

clay (Hindmarsh Clay

equivalent).

Vegetation: Mallee.



Type Site: Site No.: CM090 1:50,000 mapsheet: 6530-2 (Blyth)

Hundred:HartEasting:260700Section:488Northing:6261600

Sampling date: 04/08/2000 Annual rainfall: 430 mm average

Midslope of undulating rise, 3% slope. Firm surface, seasonally cracking in places. No stone.

Soil Description:

Depth (cm) Description

0-13 Dark reddish brown hard clay loam with coarse

subangular blocky structure.

Clear to:

Dark reddish brown firm medium heavy clay with

strong fine polyhedral structure.

Gradual to:

40-70 Yellowish red firm very highly calcareous light

clay with weak coarse prismatic structure.

Gradual to:

70-95 Red firm highly calcareous light clay with weak

coarse prismatic structure.

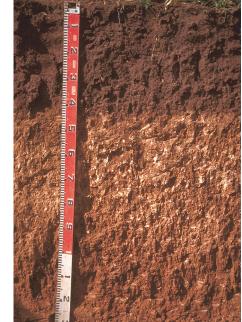
Diffuse to:

95-170 Red with grey mottles very hard moderately

calcareous medium heavy clay with very coarse prismatic structure and minor soft manganese

segregations.

Classification: Sodic, Hypercalcic, Red Dermosol; medium, non-gravelly, clay loamy / clayey, moderate







Summary of Properties

Drainage: Moderately well drained. The soil rarely remains wet for more than a week at a time.

Fertility: Inherent fertility is high, as indicated by the exchangeable cation data. Concentrations

of all measured nutrient elements are satisfactory. Organic carbon levels are

favourable.

pH: Neutral at the surface (alkalinity in paddock sample is due to calcareous surface soils

adjacent to the pit site) to strongly alkaline at depth.

Rooting depth: 95 cm in pit but few roots below 70 cm.

Barriers to root growth:

Physical: There are no barriers above the Hindmarsh Clay, which affects root growth from 95

cm.

Chemical: High pH, high sodicity and moderate salinity from 40 cm restrict root growth.

Waterholding capacity: Approximately 40 mm in the rootzone.

Seedling emergence: Fair (in some patches of hard setting soils) to satisfactory where surface soils are

calcareous, self-mulching.

Workability: Fair to good. The more clayey surface soils tend to become sticky when wet. The

hard setting surfaces have a narrow moisture range for effective working.

Erosion Potential:

Water: Moderately low.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	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	₆ «6			Cu	Fe	Mn	Zn	()/116	Ca	Mg	Na	K	
Paddock	8.2	7.1	0.1	0.20	1.3	1.72	89	585	4.1	1.5	0.87	13	8.9	1.6	16.8	13.1	4.4	0.38	1.84	2.3
0-13	7.3	6.6	0	0.17	1.6	1.61	88	558	6.2	1.8	0.97	13	8.7	0.79	17.3	12.7	4.7	1.2	1.46	6.9
13-40	9.0	8.1	0.6	0.63	4.1	0.63	8	282	19.9	7.0	1.2	9.6	1.9	0.73	28.2	16.7	9.9	5.8	1.22	20.6
40-70	9.3	8.3	26	1.43	13.6	0.36	6	229	289	14.7	1.40	8.1	0.84	0.48	15.3	5.4	8.2	7.7	0.81	50.3
70-95	9.4	8.3	30	1.45	13.8	0.23	5	226	316	13.2	1.1	6.7	0.77	0.52	13.9	3.7	7.2	7.8	0.78	56.1
95-170	9.2	8.5	13	1.43	9.3	0.11	4	287	340	18.9	0.71	5.6	0.44	0.24	16.6	4.2	8.8	9.8	0.94	59.0

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.

Further information: DEWNR Soil and Land Program



