GRADATIONAL RED CLAY LOAM OVER CALCRETE

General Description: Shallow to moderately deep red brown crumbly loam to clay loam

overlying calcareous fine grained bedrock, usually with a calcrete

capping

Landform: Slopes of gently undulating

to undulating rises and low

hills

Substrate: Calcareous shale or siltstone,

containing abundant fine carbonate which often forms a hard capping on the

weathering rock

Vegetation: Blue gum woodland



Type Site: Site No.: CM041 1:50,000 mapsheet: 6630-3 (Clare)

Hundred:Upper WakefieldEasting:284000Section:792Northing:6236700

Sampling date: 11/08/93 Annual rainfall: 550 mm average

Midslope of an undulating low hill with a firm surface and a slope of 8%.

Soil Description:

Depth (cm) Description

0-9 Dark reddish brown clay loam with strong

granular structure. Abrupt to:

9-34 Dark reddish brown light clay with strong

polyhedral structure and up to 10% calcrete

fragments. Sharp to:

34-36 Moderately strong calcrete pan. Sharp to:

36-120 Soft weathering calcareous siltstone with a texture

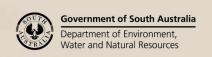
of silty clay loam and 75% soft finely divided

carbonate distributed throughout.

Classification: Haplic, Petrocalcic, Red Dermosol; thin, non-

gravelly, clay loamy / clayey, shallow







Summary of Properties

Drainage: The soil is well drained and no part of the profile is likely to remain wet for more than

a day or so.

Fertility: The soil has moderately high level of natural fertility as indicated by the cation

exchange capacity and degree of calcium saturation. Phosphorus levels at the

sampling site are high; organic carbon is adequate.

pH: Neutral at the surface, alkaline with depth.

Rooting depth: Few roots penetrate the weathering rock (36 cm deep in the sampling pit). Roots only

occur where topsoil has fallen into cracks or channels.

Barriers to root growth:

Physical: The thin calcrete pan restricts root growth into the underlying softer rock.

Chemical: There are no apparent chemical barriers to root growth.

Waterholding capacity: Approximately 50 mm in the rootzone in the sampling pit.

Seedling emergence: Good.

Workability: Good.

Erosion Potential:

Water: Moderate, due to the 8% slope. The soil has a relatively low susceptibility to erosion

because of its clay content and good structure.

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaC1 ₂	CO ₃	EC1:5 dS/m	ECe dS/m	%	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	(')/ Kg	Ca	Mg	Na	K	
Row	7.5	7.3	0.5	0.17	0.52	1.6	61	728	-	1.7	5.2	7	19.3	3.0	15.5	11.48	2.26	0.11	1.26	0.7
0-9	7.6	7.4	0.7	0.15	0.44	1.7	100	769	9.6	2.1	5.8	8	17.7	3.1	16.1	11.65	2.69	0.09	1.22	0.6
9-34	7.7	7.5	0.9	0.14	0.31	0.8	18	437	5.2	1.3	1.7	6	14.1	0.4	13.6	11.16	2.24	0.09	0.55	0.7
34-36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36-120	8.7	7.8	74.9	0.10	0.29	0.7	4	354	7.1	0.4	0.4	3	1.4	0.1	1.6	3.33	0.54	0.19	0.08	n.a.

Note: Row sample bulked from 20 cores (0-10 cm) taken from along the vine rows 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

