Site code[1] **CLRA10**

Low hills near Kennedys Creek, Otway Ranges

Location Kennedys Creek (Lavers Hill Cobden Road), Otway Ranges, south-west Victoria

Landform Low hills

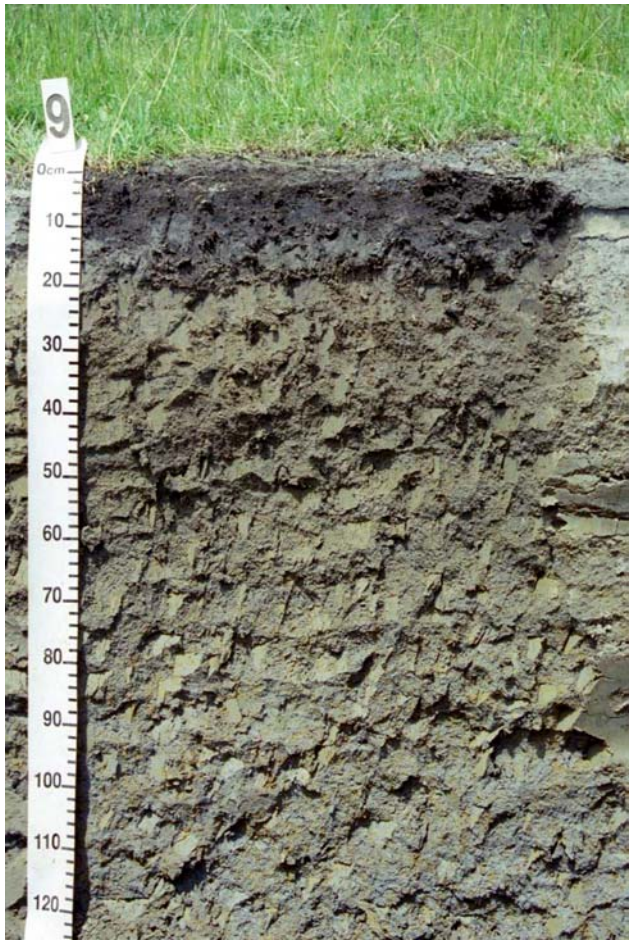
Geology Neogene Gellibrand Marl: *marine silty clay, clayey silt, calcareous, minor calcarenite*

Element Lower slope

Slope 5%

Aspect North

Horizon	Depth (cm)	Description
A1	0–10	Very dark greyish brown (10YR3/2); clay loam; weak granular structure; weak dry consistence; pH 6.0; clear smooth boundary to:
B1	10–30	Greyish brown (2.5Y5/2) and light grey (2.5Y7/1 dry) with many fine distinct brownish yellow (10YR6/6) mottles due to bioturbation; clay loam; weak coarse blocky parting to medium blocky structure; smooth and rough ped fabric; weak consistence (moderately moist); pH 5.5; clear smooth boundary to:
B21	30–55	Light olive brown (2.5Y5/3); light clay; weak coarse blocky structure; smooth and rough ped fabric; weak consistence (moderately moist); pH 5.5; clear smooth boundary to:
B22	55–85	Greyish brown (2.5Y5/2) with common medium prominent brownish yellow (10YR6/8) mottles; medium clay; weak coarse blocky structure; smooth and rough ped fabric; firm consistence (moist); pH 5.5; clear smooth boundary to:
B23	85–115+	Grey (2.5Y6/1) with common medium prominent brownish yellow (10YR6/8) mottles; medium clay; strong medium polyhedral parting to fine lenticular structure; smooth ped fabric; firm consistence (moist); pH 5.5.



Mottled, Eutrophic Brown Kandosol

[1] Source: Robinson et al (2003) A land resource assessment of the Corangamite region. Department of Primary Industries, Centre for Land Protection Research Report No. 19.

Analytical data[2]

Site CLRA10 Horizon	Sample depth cm	pH H_2O	pH $CaCl_2$	EC dS/m	NaCl %	Ex Ca $cmol_c/kg$	Ex Mg $cmol_c/kg$	Ex K $cmol_c/kg$	Ex Na $cmol_c/kg$	Ex Al mg/kg	Ex Acidity $cmol_c/kg$	FC –10kPa %	PWP –1500kPa %	KS %	FS %	Z %	C %
A1	0–10	6.5	6.3	0.29	<0.01	12	1.5	0.2	0.1	11	13	42.8	13.8	5.2	46.4	8.5	29.5
B1	20–30	5.7	5	0.07	N/R	4.8	1.7	0.25	0.27	61	8.2	31.9	10.1	0.5	50.8	25.5	23
B21	35–50	5.3	4.4	0.06	N/R	2.5	3.2	0.29	0.36	220	8.8	33.4	15.7	0.2	43.4	22.5	31.5
B22	65–80	5.3	4.4	0.08	N/R	1.5	4	0.26	0.49	250	8.5	34.3	7.9	0.1	41.4	19	37.5
B23	85–100	5.2	4.2	0.08	N/R	0.92	4	0.24	0.7	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R

Management considerations

This soil is gradational with limited texture change with depth but clear horizon boundaries. The weak structure contributes to the imperfect drainage of the soils as evidenced by subsoil mottling and colour. Other influences on drainage include rainfall and topographic position; here on a lower slope receiving moisture from upslope. Fine sand is a dominant component of this soil but the soil is quite stable (Emerson class 5 for subsoil) though a little less so for the B1horizon (Emerson class 3(1) for subsoil). The high organic matter content of the surface (8.4% OM) and subsurface soil (1.6% OM) aids stability. The surface soil is limited in depth and therefore restricting as a seedbed. The lower pH in the subsoil will restrict the availability of some nutrients (less calcium) and increase the availability and mobility of aluminium, while the higher surface pH is a result of management intervention to improve nutrient availability. It would seem that the B1 is becoming an eluviated horizon with less clay than above and below and is the most erosion prone.

[2] Source: Government of Victoria State Chemistry Laboratory.