Site code[1] **MM5050**

Location **Barrabool Hills (Polleys Road), Geelong district, south-west Victoria**

Landform Rolling hills

Geology Cretaceous sedimentary: Eumeralla Formation: *fluvial volcanolithic sandstone, siltstone, mudstone, coal*

Element Crest

Profile morphology

Horizon	Depth (cm)	Description
A1	0–15	Very dark greyish brown (10YR3/2); fine sandy loam; apedal massive structure; weak consistence (dry); clear boundary to:
A2	15–40	Pale brown (10YR6/3), conspicuously bleached, light grey (10YR7/2 dry); fine sandy loam; weak consistence (dry); sharp boundary to:
B21	40–65	Yellowish brown (10YR5/6) with red (2.5YR4/6) mottles; heavy clay; strong coarse blocky structure; strong consistence (dry); gradual boundary to:
B22	65+	Light yellowish brown (2.5Y6/4) with brown (10YR5/8) mottles; medium clay; strong coarse blocky structure; firm consistence (moderately moist).

ASC: Eutrophic, Mottled-Mesonatric, Brown Sodosol

Analytical data[2]

Site MM5050 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 $cmol_c/kg$
A1	0–15	5.7	N/R	0.1	N/R	3.3	3.3	0.2	0.4	N/R	9.4
A2	15–40	6.3	N/R	0.08	N/R	1.5	1.5	0.1	0.6	N/R	4.6
B21	40–65	6.8	N/R	0.27	0.05	1	1	0.5	3.9	N/R	7.1
B22	65+	7.6	N/R	N/R	0.05	0.5	0.5	0.4	3.8	N/R	3.1

Site MM5050 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density $t\ m^{-3}$
A1	0–15	22.4	11.5	15	49	16	13	3.6	1.27
A2	15–40	N/R	N/R	12	55	17	13	0.7	N/R
B21	40–65	39.9	27.3	9	30	13	45	N/R	1.16
B22	65+	N/R	N/R	7	43	15	33	N/R	N/R

Management considerations

Texture contrast soil with a bleached A2 horizon indicates restricted drainage and poor soil structure. The presence of very sodic subsoils may result in poor soil structure and dispersion whilst the presence of mottles indicates periodic waterlogging. The application of gypsum may be used to counter the effect of sodicity, while improved drainage methods would reduce the waterlogging. Penetration by deep rooted crops is also useful as is minimum tillage which avoids bringing the sodic, dispersive material to the surface.

[1] Source: Maher JM, Martin JJ (1987) Soils and landforms of south-western Victoria. Department of Agriculture and Rural Affairs. Research Report No. 40.

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