Site code[1]	**MM5017**
Location	**Moorabool (Staceys Road), Anakie district, south-west Victoria**
Landform	Undulating basalt rises
Geology	Quaternary Newer Volcanics: *extrusive tholeiitic to alkaline basalts, minor scoria and ash*
Element	Crest

Profile morphology

Horizon	Depth (cm)	Description
A1	0–25	Very dark greyish brown (10YR3/2); medium clay; strong coarse blocky structure; strong consistence (dry); gradual boundary to:
B21	25–N/R	Dark greyish brown (10YR4/2); medium clay; strong coarse blocky structure; strong consistence (dry); boundary to:
B22	N/R–65	Medium clay; strong fine blocky structure; firm consistence (moderately moist); sharp boundary to:
B23	65–75	Red (2.5YR5/6); medium clay; strong fine blocky structure; firm consistence (moderately moist); sharp boundary to:
B24	75+	Greyish brown (10YR5/2); medium clay; strong fine blocky structure; firm consistence (moderately moist); common calcareous segregations.

ASC: Episodic-Endocalcareous, Epipedal, Grey Vertosol

Analytical data[2]

Site MM5017 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	0–25	7.7	N/R	0.17	0.04	3.5	3.5	0.7	3	0	5.7
B21	25–N/R	8.7	N/R	0.64	0.15	5.3	5.3	1.2	10.9	0	0
B22	N/R–65	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B23	65–75	9	N/R	1.26	0.26	6.4	6.4	1.6	15.8	N/R	0
B24	75+	9.1	N/R	1.36	0.28	6.4	6.4	1.5	16.6	N/R	0

Site MM5017 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density $t\ m^{-3}$
A1	0–25	23.1	14.5	23	30	16	30	1.4	1.25
B21	25–N/R	50.6	37.2	15	16	9	57	N/R	1.24
B22	N/R–65	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B23	65–75	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B24	75+	N/R	N/R	7	12	14	66	N/R	N/R

Management considerations

These soils are uniform cracking clay soils with hardsetting topsoils grading to alkaline and highly sodic subsoils and calcareous segregations present at depth. These subsoils usually have poor structure and results in dispersion (and subsequent clogging of pores), restricting water and gas movement through the subsoil.

[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.

Improvement of soil structure through increased organic matter would be useful, and addition of gypsum where sodic would be beneficial. Bringing this material to the surface is likely to contribute to surface sealing and increase erosion susceptibility.