

<b>Site code<sup>1</sup></b>	<b>MM227</b>
<b>Location</b>	<b>Camperdown (Boundary Road), Camperdown district, south-west Victoria</b>
<b>Landform</b>	Undulating basalt hills
<b>Geology</b>	Quaternary Newer Volcanics: <i>tuff rings, pyroclastic base surge and fall deposits consisting of ash, lapilli, scoria; well bedded and sorted, moderately consolidated</i>
<b>Element</b>	Mid slope

### Profile morphology

Horizon	Depth (cm)	Description
A1	0–30	Black (10YR2/1); clay loam; moderate fine blocky structure; weak consistence (dry); clear boundary to:
A2	30–45	Sporadically bleached, light grey (10YR7/2 dry); clay loam; very many fine segregations; sharp boundary to:
B21	45–65	Very dark greyish brown (10YR3/2); medium clay; strong medium blocky structure; very firm consistence (moist); very many fine segregations; gradual boundary to:
B22	65–100	Brown (10YR4/3) with brown (10YR5/8) mottles; medium clay; strong medium blocky structure; firm consistence (moist); boundary to:
B23	100+	Dark greyish brown (10YR4/2) with brown (10YR5/8) mottles; medium clay; apedal massive structure; firm consistence (moist).

**ASC:** Bleached-Ferric; Eutrophic; Black Chromosol

### Analytical data<sup>2</sup>

Site MM227 Horizon	Sample depth cm	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex acidity
		H <sub>2</sub> O	CaCl <sub>2</sub>	dS/m	%	cmol <sub>c</sub> /kg	cmol <sub>c</sub> /kg	cmol <sub>c</sub> /kg	cmol <sub>c</sub> /kg	mg/kg	cmol <sub>c</sub> /kg
A1	0–30	6.3	N/R	0.1	N/R	5.6	5.6	0.3	0.6	N/R	13.2
A2	30–45	6.3	N/R	0.06	N/R	2.5	2.5	0.2	0.5	N/R	12.2
B21	45–65	7.1	N/R	0.21	0.02	5.7	5.7	0.3	1.4	N/R	11.1
B22	65–100	7.2	N/R	0.15	N/R	N/R	N/R	N/R	N/R	N/R	11.2
B23	100+	7.1	N/R	0.16	0.04	8	8	0.2	3.3	N/R	12.6

Site MM227 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density t m <sup>-3</sup>
A1	0–30	35.3	23.7	4	43	22	23	4.4	1.04
A2	30–45	22.2	15.5	21	37	20	18	N/R	N/R
B21	45–65	39.3	33.1	17	19	9	55	N/R	1.39
B22	65–100	N/R	N/R	3	16	10	70	N/R	N/R
B23	100+	N/R	N/R	4	12	10	73	N/R	N/R

### Management considerations

Strong texture contrast between the surface soil and the subsoil is a very important soil feature and may impact upon subsoil permeability. Conspicuously bleached A2 horizons containing many fine segregations are key features of this profile. Sodic and mottled subsoils are other prominent features of this soil type.

<sup>1</sup> Source: Maher JM, Martin JJ 1987 Soils and landforms of south-western Victoria. Department of Agriculture and Rural Affairs. Research Report No. 40.

<sup>2</sup> Source: Government of Victoria, State Chemistry Laboratory.

## Maher & Martin Reference Site

The application of gypsum would be suitable for soil structure and improved permeability, while increasing organic matter and maintaining vegetative cover is important to help improve the soil structure. Penetration by deep-rooted crops is also useful as is minimum tillage practices which avoids bringing the sodic material to the surface.