

<b>Site code<sup>1</sup></b>	<b>MM309</b>
<b>Location</b>	<b>Weerite (Princes Highway), Camperdown district, south-west Victoria</b>
<b>Landform</b>	Gently undulating basalt plains
<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>	Flat

### Profile morphology

Horizon	Depth (cm)	Description
A1	0–25	Very dark greyish brown (10YR3/2); clay loam; strong coarse granular structure; weak consistence (moderately moist); sharp boundary to:
B21	25–50	Very dark grey (10YR3/1) with brown (10YR4/6) mottles; medium clay; strong coarse blocky structure; gradual boundary to:
B22	50–65	Very dark greyish brown (10YR3/2) with brown (10YR4/6) mottles; heavy clay; strong coarse blocky structure; boundary to:
B23	65+	Dark greyish brown (2.5Y4/2); heavy clay; strong coarse blocky structure.

**ASC:** Melanic, Mottled-Subnatric, Black Sodosol

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

Site MM309 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	0–25	5.5	N/R	0.08	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B21	25–50	6.1	N/R	0.08	N/R	7.3	13	0.38	1.8	N/R	6.9
B22	50–65	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B23	65+	7.2	N/R	0.11	N/R	N/R	N/R	N/R	N/R	N/R	N/R

Site MM309 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density t m <sup>-3</sup>
A1	0–25	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B21	25–50	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B22	50–65	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B23	65+	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R

### Management considerations

Strong texture contrast between the surface soil and the subsoil is a very important soil feature. This can have a major effect by reducing and/or redirecting the internal drainage and restricting root growth beyond the upper horizons. Options include reduced tillage, improving organic matter content and altering the subsoil through artificial drainage (ripping, mole drainage) and/or chemical amelioration (gypsum) to improve structure.

Mottled subsoils are common and are an indication of periodic waterlogging, particularly if the mottles are pale (low oxygen conditions). Some brighter mottling may be due to past soil mixing and clay alluviation. Improved drainage, with the application of gypsum for sodic subsoils may be beneficial.

<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.