

<b>Site code<sup>1</sup></b>	<b>MM113</b>
<b>Location</b>	<b>Ondit (Colac Ballarat Road), Colac district, south-west Victoria</b>
<b>Landform</b>	Gently undulating plains
<b>Geology</b>	Quaternary Newer Volcanics: <i>extrusive valley filling basalts</i>
<b>Element</b>	Crest

### Profile morphology

Horizon	Depth (cm)	Description
A1	0–25	Very dark greyish brown (10YR3/2); clay loam; apedal massive structure; weak consistence (dry); clear boundary to:
A2	25–35	Sporadically bleached; clay loam; sharp boundary to:
B21	35–70	Very dark greyish brown (10YR3/2) with grey (10YR4/6) mottles; heavy clay; strong coarse blocky structure; strong consistence (dry); gradual boundary to:
B22	70–100	Very dark greyish brown (10YR3/2); heavy clay; strong coarse blocky structure; strong consistence (dry).

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

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

Site MM113 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	6.2	N/R	0.07	N/R	3.1	3.1	0.3	0.8	N/R	14.3
A2	25–35	6.4	N/R	0.07	N/R	2.2	2.2	0.5	1.4	N/R	14.9
B21	35–70	7.4	N/R	0.12	N/R	2.8	2.8	1.1	3.9	N/R	11.6
B22	70–100	8.9	N/R	0.4	0.09	4.9	4.9	1.8	10.3	N/R	0

Site MM113 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density t m <sup>-3</sup>
A1	0–25	37.4	21.5	6	44	16	31	2.5	1.08
A2	25–35	N/R	N/R	6	41	14	36	1.7	N/R
B21	35–70	50.3	35.8	4	26	12	58	N/R	1
B22	70–100	N/R	N/R	3	19	9	66	N/R	N/R

### Management considerations

These soils have hardsetting topsoils and exhibit a strong texture contrast between the surface soil and the subsoil with a bleached A2 horizon. The bleached A2 horizon is an indication of restricted drainage, poor soil structure (often massive) and low organic matter and nutrients.

Improvement of soil structure through increased organic matter would be useful while management 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.

<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.