

<b>Site code<sup>1</sup></b>	<b>MM5056</b>
<b>Location</b>	<b>Stonehaven (Hamilton Highway), Inverleigh district, south-west Victoria</b>
<b>Landform</b>	Undulating basalt rises
<b>Geology</b>	Quaternary Newer Volcanics: <i>extrusive tholeiitic to alkaline basalts, minor scoria and ash</i>
<b>Element</b>	Flat

### Profile morphology

Horizon	Depth (cm)	Description
A1	0–20	Very dark greyish brown (10YR3/2); medium clay; strong fine blocky structure; weak consistence (moderately moist); gradual boundary to:
B21	20+	Very dark grey (10YR3/1); medium clay; strong coarse blocky structure; firm consistence (moderately moist).

**ASC:** Haplic, Epipedal, Black Vertosol

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

Site MM5056 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	0–20	6.4	N/R	0.09	N/R	6.8	6.8	0.9	0.5	0	7.4
B21	20+	7.5	N/R	0.09	N/R	10.2	10.2	1.2	1.7	N/R	6.4

Site MM5056 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density t m <sup>-3</sup>
A1	0–20	24.7	15.3	20	35	14	26	2.2	1.34
B21	20+	36.4	25	8	31	11	46	N/R	1.49

### 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.

Cracking soils vary in their workability depending on their moisture status (highly permeable when dry and impermeable when saturated). These soils are also prone to structure decline particularly when worked wet. They are also generally alkaline with depth and can place stress on roots with their high shrink-swell capabilities. The main priority on these soils is to avoid working when wet (on or below plastic limit).

<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.