

Site code¹	MM5015
Location	Sutherland Creek (Andersons Road), Bannockburn district, south-west Victoria
Landform	Plain
Geology	Quaternary Newer Volcanics: <i>extrusive tholeiitic to alkaline basalts, minor scoria and ash</i>
Element	Flat

Profile morphology

Horizon	Depth (cm)	Description
A1	0–20	Dark brown (7.5YR3/2); fine sandy loam; very weak consistence (dry); clear boundary to:
A2	20–30	Brown (7.5YR4/2), conspicuously bleached, pinkish grey (7.5YR7/2 dry); loamy sand; sharp boundary to:
B21	30–70	Yellowish brown (10YR5/6) with red (2.5YR4/6) mottles; heavy clay; strong coarse blocky structure; very firm consistence (moderately moist); gradual boundary to:
B22	70+	Light yellowish brown (2.5Y6/4) with brown (5YR5/6) mottles; medium clay; moderate fine blocky structure; firm consistence (moderately moist).

ASC: Eutrophic, Mottled-Hypernatric, Brown Sodosol

Analytical data²

Site MM5015 Horizon	Sample depth cm	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex
		H ₂ O	CaCl ₂	dS/m	%	cmol _c /kg	cmol _c /kg	cmol _c /kg	cmol _c /kg	mg/kg	acidity cmol _c /kg
A1	0–20	5.5	N/R	0.11	N/R	1.5	1.5	0.2	0.3	9	5.5
A2	20–30	6	N/R	0.04	N/R	1	1	0	0.1	0	2.3
B21	30–70	8.2	N/R	0.24	0.04	3	3	0.5	4.7	N/R	0
B22	70+	9.6	N/R	0.55	0.08	2.6	2.6	0.6	7.3	N/R	0

Site MM5015 Horizon	Sample depth cm	FC (-10kPa) %	PWP (-1500kPa) %	KS %	FS %	Z %	C %	Org C %	Bulk density t m ⁻³
A1	0–20	9.9	4.2	21	65	6	4	1.9	1.26
A2	20–30	N/R	N/R	26	63	6	4	0.2	N/R
B21	30–70	48.2	28.3	22	38	7	32	N/R	1.31
B22	70+	N/R	N/R	13	44	10	33	N/R	N/R

Management considerations

Strong texture contrast between the surface soil and the subsoil is a very important soil feature and can impact upon the permeability aspects of the profile. A conspicuously bleached A2 indicates restricted drainage, poor soil structure (often massive), low organic matter and low nutrient status. The surface soil is sandy and hardsetting, while the subsoil is an alkaline, sodic medium clay with mottles. Increasing the organic matter of the soil will help to reduce the hardsetting nature, while the application of gypsum will improve soil structure and drainage.

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.