

Site code<sup>1</sup> COF01a



**Location** Johanna  
**Landform** Rolling low hills  
**Geology** Neogene Hanson Plain Sand: *fluvial gravel, sand, silt*  
**Element** Upper slopes  
**Slope** 26%  
**Aspect** South-east

Rolling low hills near Johanna

Horizon	Depth (cm)	Description
A1	0–40	Dark brown (10YR3/3); light medium clay; strong fine polyhedral, parting to strong fine granular structure; weak consistence (moderately moist); pH 5.4; many medium roots; gradual and wavy boundary to:
B21	40–80	Dark greyish brown (10YR4/2) with common medium distinct yellowish brown (10YR5/8) mottles; medium heavy clay; moderate coarse polyhedral, parting to weak fine polyhedral structure; firm consistence (moderately moist); pH 5.3; many medium roots; gradual and wavy boundary to:
B22	80–110	Dark greyish brown (10YR4/2) with many medium distinct yellowish brown (10YR5/8) and very pale brown (10YR7/3) mottles; light medium clay; moderate coarse polyhedral, parting to moderate medium polyhedral structure; firm consistence (moderately moist); pH 5.1; many medium roots; clear and wavy boundary to:
B23	110–140	Light grey (10YR7/2) with many very coarse distinct strong brown (7.5YR5/8) mottles; light clay; massive structure; very firm consistence (moderately moist); pH 5.0; few very fine roots:
	140–200	Similar to above:
	200–800	Similar to above but harder; old remnant roots observed 2.5 – 3.0 m; no live roots observed; live roots observed at 2 m; notice impeding layer; roots don't like it.



Acidic, Eutrophic, Grey DERMOSOL (Clayey)

<sup>1</sup> Source: Feikema PM, Sargeant IJ and Imhof MP (in press). Characterisation of Soils used for Farm Forestry in south-eastern mainland Australia. CFTT Report No. 2001/027. DPI

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

Site COF01a Horizon	Sample depth cm	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex	FC	PWP	KS	FS	Z	C
		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	Acidity cmol <sub>c</sub> /kg	-10kPa %	-1500kPa %	%	%	%	%
A1	0–40	5.4	4.6	0.07	N/R	5.8	4.3	0.99	0.21	82	14	37.3	17.3	2.1	19.8	32.5	40.0
B21	40–80	5.3	4.2	0.06	N/R	5.6	7.2	1.3	0.27	300	14	39.7	21.5	0.5	12.5	28.0	57.0
B22	80–110	5.1	4.1	0.07	N/R	3.0	7.0	0.94	0.29	990	19	43.9	27.2	0.8	14.2	35.0	50.5
B23	110–140	5.0	4.1	<0.05	N/R	1.4	5.2	0.50	0.22	820	15	35.6	11.8	4.2	48.2	25.5	19.5

## Management considerations

This soil site is acid throughout the soil profile and has high levels of exchangeable aluminium in the subsoil. Acidic subsoils generally occur on acidic parent material or where there has been sufficient leaching of the soil. These subsoils affect nutrient availability, creating a nutrient imbalance and the potential for aluminium and manganese toxicity. The application of lime is the main method of increasing the pH, reducing toxic levels of nutrients to plants while increasing the availability of nutrients such as calcium, potassium and molybdenum. Where the acidity is deep, acid tolerant plants are a practical option.

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