

Site Code¹ CLRA6

Location Portarlington (Pigdon Street), Portarlington district, Bellarine Peninsula



Low hills near Portarlington

Landform Low hills

Geology Palaeogene Older Volcanics:
extrusive tholeiitic and minor alkaline basalts

Element Mid slope

Slope 6%

Aspect North

Horizon	Depth (cm)	Description
A11	0–10	Very dark grey (10YR3/1); sapric light clay; few (6–20 mm) subrounded quartz gravels; moderate coarse and medium and strong fine subangular blocky structure; rough ped fabric; very firm consistence (dry); pH 7.0; smooth abrupt boundary to:
A12	10–30	Black (2.5/N); sapric medium clay; few (20–60 mm) angular basalt gravels; moderate medium polyhedral parting to strong fine polyhedral structure; rough ped fabric; strong consistence (dry); pH 7.0; smooth clear boundary to:
B21	30–60	Black (2.5/N); medium clay; very few (20–60 mm) angular basalt gravels; strong coarse prismatic parting to strong coarse and medium polyhedral structure; smooth ped fabric; few prominent slickenslide cutans; strong consistence (dry); pH 7.5; wavy diffuse boundary to:
B22	60–80	Black (10YR2.5/1); heavy clay; very few (20–60 mm) angular basalt gravels; strong coarse prismatic structure parting to strong coarse and medium polyhedral structure; smooth ped fabric; few prominent slickenslide cutans; strong consistence (dry); pH 8.0; wavy diffuse boundary to:
BC	80–100	Dark greyish brown (2.5Y4/2) with few moderate distinct black mottles; light medium clay; few (6–20 mm) angular basalt gravels; strong medium polyhedral structure; smooth ped fabric; very few distinct slickenslide cutans; strong consistence (dry); common large calcareous soft segregations; pH 8.5; wavy clear boundary to:
C	100–150+	Dark greyish brown (2.5Y4/2); coarse sandy clay; common (20–60 mm) angular basalt gravels; apedal massive structure; earthy fabric; very few distinct slickenslide cutans; strong consistence (dry); common very large calcareous soft segregations; pH 9.0.



Endocalcareous-endohypersodic, Self-mulching, Black Vertosol

¹ Source: Robinson et al (2003) A land resource assessment of the Corangamite region. Department of Primary Industries, Centre for Land Protection Research Report No. 19

Analytical data²

Site CLRA6 Horizon	Sample depth cm	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex Acidity	FC -10kPa	PWP -1500kPa	KS	FS	Z	C
		H ₂ O	CaCl ₂	dS/m	%	cmolc/kg	cmolc/kg	cmolc/kg	cmolc/kg	mg/kg	cmolc/kg	%	%	%	%	%	%
A11	0–10	7.1	6.6	0.33	<0.01	16	11	5.8	0.6	N/R	N/R	40.1	29.1	17.1	26	15	28
A12	10–30	7.3	6.6	0.2	N/R	23	14	4.4	1.2	N/R	8.7	47.0	28.2	7.4	26.5	16.5	38.5
B21	30–60	7.9	7.1	0.22	N/R	25	24	4	2.9	N/R	N/R	63.3	38.2	3	22.4	16.5	51.5
B22	60–80	8.5	7.6	0.25	N/R	23	29	2.6	4.6	N/R	N/R	67.5	38.3	2.5	20.6	16.5	51
BC	80–100	9	8.3	0.52	0.01	22	43	1.3	12	N/R	N/R	N/R	N/R	6.7	33.1	9.5	36
C	100–150	9.1	8.4	0.53	N/R	18	42	2.4	33	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R

Management considerations

These 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. The high shrink-swell qualities may put high physical stress on roots. 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).

The friable (self-mulching) surface soils (and subsoils) occur where there is a build up of organic matter. The surface soil has a high organic carbon content of 6%, but still high in the subsoil (upper subsoil; 2.4%, lower subsoil 2.1%)

Alkaline subsoils are associated with a high nutrient capacity but result in an imbalance in nutrient availability (may be restrictive to certain plant species (eg. potatoes). These soils are often associated with sodic and calcic soil properties with conflicting effects on soil stability. The upper soils and upper subsoil are slightly dispersive [Emerson class 3(1)] and moderately dispersive at depth [Emerson class 3(4)].

² Source: Government of Victoria State Chemistry Laboratory.