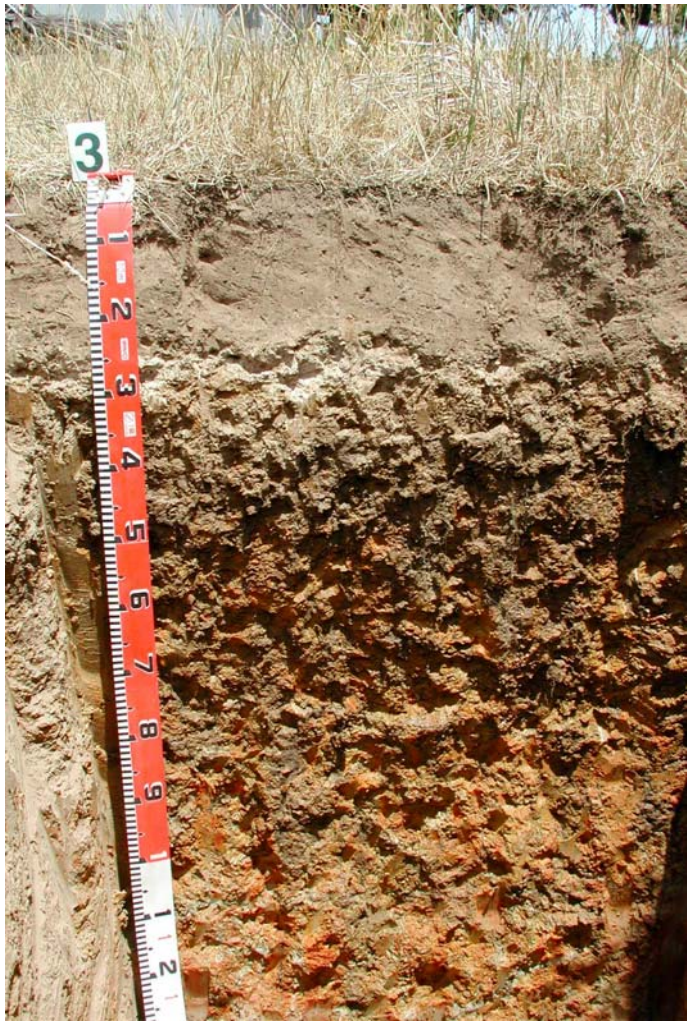
Site Code[1] **CLRA3**

Gently undulating plain of Ocean Grove district

Location	Marcus Hill (Banks Road), Ocean Grove district, Bellarine Peninsula
Landform	Gently undulating plain
Geology	Neogene Hanson Plain Sand: *fluvial gravel, sand, silt*
Element	Mid slope
Slope	3%
Aspect	North-east

Horizon	Depth (cm)	Description
A11	0–5	Dark brown (10YR3/3); fine sandy loam; moderate medium polyhedral structure; rough ped fabric; very weak consistence (dry); pH 5.5; smooth abrupt boundary to:
A12	5–20	Dark greyish brown (10YR4/2); fine sandy loam; weak medium polyhedral structure; rough ped fabric; weak consistence (dry); pH 6.0; wavy clear boundary to:
A2	20–30	Light yellowish brown (10YR6/4); conspicuous bleach (10YR8/2); loamy sand; apedal massive structure; earthy fabric; very firm consistence (dry); few ferric concretions; pH 6.5; wavy abrupt boundary to:
B21	30–50	Dark greyish brown (10YR4/2) with common medium brown and red (10YR5/4, 2.5YR5/6) distinct mottles; medium clay; weak coarse columnar parting to strong medium prismatic structure; smooth ped fabric; very strong consistence (dry); pH 7.0; wavy gradual boundary to:
B22	50–110	Light yellowish brown (10YR6/4) with many large red and brown (2.5YR5/6, 10YR4/2) prominent mottles; silty medium clay; strong medium and fine prismatic structure; smooth ped fabric; few distinct slickenslide cutans and many prominent clay skin and other cutans; strong consistence (dry); pH 8.5; wavy diffuse boundary to:
B23/B3	110–140+	Light yellowish brown (10YR6/3) with many large pale and red (2.5YR5/6) prominent mottles; light medium clay; strong medium prismatic structure; smooth ped fabric; few prominent clay skin and other cutans; strong consistence (dry); pH 8.5.



Grey/Yellow Chromosol/Sodosol

[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 data[2]

Site CLRA3	Sample depth	pH		EC	NaCl	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	Ex Acidity	FC –10kPa	PWP –1500kPa	KS	FS	Z	C
Horizon	cm	H_2O	$CaCl_2$	dS/m	%	$cmol_c/kg$	$cmol_c/kg$	$cmol_c/kg$	$cmol_c/kg$	mg/kg	$cmol_c/kg$	%	%	%	%	%	%
A11	0–5	5.4	4.8	0.16	N/R	3.3	1.4	0.9	0.39	<10	9.4	16.6	9.6	19	59.3	6.5	8
A12	5–20	5.4	4.9	0.12	N/R	2.4	0.95	0.46	0.34	<10	8	17.2	5.1	15.2	63.3	7	9
A2	20–30	5.7	5	0.05	N/R	1.2	0.62	0.13	0.19	<10	3.6	15.6	3.4	14.9	65.8	9	7
B21	30–50	6.4	5.6	0.14	N/R	6.4	8.3	1.2	1.2	<10	9.9	43.9	29.2	2.9	11.8	4	78
B22	50–110	7.2	6.6	0.19	N/R	4.9	9.2	0.78	1.9	N/R	N/R	49.1	30.7	3.3	10.1	3	80.5
B23	110–140	7.7	6.9	0.22	N/R	3.2	8.6	0.58	2.7	N/R	N/R	43.7	26.7	N/R	N/R	N/R	N/R

Management considerations

This soil has a very strong texture contrast between the surface soil and the subsoil. This can have a major effect by reducing and/or redirecting the internal drainage and restricting root growth due to greater resistance, gas and water throttles as well as associated chemical deterrents to growth. 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. Mottling usually indicates periodic waterlogging. The upper soil is very light and is dependent on maintaining or increasing organic matter levels (OC: A11; 4.8%, A12;1.9%) to reduce the susceptibility to sheet and rill erosion(in conjunction with slope) as well as increasing the low water holding and nutrient holding capacity. The pH of the upper soil is low [strongly acidic below 5.5(water based)] which will restrict the uptake of some nutrients and increase the susceptibility to aluminium toxicity, while the increasingly alkaline subsoil may pose other restrictions at depth such as increasing sodicity. The upper soil has slight dispersibility [Emerson class3(1)] but increases to moderate with depth [Emerson class3(4)].

[2] Source: Government of Victoria State Chemistry Laboratory.