

12. Sandy, saline and poorly developed soils on lunettes, dunes and sand sheets (calcareous) on Quaternary aeolian sediments

These soils are generally sandy and unconsolidated (loose) with organic matter in variable amounts acting as the binding agent for the surface being the only significant pedological development in the surface soil (providing some structure). The subsurface soil and subsoil is generally deep (>100 cm) on dunes, bleached and loosely to weakly coherent. Depth to a pan, consolidated sand or clay rich sediment will generally depend on topographic position with less unconsolidated sand depth in the lower positions. On the calcareous deposits nutrient availability is low to moderate and has relatively low retention given the high sand content and high internal drainage (unless restricted by other materials or high watertables either inland or at sea level). Saline and calcareous soils are included in this grouping.



Notable characteristics are the light (sandy) textures, held only by organic matter at the surface with some cementation and possibly clay at depth, rapid permeability and moderate nutrient and low water holding capacity. These soils are alkaline, generally calcareous and close proximity to the coast.

Soil sites

Site code	Soil-landform unit	Component	ASC	FK	1:100 000 mapsheet
CLRA41	199	Crest	Melanic, Regolithic, Bleached-Leptic Tenosol	Uc2.21	T7821 - SORRENTO
CLRA42	197	Crest	Melanic, Sesquic, Aeric Podisol	Uc4.32	T7821 - SORRENTO
CLRA44	82	Flat	Bleached-Sodic, Sodosolic Redoxic Hydrosol	Uc2.21, Dg4.43	T7821 - SORRENTO
OTR415	62	Upper slope	Ceteric, Regolithic, Shelly Calcarosol	Uc5.11	T7620 - OTWAY

Site code¹ OTR415



Location Cape Otway
Landform Steeply rolling dunes
Geology Quaternary (Holocene)
aeolian sands
Element Dune - upper slope
Slope 5%
Aspect Westerly

Ceteric, Regolithic, Shelly Calcarosol

Tussock grassland with diverse heath stratum

Horizon	Depth (cm)	Description
A1	0-15	Black (10YR2/1); sandy loam; apedal single grain structure; clear boundary to:
B2	15-75	Black (10YR2/1); loamy sand; very weak coarse (30 mm) subangular blocky structure; gradual boundary to:
C	75+	Pale brown (10YR6/3); coarse sand; apedal single grain structure.

¹ Source: Pitt AJ (1981) A study of the land in the catchments of the Otway Range and adjacent plains. TC-14. Soil Conservation Authority. Kew, Victoria

Analytical data²

Site OTR415 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	%	cmol _c /kg	cmol _c /kg	cmol _c /kg	cmol _c /kg	cmol _c /kg	mg/kg	cmol _c /kg	%	%	%	%	%
A1	0-8	7.9	N/R	0.270	0.025	35.9	3.6	0.3	0.2	N/R	N/R	N/R	N/R	53	28	4	8
A1	8-15	8.0	N/R	0.230	0.023	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B2	30-60	8.4	N/R	0.230	0.023	24.6	1.0	0.2	0.1	N/R	N/R	N/R	N/R	63	25	3	8
C	150-180	9.1	N/R	0.091	0.003	1.4	60.05	0.0	<0.05	N/R	N/R	N/R	N/R	85	12	1	2

Management considerations

Gradational soil profiles allows water and gas (air) to move without physical limitations, but remains dependent on any chemical or depth restrictions. Deep sandy soils generally have poor plant water/nutrient holding capacities. These soils may be hydrophobic (in conjunction with organic coatings) when dried out, taking time to reabsorb moisture. These soils do however drain rapidly.

² Source: Government of Victoria State Chemistry Laboratory.