Site code[1] **OTR784**

Undulating rises and hills north of Princetown

Location Princetown

Landform Hill

Geology Neogene Gellibrand Marl

Element Hillcrest

Slope 4%

Aspect South-south-westerly

Horizon	Depth (cm)	Description
A1	0–10	Black (10YR2/1); light clay moderate very fine (3 mm) subangular blocky structure; gradual wavy boundary to:
B21	10–42	Dark yellowish brown (10YR4/4); heavy clay; moderate very fine (3 mm) subangular blocky structure; clay skin cutans; hard when dry; diffuse smooth boundary to:
B22	42–60	Dark yellowish brown (10YR5/4); heavy clay; strong very fine (3 mm) angular blocky structure; clay skin cutans; diffuse wavy boundary to:
B2ca	60–90	Very pale brown (10YR7/4); medium clay; dominated by soft accumulations of calcium carbonate; moderate fine (6 mm) subangular blocky structure; clear wavy boundary to:
C1	90–120	Light grey (10YR7/1) with brownish yellow (10YR6/6) mottles; medium clay; weak very coarse (50 mm) subangular blocky structure; calcium carbonate concretions common; gradual wavy boundary to:
C2	120–165	Light yellowish brown (10YR6/4) with light grey (10YR7/1) mottles; heavy clay; weak very coarse (50 mm) angular blocky structure; some calcium carbonate concretions; clear smooth boundary to:
C3	165–180	Very pale brown (10YR7/3) with brownish yellow (10YR6/8) and grey (10YR6/1) mottles; medium clay; apedal massive structure; soft nodules of lime and phosphate common; clear smooth boundary to:
C4	180+	Pale brown (10YR6/3) with yellow (10YR7/8) and grey (10YR6/1) mottles; medium clay; weak very coarse (80 mm) angular blocky structure; some calcium carbonate concretions.

Sodic, Hypercalcic, Brown Dermosol

[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 data[2]

Site OTR784 Horizon	Sample depth cm	pH H_2O	pH $CaCl_2$	EC dS/m	NaCl %	Ex Ca $cmol_c/kg$	Ex Mg $cmol_c/kg$	Ex K $cmol_c/kg$	Ex Na $cmol_c/kg$	Ex Al mg/kg	Ex Acidity $cmol_c/kg$	FC –10kPa %	PWP –1500kPa %	KS %	FS %	Z %	C %
A1	0-10	7.0	N/R	0.160	0.012	15.2	4.5	1.2	0.4	N/R	N/R	N/R	N/R	1	28	30	28
B21	10-20	6.7	N/R	0.073	0.009	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B21	20-30	6.6	N/R	0.060	0.009	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
B21	30-42	6.8	N/R	0.062	0.010	13.5	4.8	0.7	0.6	N/R	N/R	N/R	N/R	1	22	19	53
B22	42-60	7.3	N/R	0.083	0.013	20.0	4.8	0.6	0.7	N/R	N/R	N/R	N/R	0.4	16	16	61
B2ca	60-90	8.6	N/R	0.130	0.014	10.3	1.7	0.2	0.3	N/R	N/R	N/R	N/R	6	19	37	25
C1	90-120	8.7	N/R	0.180	0.020	14.9	3.3	0.3	0.8	N/R	N/R	N/R	N/R	10	18	17	42
C2	120-150	8.8	N/R	0.340	0.036	15.2	5.9	0.4	2.3	N/R	N/R	N/R	N/R	2	15	16	54
C3	165-180	9.1	N/R	0.240	0.022	5.5	2.8	0.1	1.1	N/R	N/R	N/R	N/R	10	26	30	20
C4	195-210	8.9	N/R	0.410	0.037	10.9	8.6	0.4	3.7	N/R	N/R	N/R	N/R	1	18	14	55

Management considerations

The B2 contains slickensided faces and organans.

The gradational nature of these soils provides few physical limitations to water and gas movement through the profile. The agricultural potential of the soil is dependent however on any chemical or depth restrictions. With a shallow topsoil (generally 10cm or less) there is a reduced water holding capacity limiting root growth and increasing susceptibility to waterlogging. Alkaline subsoil horizons 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. Calcium carbonate and phosphatic nodules (segregations, soft and hard) are indicative of alkaline subsoils.

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