

OR2: Terric, Basic, Sapric Organosol

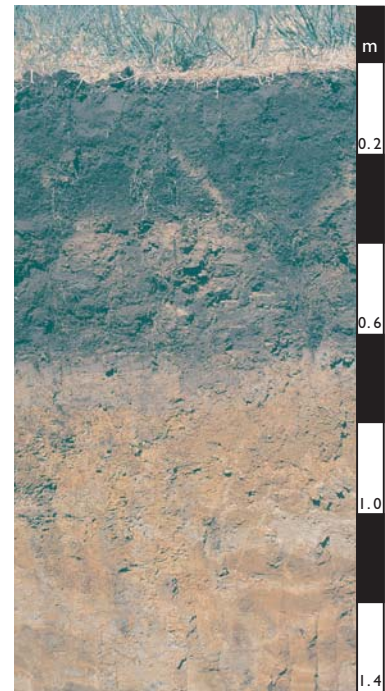
General description of the soil

A poorly drained Sapric Organosol in which the surface peaty organic materials overlie weathered basalt at less than 0.8 m.

Distribution:	A peaty soil restricted to the swamps of basaltic landscapes.
Typical land use:	Mixed farming including dairying and beef cattle.
Common variants:	The depth to the weathered basalt may be as little as 0.5 m.
World Reference Base:	Folic Histosol.
Other names:	Peat, Prairie and Meadow Soils.

Environment and location of the example profile

Landform:	Broad depression and formerly wetland.
Parent material or substrate:	Basalt.
Drainage class:	Poorly drained.
Surface condition:	Soft.
Site disturbance:	Cleared and drained.
Native vegetation:	Closed forest of <i>Leptospermum lanigerum</i> or reed swamp.

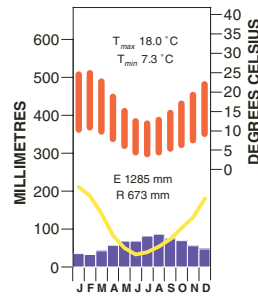


Near Hamilton, western district of Victoria

Site location



Site climate



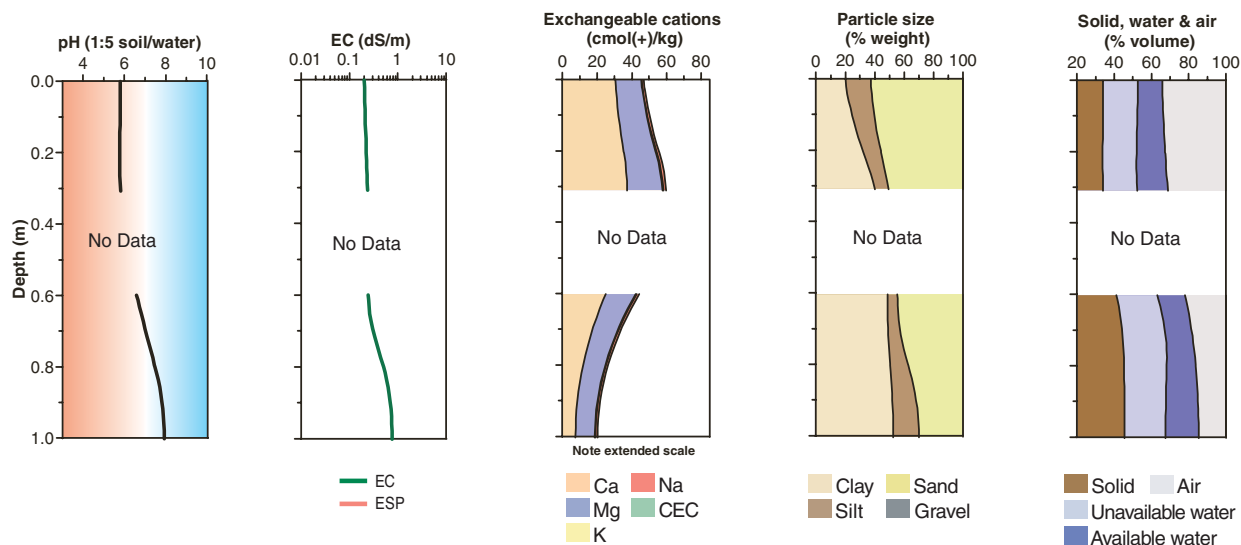
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
O	0.00–0.20	black (10YR 2/1)	–	loam	weak	subangular blocky	20–50 mm	very weak (dry)	–	–	clear
P21	0.20–0.30	black (10YR 2/1)	–	sapric fine sandy clay loam	strong	polyhedral	10–20 mm parting to 5–10 mm	very firm (dry)	–	–	sharp
P22	0.30–0.45	very pale brown (10YR 7/3)	–	laminated sapric peat					–	–	sharp
P23	0.45–0.60	very dark grey (10YR 3/1)	–	clayey peat					–	–	sharp
D1	0.60–0.70	grey (5YR 5/1)	–	medium clay					–	–	clear
D2	0.70–0.80	grey (5YR 6/1)	yellow (5YR 7/6)	sandy clay					–	–	sharp
D3	0.80+	light reddish brown (5YR 6/4)	rusty root channel mottling	sandy clay loam					–	–	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H ₂ O ^A	pH CaCl ₂ ^B	Elect. Cond. dS/m ^A	CaCO ₃ %	Org. C % ^C	Extr. P mg/kg	Tot. P %	Tot. K %	Cation exchange properties ¹ cmol(+)/kg								ESP %	Bulk dens. Mg/m ³	Particle size % ^G			
																				CS	FS	Silt	Clay
										Ca	Mg	K	Na	H+Al	CEC	ECEC							
O	0.00–0.20	5.8	5.6	0.21		23				32.0	16.0	0.3	1.3					39	9	12	18		
P21	0.20–0.30	5.8	5.7	0.25		28				39.0	22.0	0.7	1.7					7	37	6	47		
P22	0.30–0.45																						
P23	0.45–0.60																						
D1	0.60–0.70	7.0	6.0	0.20						9.8	12.0	0.4	1.2					7	37	6	47		
D3	0.80+	8.0	7.6	0.81														6	21	18	50		

Key profile properties



General qualities of the soil

Infiltration:	Rapid unless saturated.
Available water store:	Large.
Permeability:	High to moderate.
Physical root limitations:	Poor aeration.
Erosion hazard:	Low.
Nutrient availability:	Originally very high in organic carbon and high in nitrogen and phosphorus but as a result of drainage and disturbance there has been a substantial loss of organic matter and reduction in nutrient levels. Subsurface burning and the subsequent loss of peat may also reduce nutrient levels.
Toxicities:	Highly saline at depth.



The original wetland has been drained and cleared for grazing. Organic carbon levels in the soil profile are declining over the long term as a result.

Acknowledgements: Soil image, soil description and laboratory data: Department of Primary Industries, Victoria. Site PVI 5, Hamilton. Condah Swamp land system in Gibbons & Downs (1964). Landscape image: Alan Fox.