OR1: Modic, Acidic, **Hemic Organosol**

North-west Tasmania

General description of the soil

A very poorly drained Hemic Organosol in which humose and melacic horizon materials underlie the surface peaty organic materials, and overlie quartzitic gravels and shallow quartzite bedrock. The example profile does not meet the depth requirement for an Organosol but it is consistent in all other aspects.

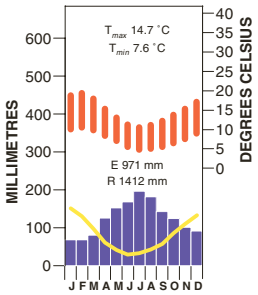
Distribution:	A common soil in western Tasmania, possibly also occurs in the alpine region of mainland Australia.
Typical land use:	Most of the known occurrences are within World Heritage areas and national parks.
Common variants:	Known variation is in the thickness of the surface horizon and depth of the soil.
World Reference Base:	Affinities with Sapric Histosols.
Other names:	Also known as Button Grass Plain Soil and Acid Peat Soils.

Environment and location of the example profile

Landform:	Gently undulating plain.
Parent material or substrate:	Precambrian sandstone-mudstone.
Drainage class:	Very poorly drained.
Surface condition:	Soft.
Site disturbance:	Undisturbed.
Native vegetation:	Sedgeland, heathland and extensive Button Grass (*Gymnoschoenus sphaerocephalus*)

Site location

Site climate



Acknowledgements: Soil image, soil description and laboratory data: Forestry Tasmania. Profile 1.1 from Grant et al. (1995). Landscape image: Alan Moyle.

Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
P2	0.00–0.20	black (10YR 2/1)	–	hemic peat	massive	–	–	firm (wet)	<2% angular quartz (6–20 mm)	–	clear
A1	0.20–0.35	very dark grey (2.5Y 3/1)	–	sapric fine sandy clay loam	massive	–	–	very firm (wet)	<2% angular quartz (2–6 mm)	–	gradual
A12	0.35–0.48	very dark grey (10YR 3/1)	–	sapric fine sandy clay loam	massive	–	–	firm (wet)		–	gradual
B2	0.48–0.53	very dark greyish brown (10YR 3/2)	–	sapric clay loam,coarse sandy	massive	–	–	firm (wet)	20–50% subangular quartz (2–6 mm) and 10–20% subangular quartz (20–60 mm)	–	sharp
R	0.53+	quartzitic sandstone bedrock	–	–	–	–	–	–	–	–	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O[A]	pH $CaCl_2$	Elect. Cond. dS/m	$CaCO_3$ %	Org. C %[A]	Extr. P mg/kg	Tot. P %[E]	Tot. K %	Cation exchange properties cmol(+)/kg							ESP %	Bulk dens. Mg/m^3	Particle size %			
										Ca	Mg	K	Na	H+Al	CEC	ECEC			CS	FS	Silt	Clay
P2	0.00–0.20	4.1				26.6		0.006														
A11	0.20–0.35	4.3				8.3		0.004														
A12	0.35–0.48	4.4				3.2		0.002														
B2	0.48–0.53	4.3				2.0		0.001														

Key profile properties

No data available

General qualities of the soil

Infiltration:	Rapid unless saturated.
Available water store:	Very large water storage per unit depth but total store is often only moderate because of the shallow profile.
Permeability:	Moderate to high.
Physical root limitations:	Very severe rooting limitation at depth and poor aeration due to extended periods of saturation.
Erosion hazard:	Moderate to high.
Nutrient availability:	Excessive disturbance and burning (especially when peats are dry) will result in the loss of peat, severely reducing nutrient levels.
Toxicities:	None documented, possibly aluminium.

Peaty-surfaced and gently undulating Button Grass plain in north-west Tasmania

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