PO3: Parapanic, Pipey, **Semiaquic Podosol**

Kangaroo Island, South Australia

General description of the soil

A poorly drained Podosol with short-term saturation and a strongly coherent, pipey B horizon (coffee rock).

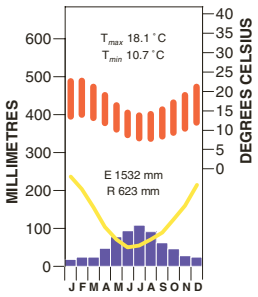
Distribution:	Common but small, irregularly distributed occurrences in near coastal regions in all except the far north and northwest of the continent.
Typical land use:	Nature conservation and grazing of improved annual pastures after clearing.
Common variants:	Depth to Bhs horizon and water table varies.
World Reference Base:	Haplic Podzol.
Other names:	Widely known as Pipey Podzols.

Environment and location of the example profile

Landform:	Valley flat.
Parent material or substrate:	Aeolian sand.
Drainage class:	Imperfectly drained.
Surface condition:	Soft.
Site disturbance:	Cleared and cultivated.
Native vegetation:	Eucalyptus woodland with heath understorey.

Site location

Site climate



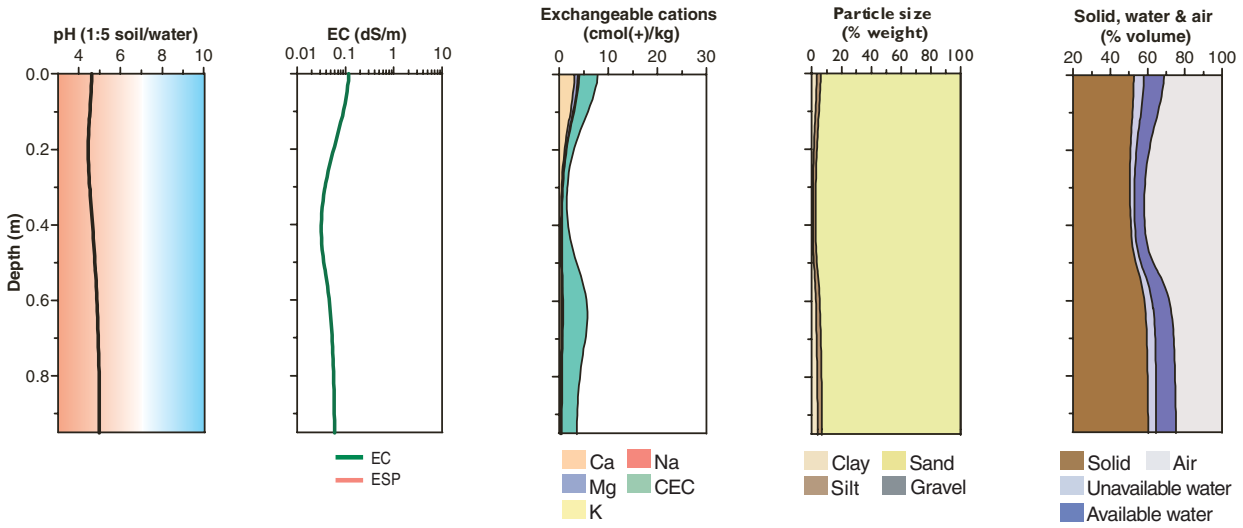
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.12	black (2.5Y 2/0)	–	light loamy sand	single grain	–	–	very weak (dry)	–	–	clear
A21e	0.12–0.30	white (2.5Y 8/0)	–	sand	single grain	–	–	very weak (dry)	–	–	diffuse
A22e	0.30–0.52	white (10YR 8/1)	–	sand	single grain	–	–	very weak (dry)	–	–	abrupt tongued
Bhs	0.52–0.70	dark reddish brown (5YR 3/3)	strong brown (7.5YR 4/6) and tongues of A22e material	light clayey sand	massive	–	–	firm (moist)	–	20–50% organic nodules (2–6 mm) moderately cemented massive orstein pan	clear
Bs	0.70–0.95	yellowish brown (10YR 5/4)	dark brown (7.5YR 3/4)	light clayey sand	massive	–	–	very weak (moderately moist)	–	>50% ferruginous-organic nodules (6–20 mm)	water table at 0.95 m

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O [A]	pH $CaCl_2$ [B]	Elect. Cond. dS/m [A]	$CaCO_3$ %	Org. C % [D]	Extr. P mg/kg [A]	Tot. P % [D]	Tot. K %	Cation exchange properties [E] cmol(+)/kg							ESP %	Bulk dens. Mg/m^3	Particle size % [A]			
										Ca	Mg	K	Na	H+Al	CEC	ECEC			CS	FS	Silt	Clay
A1	0.00–0.12	4.6	4.1	0.11		2.6	9			3.0	0.7	<0.1	0.3		8		–		63	32	3	3
A21e	0.12–0.30	4.3	3.7	0.04		0.7	8			0.3	0.1	<0.1	0.1		1		–					
A22e	0.30–0.52	4.7	4.1	0.02		0.2	8			0.1	<0.1	<0.1	0.1		<1		–		42	56	2	<1
Bhs	0.52–0.70	4.9	4.5	0.05		1.8	6			0.6	0.1	<0.1	0.2		8		–		40	55	3	3
Bs	0.70–0.95	5.0	4.8	0.06		0.7	5			0.2	0.1	<0.1	0.2		3		–					

Key profile properties



General qualities of the soil

Infiltration:	Rapid.
Available water store:	Small.
Permeability:	Moderate to high above the coffee rock.
Physical root limitations:	The coffee rock (0.60 to 0.70 m in the example profile image) may restrict root growth, and aeration is limiting during prolonged wet periods.
Erosion hazard:	Water erosion potential is low and wind erosion potential is moderately low to moderate.
Nutrient availability:	Natural fertility is low and relies on organic matter levels.
Toxicities:	None apparent.

This Semiaquic Podosol occurs just inland of the southern coast of Kangaroo Island near Vivonne Bay, South Australia.

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