HY1: Argillaceous, **Intertidal Hydrosol**

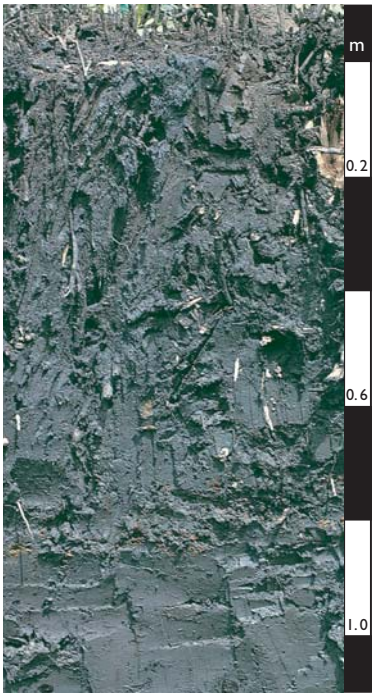
General description of the soil

A clayey soil that is inundated daily by tidal waters – it is virtually permanently saturated with saline water.

Distribution:	These environments are very common and they fringe many parts of the northern and eastern Australian coastline.
Typical land use:	Nature conservation.
Common variants:	Insufficient available information.
World Reference Base:	Thionic Fluvisol.
Other names:	Commonly referred to as Mangrove Soils or tidal mudflats.

Environment and location of the example profile

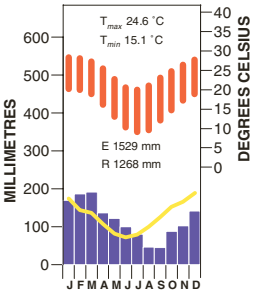
Landform:	Tidal mudflat.
Parent material or substrate:	Marine and terrestrial clayey sediments.
Drainage class:	Very poorly drained.
Surface condition:	Never dry.
Site disturbance:	None apparent.
Native vegetation:	Mangrove low woodland or low forest.



Beenleigh district, south-east Queensland

Site location

Site climate



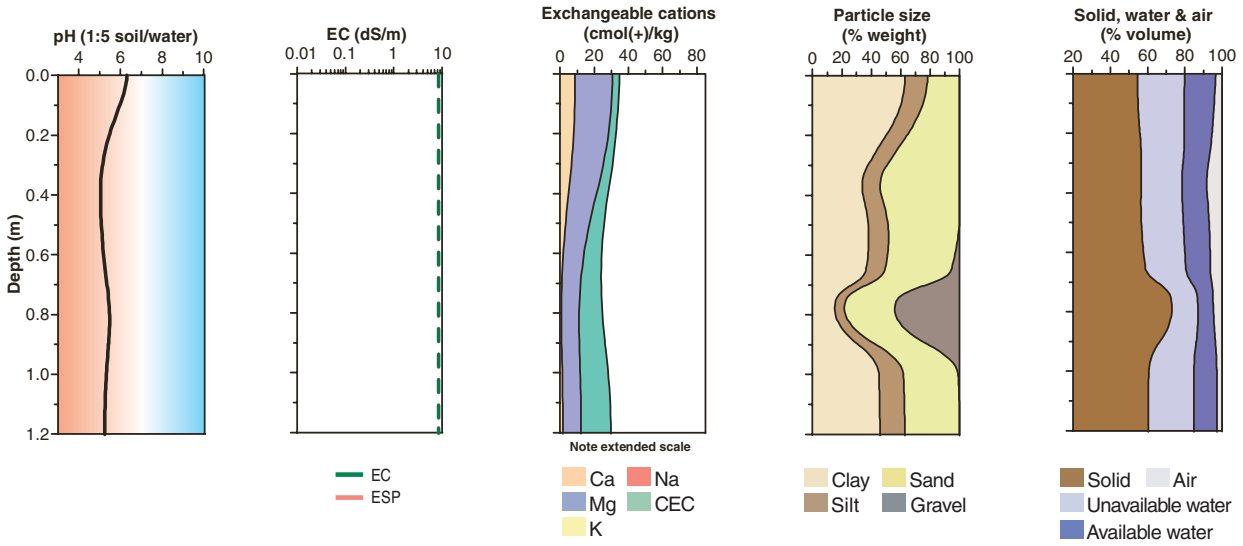
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A11g	0.00–0.10	dark brown (7.5YR 3/2)	reddish brown (5YR 4/4) bordering roots	clay loam to light clay	weak	subangular blocky	10–20 mm		–	–	
A12g	0.10–0.20	very dark grey (10YR 3/1)	reddish brown (5YR 4/4) bordering roots	clay loam to light clay	massive	–	–		–	–	
2A1g	0.20–0.70	very dark grey (10YR 3/1)	reddish brown (5YR 4/4) bordering roots	clay loam to light clay	massive	–	–		–	–	abrupt (sedimentary discontinuity)
D1	0.70–0.90	dark grey (10YR 4/1)	–	gravelly clay loam	massive	–	–		–	20–50% ironstone nodules (3–35 mm)	
D2	0.90–1.20	very dark grey (5Y 3/1)	–	clay	massive	–	–		–	–	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O[A]	pH $CaCl_2$	Elect. Cond. dS/m[C]	$CaCO_3$ %	Org. C %[H]	Extr. P mg/kg[A]	Tot. P %	Tot. K %	Cation exchange properties[E] cmol(+)/kg							ESP %	Bulk dens. Mg/m^3	Particle size %[J]			
										Ca	Mg	K	Na	H+Al	CEC	ECEC			CS	FS	Silt	Clay
A11g	0.00–0.10	6.4		18		5.7	39												1	21	13	54
A12g	0.10–0.20	5.6		19		4.8	114			8.3	20.7				33							
2A11g	0.20–0.30	5.1		24		7.4													19	15	11	34
2A12g	0.30–0.40	4.9		15		4.2													32	17	10	27
2Acg	0.40–0.70	5.0		17		3.1				0.90	10.9				23				23	18	12	34
D1	0.70–0.90	5.7		7		1.7													44	16	11	24
D2	0.90–1.20	5.2		14		3.3				1.5	10.6				29				5	26	14	38

Key profile properties



General qualities of the soil

Infiltration:	Very slow or zero due to saturation.
Available water store:	Greater than moderate.
Permeability:	Moderate to low.
Physical root limitations:	Poor aeration.
Erosion hazard:	Very low.
Nutrient availability:	Limited information.
Toxicities:	The entire profile is extremely saline.

Tidal mudflats supporting a low forest of mangroves

Acknowledgements: Soil image, soil description and laboratory data: CSIRO Land and Water. Profile B880. Landscape image: Bill van Aken, CSIRO.