

RU4: Basic, Lithic, Leptic Rudosol

General description of the soil

A very common shallow, stony soil often derived from acid parent rocks. The A1 horizon of the example profile is better developed than is usual and thus the soil is grading to a Tenosol with a Submelanic A1 horizon.

Distribution:	A very widespread soil throughout much of upland Australia. The lower rainfall soils, such as those in the arid zone, have only a minimal development of a slightly darker A1 horizon and it is visible only when moist.
Typical land use:	Forestry, nature conservation and light grazing of native pastures.
Common variants:	Differences in thickness and A1 horizon development are common due to the high proportion of weathered and unweathered rock.
World Reference Base:	Epileptic Regosol.
Other names:	Lithosols.

Environment and location of the example profile

Landform:	Low hills but also occurs locally on undulating to rolling rises, scarps, and dissected residuals.
Parent material or substrate:	Weathered sandstone and siltstone.
Drainage class:	Rapidly drained.
Surface condition:	Firm.
Site disturbance:	Minimal.
Native vegetation:	Tall eucalypt woodland with shrub understorey.

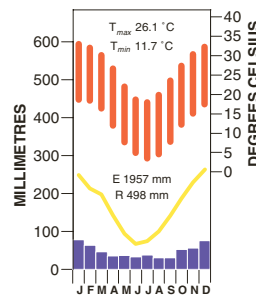


Fifty kilometres north of Goondiwindi, south Queensland

Site location



Site climate



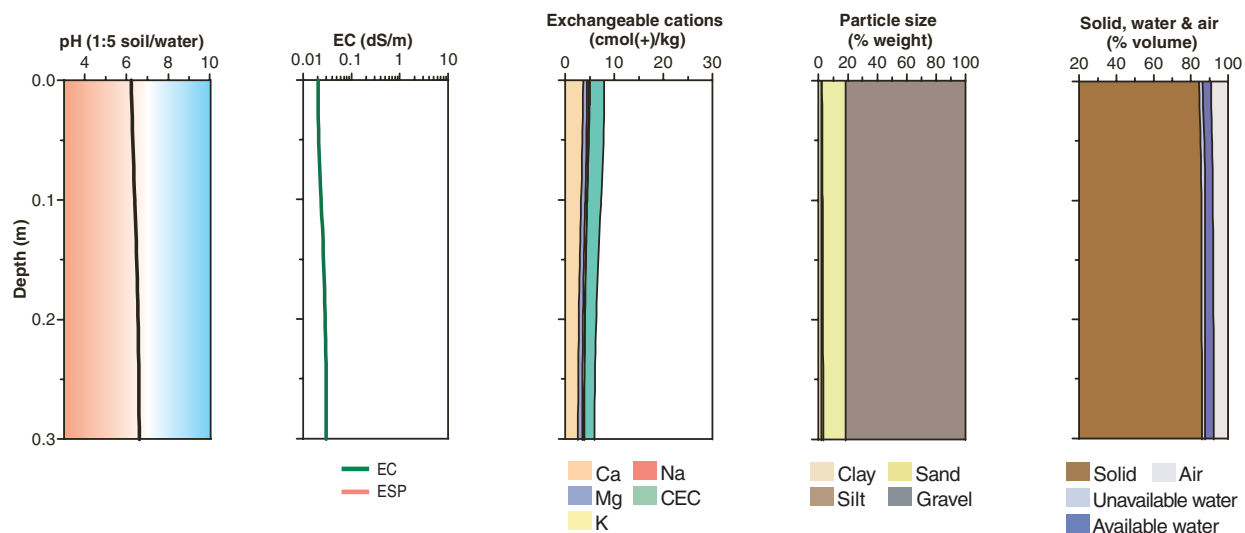
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A11	0.00–0.12	brownish black (10YR 2/2)	–	sandy loam	massive	–	–	moderately weak (dry)	50–90% subangular sandstone (60–200 mm)	–	clear smooth
A12	0.12–0.35	dark brown (10YR 2/3)	–	loamy sand	massive	–	–	moderately firm (dry)	50–90% subangular sandstone (60–200 mm)	–	abrupt smooth
C	0.35–0.45								weathered sandstone and siltstone	–	gradual smooth
R	0.45+								silicified sandstone and siltstone	–	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H ₂ O ^A	pH CaCl ₂	Elect. Cond. dS/m ^A	CaCO ₃ %	Org. C %	Extr. P mg/kg	Tot. P % ^A	Tot. K % ^A	Cation exchange properties ^D								ESP %	Bulk dens. Mg/m ³	Particle size % ^I			
										cmol(+)/kg										CS	FS	Silt	Clay
										Ca	Mg	K	Na	H+Al	CEC	ECEC							
A11	0.00–0.10	6.3		0.02				0.016	0.141	3.5	0.8	0.3	0.1		8		–		20	62	3	10	
A12	0.10–0.30	6.6		0.03				0.008	0.092	2.6	0.9	0.4	0.1		6		–		29	52	7	10	
C	0.35–0.45																						

Key profile properties



General qualities of the soil

Infiltration:	Moderate to rapid.
Available water store:	Very small to small.
Permeability:	Moderate to high.
Physical root limitations:	Abundant hard sandstone cobbles.
Erosion hazard:	Will erode on slopes if cleared.
Nutrient availability:	Fertility is very low.
Toxicities:	None apparent.



Low hills typical of the dissected, 'jump-up' landscape, Goondiwindi district, south Queensland

Acknowledgements: Soil image, soil description and laboratory data: Department of Natural Resources and Mines, Queensland. Karbullah soil, Site 3. Landscape image: CSIRO.