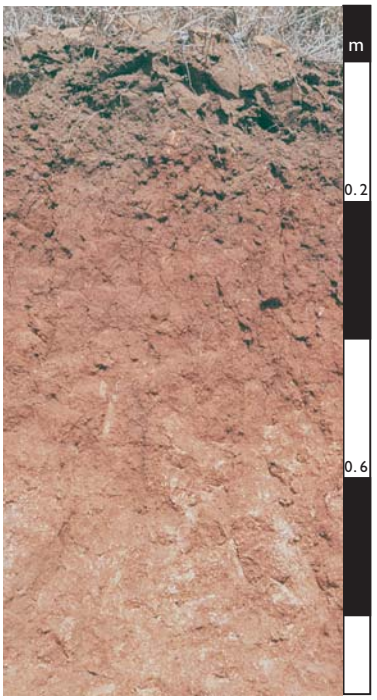
CH2: Haplic, Eutrophic, **Red Chromosol**



Charters Towers district, north-central Queensland

General description of the soil

A non-sodic, texture-contrast soil with a high base status (i.e. Eutrophic) in the major part of the red clayey B2 horizon. No other diagnostic features are present so the term Haplic (simple) is used for the subgroup class.

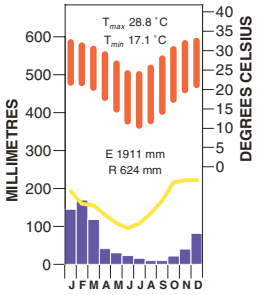
Distribution:	A widespread soil in subcoastal eastern Australia and also common in south Western Australia (e.g. Darling Scarp).
Typical land use:	Sparse cattle grazing of native pastures.
Common variants:	Some forms have a weakly developed pale (but not bleached) A2 horizon.
World Reference Base:	Abruptic Luvisol.
Other names:	Non-calcic Brown soils, Red Podzolic Soils and Red Duplex Soils.

Environment and location of the example profile

Landform:	Strongly undulating and dissected low scarp.
Parent material or substrate:	Weathered granodiorite.
Drainage class:	Well-drained.
Surface condition:	Hardsetting.
Site disturbance:	Sparse grazing only.
Native vegetation:	Open eucalypt woodland.

Site location

Site climate



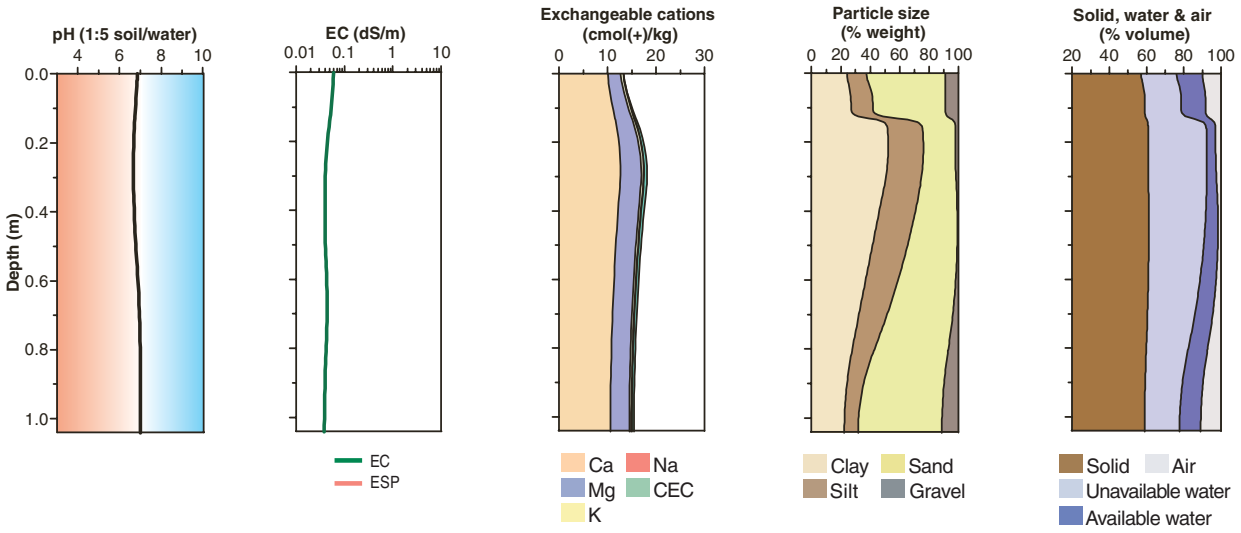
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.13	very dark greyish brown (10YR 3/2)	–	clay loam	moderate	subangular blocky	5–10 mm	firm (moist)	2–10% gravel (60–200 mm)	–	clear wavy
B21	0.13–0.33	dark red (2.5YR 3/6)	–	heavy clay	weak parting to strong	prismatic parting to subangular blocky	20–50 mm parting to 10–20 mm	very firm (moist)	2–10% gravel (2–6 mm)	10–50% ped faces coated with faint clay cutans	gradual smooth
B22	0.33–0.56	red (2.5YR 4/6)	–	light medium clay	weak	subangular blocky	50–100 mm	firm (moist)	2–10% gravel (2–6 mm)	<10% ped faces coated with faint clay cutans	gradual smooth
B3	0.56–0.80	red (2.5YR 4/6)	–	light clay	weak	subangular blocky	20–50 mm	firm (moist)	2–10% gravel (2–6 mm)	–	gradual smooth
Cr	0.80–1.04	soft weathered granodiorite		Clay	–	–	–				

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O[A]	pH $CaCl_2$	Elect. Cond. dS/m[A]	$CaCO_3$ %	Org. C %[G]	Extr. P mg/kg[B]	Tot. P %[A]	Tot. K %[A]	Cation exchange properties[A] cmol(+)/kg							ESP %	Bulk dens. Mg/m^3	Particle size %[B]			
										Ca	Mg	K	Na	H+Al	CEC[I]	ECEC			CS	FS	Silt	Clay
A1	0.00–0.13	6.8		0.06		1.6	40	0.039	1.58	10.6	2.8	0.5	0.1		13		–		27	27	16	29
B21	0.13–0.33	6.6		0.04		0.7	2	0.027	1.23	13.2	4.5	0.5	0.1		19		–		11	12	25	54
B22	0.33–0.56	6.7		0.04			4	0.022	1.41	11.0	4.0	0.4	0.1		16		–		22	17	23	40
B3	0.56–0.80	7.0		0.05			107	0.041	1.21													
Cr	0.80–1.04	7.0		0.04			275	0.068	1.30													

Key profile properties



General qualities of the soil

Infiltration:	Rapid, but compaction and surface sealing will restrict water entry.
Available water store:	Moderate.
Permeability:	Moderate to high.
Physical root limitations:	No apparent restrictions.
Erosion hazard:	Moderate on slopes.
Nutrient availability:	Generally low organic matter, otherwise mostly good.
Toxicities:	None known.

Dissected and erosional lands in the Burdekin River Catchment, Queensland

Acknowledgements: Soil image, soil description and laboratory data: CSIRO Land and Water. Profile T48. Landscape image: Bill van Aken, CSIRO.