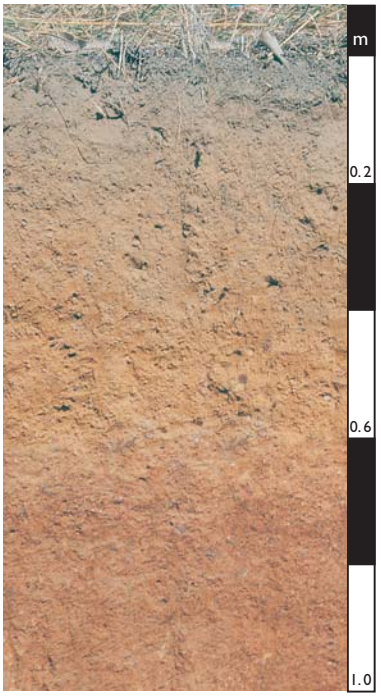
KA5: Ferric-Acidic, Dystrophic, **Red Kandosol**



Darwin district, Northern Territory

General description of the soil

A sandy-surfaced Red Kandosol with many (30–50%) subrounded ferruginous gravels throughout the profile. The B2 horizon has a very low base status (i.e. Dystrophic) and is strongly acid.

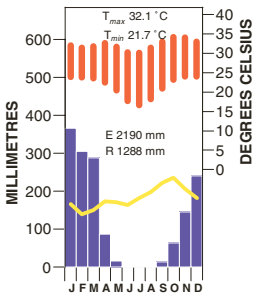
Distribution:	A widespread soil, particularly common in northern Australia.
Typical land use:	Reserved land, extensive grazing, with horticulture and hobby farming locally in the Darwin district.
Common variants:	pH is often higher but still strongly acid (<5.5). Ferruginous gravel content may vary.
World Reference Base:	Orthiplinthic Acrisol.
Other names:	Widely known as lateritic Red Earths.

Environment and location of the example profile

Landform:	Level to gently undulating plain.
Parent material or substrate:	Not determined.
Drainage class:	Moderately well-drained.
Surface condition:	Firm.
Site disturbance:	Repeated burning.
Native vegetation:	Tall open woodland with an upper stratum of *Eucalyptus miniata* and *Eucalyptus tetrodonta*.

Site location

Site climate



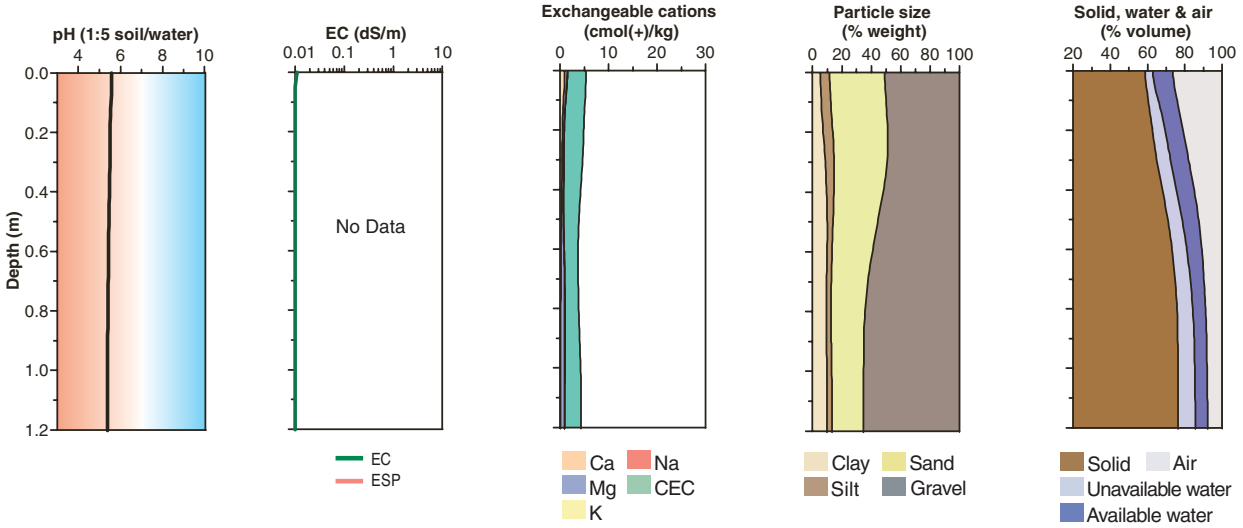
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A1	0.00–0.15	very dark greyish brown (10YR 3/2)	–	loamy sand	massive	–	–	firm (dry)	–	30% subrounded ferruginous gravel (5 mm)	clear
B1	0.15–0.40	strong brown (7.5 YR 5/8)	–	light sandy clay loam	massive	–	–	firm (dry)	–	30% subrounded ferruginous gravel (5 mm)	gradual
B21	0.40–0.60	yellowish red (5YR 5/8)	–	sandy clay loam	massive	–	–	firm (slightly moist)	–	40% subrounded ferruginous gravel (8 mm)	gradual
B22	0.60–1.20	red (2.5YR 4/6)	–	light clay	massive	–	–	very firm (slightly moist)	–	50% subrounded ferruginous gravel (8 mm)	

Soil chemical and physical properties

Horizon	Sample Depth (m)	pH H_2O[A]	pH $CaCl_2$	Elect. Cond. dS/m	$CaCO_3$ %	Org. C %[F]	Extr. P mg/kg[A]	Tot. P %[A]	Tot. K %[A]	Cation exchange properties[D] cmol(+)/kg							ESP %	Bulk dens. Mg/m^3	Particle size %			
										Ca	Mg	K	Na	H+Al	CEC	ECEC			CS	FS	Silt	Clay
A1	0.00–0.10	4.7				1.3		0.023	0.124	0.9	0.5	<0.1	<0.1		5		–		12	64	13	11
A/B	0.10–0.20	4.3				0.7		0.023	0.133	0.3	0.3	<0.1	<0.1		5		–		14	61	13	12
B1	0.20–0.30	4.3				0.6	2	0.026	0.147	0.4	0.3	<0.1	0.1		5		–		11	59	13	17
B21	0.50–0.60	4.2				0.3	5	0.020	0.177	0.2	0.3	<0.1	<0.1		4		–		12	57	8	24
B22	0.80–0.90	4.0				0.1	5	0.011	0.272	0.1	0.9	<0.1	<0.1		4		–		12	53	8	27
B22	1.10–1.20	4.0				0.1	4	0.011	0.300	0.1	0.8	<0.1	<0.1		4		–		15	46	10	29

Key profile properties



General qualities of the soil

Infiltration:	Usually rapid unless degraded by organic matter decline and surface sealing.
Available water store:	Moderate to large.
Permeability:	High.
Physical root limitations:	Minor due to high gravel content.
Erosion hazard:	Severe on slopes.
Nutrient availability:	Low throughout the profile.
Toxicities:	None apparent.

Open woodland near Darwin, Northern Territory

Acknowledgements: Soil image, soil description and laboratory data: Department of Infrastructure, Planning and Environment, Northern Territory. Site 97, Elizabeth River. Landscape image: Alan Fox.