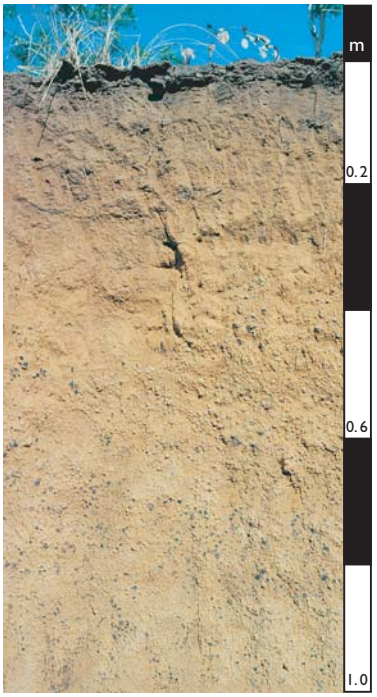
KA10: Ferric, Eutrophic, **Brown Kandosol**



Katherine district, Northern Territory

General description of the soil

A loamy yellowish Brown Kandosol with many (40–60%) ferruginous gravels in the B2 horizon which has a moderately high base status (i.e. Eutrophic).

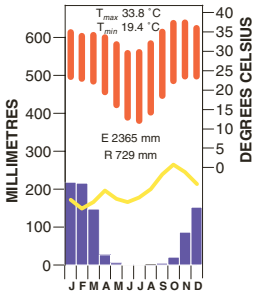
Distribution:	A widely occurring Kandosol on less well-drained sites, particularly in northern Australia.
Typical land use:	Beef-cattle grazing of native pastures.
Common variants:	Soil texture and abundance of nodules may vary.
World Reference Base:	Orthiplinthic Lixisol.
Other names:	Commonly referred to as Yellow Earths, although the most common colours are yellowish brown.

Environment and location of the example profile

Landform:	Gently sloping plain.
Parent material or substrate:	Probably Cambrian sediments.
Drainage class:	Imperfectly drained.
Surface condition:	Firm with 30% ferromanganiferous gravels (<5 mm).
Site disturbance:	Minor.
Native vegetation:	Mid-high open woodland with an upper stratum of *Eucalyptus clavigera*, *Eucalyptus foelscheana* and *Eucalyptus miniata*.

Site location

Site climate



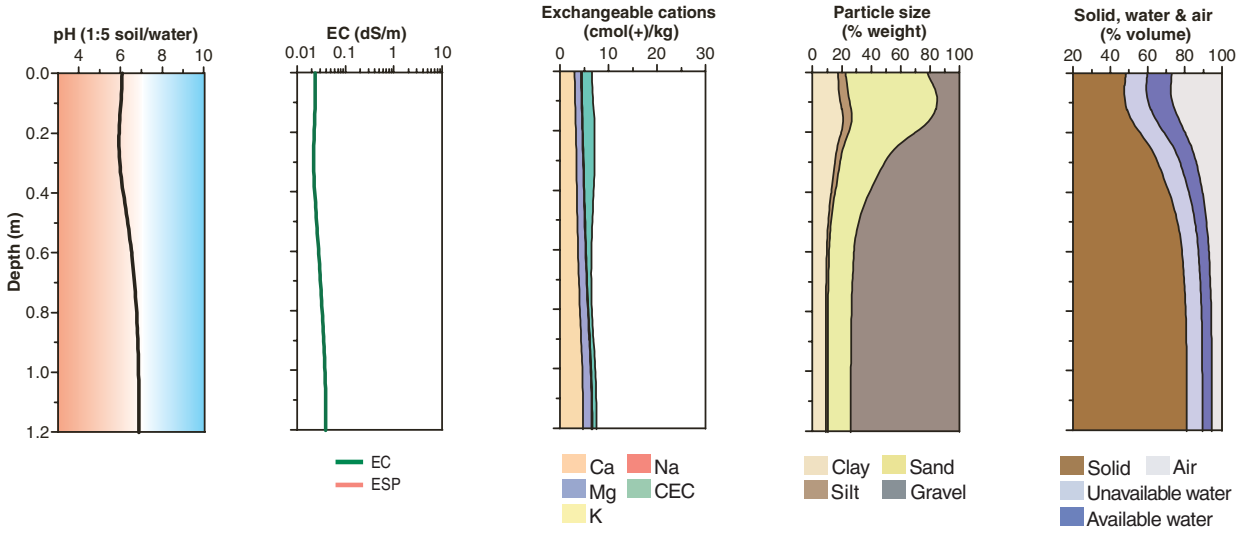
Soil morphology

Horizon	Depth (m)	Colour	Mottles	Texture	Structure			Consistence	Coarse fragments	Segregations	Boundary
					Grade	Shape	Size				
A11	0.00–0.04	dark brown (10YR 3/3)	–	light sandy clay loam	massive	–	–	firm (dry)	10% ferromanganiferous gravels (5 mm)	–	
A12	0.04–0.12	dark yellow brown (10YR 3/4)	–	sandy clay loam	massive	–	–	firm (dry)	–	–	clear
A2	0.12–0.20	yellowish brown (10YR 5/4)	–	silty clay loam	massive	–	–	firm (moderately moist)	–	–	gradual
B21	0.20–0.40	yellowish brown (10YR 5/6)	–	light clay	massive	–	–	firm (moderately moist)	40% ferromanganiferous gravels (10 mm)	–	gradual
B22	0.40–1.20	yellowish brown (10YR 5/8)	–	light clay	massive	–	–	firm (moderately moist)	60% ferromanganiferous gravels (10 mm)	–	

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 %[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 %[E]			
										Ca	Mg	K	Na	H+Al	CEC	ECEC			CS	FS	Silt	Clay
A11	0.00–0.04	6.1		0.02		0.6	1	0.017	0.470	3.0	1.3	0.1	<0.1		7		–		18	52	6	22
A12	0.04–0.12																		20	56	10	14
A2	0.12–0.20	5.9		0.02		0.4				3.2	1.3	0.1	<0.1		7		–		15	48	6	31
B21	0.20–0.30	5.8		0.02		0.3	2	0.011	0.530	3.4	1.3	0.1	0.1		7		–		16	43	8	33
B21	0.30–0.40																		19	40	7	34
B22	0.40–0.60	6.4		0.03				0.012	0.470	3.5	1.5	0.1	0.1		7		–		18	40	6	36
B22	0.80–0.90	6.8		0.03				0.014	0.510	3.9	1.6	0.1	0.1		6		–		27	34	5	34
B22	1.10–1.20	6.9		0.04						4.8	1.8	0.1	0.1		8		–		27	33	4	36

Key profile properties



General qualities of the soil

Infiltration:	Rapid unless surface soil structure is degraded.
Available water store:	Moderate or larger depending on soil depth and gravel content.
Permeability:	Moderate.
Physical root limitations:	High gravel content may partly impede root growth.
Erosion hazard:	Moderate hazard on slopes.
Nutrient availability:	Low throughout the profile.
Toxicities:	None apparent.

Open woodland of *Eucalyptus clavigera* and *Eucalyptus miniata*, Manbulloo district, south-west of Katherine, Northern Territory

Acknowledgements: Soil image, soil description and laboratory data: Department of Infrastructure, Planning and Environment, Northern Territory. Reference Site NT/K1, Manbulloo. Landscape image: Department of Infrastructure, Planning and Environment, Northern Territory.