HARD SANDY LOAM OVER RED CLAY
(Sandy red brown earth)

General Description: *Hard loamy sand to sandy loam over red clay*

Landform: Gently undulating plains.

Substrate: Tertiary clay.

Vegetation:

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Type Site: Site No.: EL043

1:50,000 sheet:	5929-1 (Kiana)	Hundred:	Mitchell
Annual rainfall:	450 mm	Sampling date:	03/03/92
Landform:	Rise on gently undulating plain		
Surface:	Firm with no stones		

Soil Description:

Depth (cm)	*Description*
0-10	Brown sandy loam with weak subangular blocky structure. Clear to:
10-20	Brown massive loamy sand with weak subangular blocky structure and minor ironstone gravel. Abrupt to:
20-50	Yellowish red friable light clay with moderate fine angular blocky structure. Gradual to:
50-180	Orange and red friable light medium clay with strong fine angular blocky structure. Gradual to:
180-200	Brownish yellow, red and grey soft fine sandy medium clay with strong fine angular blocky structure.

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Classification: Haplic, Eutrophic, Red Chromosol; medium, non-gravelly, loamy / clayey, very deep

Summary of Properties

Drainage Well drained. Soil rarely remains wet for more than a few days.

Fertility Inherent fertility is moderately low, as indicated by the exchangeable cation data. Nutrient retention capacity is poor due to relatively low clay content, but good organic carbon levels provide some capacity. Phosphorus applications are required regularly, and levels are high at the sampling site. Nitrogen levels depend on cropping history and legume content of pastures. Sulphur deficiencies are likely. Trace elements may be needed occasionally.

pH Slightly acidic at the surface, neutral at depth.

Rooting depth 80 cm in pit.

Barriers to root growth

Physical: Subsoil clay is well structured and favourable for root growth.

Chemical: There are no chemical barriers to root growth.

Water holding capacity Approximately 110 mm in the root zone.

Seedling emergence: Fair due to tendency for surface soil to seal and set hard.

Workability: Good at sampling site, but surface soils can compact and become more difficult to work.

Erosion Potential

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	pH H_2O	pH $CaC1_2$	CO_3 %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	SO_4 mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-10	6.6	5.9	1	0.1	0.8	1.6	48	420	-	1.4	0.92	83	7.50	0.83	7.5	2.8	0.5	0.22	1.04	2.9
10-20	6.3	5.9	0	0.1	1.4	0.2	4	110	-	0.7	0.09	20	0.51	0.23	3.1	2.0	0.4	0.14	0.28	4.5
20-50	6.7	5.9	1	0.1	0.4	0.3	<2	430	-	2.9	<.04	6.5	0.18	<.04	20.9	7.9	4.7	0.64	1.41	3.1
50-180	7.0	6.1	1	0.1	0.3	-	-	-	-	3.7	<.04	3.1	0.17	<.04	18.7	7.6	3.8	0.91	1.26	4.9
180-200	7.1	6.6	1	0.1	0.7	-	-	-	-	3.1	<.04	3.0	0.67	0.05	11.0	7.3	2.6	0.81	0.70	7.4

Note: CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements.

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC