## 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:** 

**Type Site:** Site No.: EL043 1:50,000 mapsheet: 5929-1 (Kiana)

Hundred:MitchellEasting:545100Section:40Northing:6237550

Sampling date: 03/03/1992 Annual rainfall: 425 mm average

Rise on gently undulating plain. Firm surface 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.

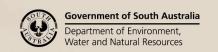
Gradual to:

180-200 Brownish yellow, red and grey soft fine

sandy medium clay with strong fine

angular blocky structure.

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.

**Waterholding capacity:** Approximately 110 mm in the rootzone.

**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 <sub>2</sub> O	pH CaC1 <sub>2</sub>	CO <sub>3</sub>	EC1:5 dS/m	ECe dS/m	%	Avail. P	K	mg/kg			Trace Elements mg/kg (DTPA)				Exchangeable Cations cmol(+)/kg				ESP
							mg/kg mg/kg	mg/kg			Cu	Fe	Mn	Zn	(+)/kg	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	-	ı	-	-	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

Further information: DEWNR Soil and Land Program

