HARD GRADATIONAL RED CLAY
(Clayey red brown earth)

General Description: *Hard clay loam to light clay grading to a red coarsely structured clay, calcareous with depth*

Landform: Gently undulating rises.

Substrate: Tertiary clays

Vegetation:

No landscape image available

Type Site: Site No.: EL033

1:50,000 sheet:	6029-1 (Cockaleechie)	Hundred:	Brooker
Annual rainfall:	390 mm	Sampling date:	10/01/91
Landform:	Gentle slope with some gilgai		
Surface:	Hard setting with no stones		

Soil Description:

Depth (cm)	*Description*
0-5	Dark yellowish brown highly calcareous light medium clay with ironstone fragments. Clear to
5-90	Yellowish red very highly calcareous medium clay with ironstone fragments. Gradual to:
90-150	Brownish yellow slightly calcareous medium clay with ironstone fragments.

No profile image available

Classification: Sodic, Calcic, Red Dermosol; thin, non-gravelly, clayey / clayey, moderate

Summary of Properties

Drainage Moderately well to imperfectly drained. Soil may remain wet for a week or so following heavy or prolonged rainfall.

Fertility Inherent fertility is high, as indicated by the exchangeable cation data, although ironstone gravel ties up phosphorus. Zinc deficiencies can also be expected as is usual on alkaline clays.

pH Alkaline throughout.

Rooting depth Not recorded. Estimate 90 cm in pit.

Barriers to root growth

Physical: The high strength clay prevents optimum root densities and distribution patterns.

Chemical: High sodicity from 90 cm restricts deeper root growth.

Water holding capacity Approximately 100 mm in the potential root zone, but low root densities reduce this figure in practice.

Seedling emergence: Fair - hard surface soil impedes emergence.

Workability: Fair - surface soil becomes sticky and intractable when wet.

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-S 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	
0-5	7.9	7.6	10	0.16	0.51	1.67	52	-	-	-	0.37	16.8	2.72	0.32	23.3	21.68	2.75	0.40	1.25	1.7
5-90	8.8	7.9	2	0.26	0.70	0.19	2	-	-	7.3	0.08	14.1	0.81	0.06	21.0	9.15	7.08	3.51	0.98	16.7
90-150	9.2	8.3	20	1.40	6.09	-	-	-	-	-	0.19	9.2	1.00	0.17	19.0	3.43	6.64	8.60	1.00	45.3

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