SANDY LOAM OVER RED CLAY ON CALCRETE

General Description: *Red sandy loam over a well structured red clay subsoil on calcrete within 50 cm*

Landform: Gently undulating plain.

Substrate: Calcrete capped Bridgewater Formation calcarenite.

Vegetation: Eucalyptus viminalis

Type Site:

Site No.:	SE062	1:50,000 mapsheet:	7023-3 (Monbulla)
Hundred:	Monbulla	Easting:	471850
Section:	188E	Northing:	5854350
Sampling date:	02/04/1997	Annual rainfall:	705 mm average

Upper slope of gentle rise, 2% slope. Firm surface with less than 2% calcrete stones (60-200 mm).

Soil Description:

Depth (cm)	*Description*
0-5	Dark red friable sandy loam with moderate angular blocky structure. Abrupt to:
5-19	Dark red soft light sandy clay loam with weak angular blocky structure and up to 2% ferromanganiferous nodules (6-20 mm). Abrupt to:
19-26	Red friable light medium clay with strong polyhedral structure. Gradual to:
26-34	Yellowish red friable medium clay with moderate angular blocky structure. Sharp to:
34-80	Strongly cemented laminar calcrete pan.

Classification: Haplic, Petrocalcic, Red Chromosol; thin, non-gravelly, loamy / clayey, shallow

Summary of Properties

Drainage: Well drained. The soil rarely remains wet for more than a couple of days at a time.

Fertility: Inherent fertility is moderate. The sandy loam surface has reasonable nutrient retention capacity, but higher clay content layers occur at shallow depth, providing nutrition to growing roots at an early age. Phosphorus, copper and zinc concentrations are low at the sampling site.

pH: Acidic at the surface, neutral with depth (above calcrete).

Rooting depth: 34 cm in pit.

Barriers to root growth:

Physical: The calcrete is a severe barrier. Root growth relies on fractures in the calcrete.

Chemical: There are no chemical limitations

Waterholding capacity: Approximately 60 mm in the rootzone.

Seedling emergence: Satisfactory, although water repellence may restrict establishment.

Workability: The firm surface is easily worked.

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	
Paddock	5.5	4.8	-	0.12	-	2.27	15	237	8.2	1.1	0.14	170	25.3	0.16	-	8.72	0.76	0.15	0.59	1.5
0-5	5.2	4.6	-	0.13	-	2.16	23	308	8.9	0.9	0.15	212	23.2	0.33	-	3.85	0.57	0.15	0.75	2.8
5-19	5.2	4.5	-	0.06	-	0.92	8	211	4.1	0.7	0.09	166	18.5	0.15	-	3.58	0.63	0.07	0.50	1.5
19-26	6.0	5.3	-	0.05	-	1.14	2	190	3.7	0.9	0.12	38	4.01	0.29	-	11.60	2.20	0.19	0.51	1.3
26-34	6.7	6.0	-	0.06	-	1.16	2	204	7.7	0.8	0.01	16	4.42	0.06	-	18.76	3.70	0.34	0.56	1.5
34-80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: Paddock sample bulked from cores (0-10 cm) taken around the pit.
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.
CEC at this site is estimated from the sum of exchangeable cations.

Further information: DEWNR Soil and Land Program