SHALLOW CALCAREOUS SANDY CLAY LOAM
(Mitchellville / Calcrete soil)

General Description: *Shallow calcareous sandy loam to sandy clay loam with variable rubble content over sheet calcrete within 50 cm*

Landform: Gently undulating plains with parallel sandhills.

Substrate: Ripon Calcrete.

Vegetation: Mallee scrub of E. gracilis, E. oleosa and Melaleuca lanceolata

Type Site: Site No.: EE071

1:50,000 sheet:	6230-1 (Cowell)	Hundred:	Playford
Annual rainfall:	275 mm	Sampling date:	22/01/93
Landform:	Swale between parallel sandhills		
Surface:	Soft with 2-10% calcrete stones		

Soil Description:

Depth (cm)	*Description*
0-20	Brown soft highly calcareous sandy clay loam with weak subangular blocky structure. Abrupt to:
20-40	Brown soft very highly calcareous sandy loam with more than 50% carbonate concretions. Sharp to:
40-	Class II calcrete.

Classification: Ceteric, Petrocalcic, Lithocalcic, Calcarosol; medium, slightly gravelly, loamy / loamy, shallow

Summary of Properties

Drainage Rapidly drained. The soil never remains wet for more than a few hours.

Fertility Inherent fertility is moderate, as indicated by the exchangeable cation data, moderate clay content and relatively high organic carbon levels. Phosphorus concentrations are low, and regular applications are needed. Nitrogen levels depend on legume component of pastures and cropping history. Copper and zinc deficiencies are possible given the alkaline surface reaction, but levels are satisfactory at the sampling site.

pH Alkaline throughout.

Rooting depth 50 cm in pit.

Barriers to root growth

Physical: The calcrete prevents deeper root growth, except where fractures fill with soil from above, providing limited additional depth.

Chemical: There are no chemical barriers.

Water holding capacity Approximately 40 mm in the root zone.

Seedling emergence: Satisfactory.

Workability: Soft surface is easily worked, but stones interfere with and abrade equipment.

Erosion Potential

Water: Low.

Wind: Moderately 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	
0-20	8.8	8.1	8	0.11	0.54	1.3	7	580	-	4.6	1.1	4.6	3.3	0.38	14.7	11.35	3.41	0.22	1.68	1.5
20-40	9.0	8.3	12	0.13	0.72	1.3	8	210	-	5.8	1.3	3.6	2.7	0.36	13.4	10.16	5.52	0.62	0.61	4.6

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