VERY HIGHLY CALCAREOUS SANDY CLAY LOAM
(Magarey / Cungena soil)

General Description: *Very highly calcareous sandy clay loam with variable rubble content at depth*

Landform: Very gently undulating plains.

Substrate: Very highly calcareous medium grained windblown deposits, with variable calcrete development.

Vegetation: Mallee.

Type Site:

Site No.:	EW075		
1:50,000 sheet:	5832-4 (Cungena)	Hundred:	Tarlton
Annual rainfall:	300 mm	Sampling date:	29/03/93
Landform:	Gently undulating low rise on plain, 2% slope		
Surface:	Soft with no stones		

Soil Description:

Depth (cm)	*Description*
0-15	Brown friable highly calcareous light sandy clay loam with weak fine subangular blocky structure and minor carbonate concretions. Gradual to:
15-28	Brown friable very highly calcareous massive sandy clay loam with 10-20% carbonate concretions. Abrupt to:
28-52	Pink friable very highly calcareous massive sandy clay loam with more than 50% carbonate concretions. Abrupt to:
52-150	Class III C rubbly carbonate. Abrupt to:
150-	Sheet calcrete.

Classification: Hypervescent, Regolithic, Lithocalcic Calcarosol; thick, non-gravelly, loamy / clay loamy, deep

Summary of Properties

Drainage Rapidly drained. The soil rarely remains wet for more than a few hours at a time.

Fertility Inherent fertility is low. Although the clay and organic carbon levels are moderate, the high carbonate content reduces availability of phosphorus and trace elements. Regular applications are necessary, and concentrations of all tested elements are satisfactory at the sampling site.

pH Alkaline at the surface, strongly alkaline at depth.

Rooting depth 52 cm in pit.

Barriers to root growth

Physical: Depending on amount of rubble, it may impede root growth.

Chemical: High pH and high sodicity restrict rooting depth.

Water holding capacity Approximately 65 mm in root zone.

Seedling emergence: Satisfactory.

Workability: Soft surface is easily worked.

Erosion Potential

Water: Low.

Wind: Moderately low to moderate.

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	
0-15	8.4	7.9	36	0.22	1.28	1.1	26	450	-	1.9	0.34	2.60	5.70	0.53	12.4	10.45	1.43	0.02	1.08	0.1
15-28	9.0	8.3	40	0.16	0.68	0.7	4	280	-	3.4	0.47	1.60	3.10	0.23	11.2	7.28	3.74	0.21	0.72	1.9
28-52	9.7	8.7	54	0.37	1.88	0.3	3	310	-	11	0.29	1.90	1.60	0.66	8.0	1.67	5.00	1.51	0.78	18.9
52-150	9.7	8.3	69	0.98	9.10	-	<2	360	-	13	0.23	9.30	2.30	0.18	5.3	1.57	1.82	2.14	0.89	40.4

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