CALCAREOUS SANDY LOAM

General Description: *Calcareous sandy loam becoming more clayey and calcareous at depth with variable rubble, grading to medium textured sediment*

Landform:	Gently undulating plains.
Substrate:	Medium textured alluvium mantled by windblown carbonate.
Vegetation:	Mallee.

Type Site: Site No.:   MO041

1:50,000 sheet:	6727-4 (Monarto)	Hundred:	Freeling
Annual rainfall:	400 mm	Sampling date:	1976
Landform:	Low rise on gently undulating plain, 1% slope		
Surface:	Firm with no stones		

Soil Description:

Depth (cm)	Description
0-9	Reddish brown soft massive moderately calcareous sandy loam. Sharp to:
9-16	Red massive soft highly calcareous sandy clay loam. Clear to:
16-34	Yellowish red massive very highly calcareous soft sandy clay loam with 10-20% carbonate nodules. Gradual to:
34-70	Reddish yellow massive hard very highly calcareous sandy light clay with more than 50% fine carbonate segregations. Diffuse to:
70-105	Yellowish red and red massive very hard very highly calcareous sandy light clay with 20-50% fine carbonate segregations. Diffuse to:
105-150	Reddish brown and dark greyish brown mottled sandy clay loam with weak subangular blocky structure and 2-10% fine carbonate segregations.

Classification: Endohypersodic, Regolithic, Hypercalcic Calcarosol; medium, non-gravelly, loamy / clayey, deep

Summary of Properties

Drainage: Well drained. The soil is unlikely to remain wet for more than a day or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderate, as indicated by the exchangeable cation data. Clay content is sufficiently high throughout to provide adequate nutrient retention capacity, but alkaline pH and free carbonate tend to fix phosphate, zinc, manganese, copper and iron.

pH: Alkaline at the surface, strongly alkaline at depth.

Rooting depth: Not recorded. Estimate 70 cm in pit.

Barriers to root growth:

    Physical: There are no apparent physical barriers.

    Chemical: High pH and sodicity and marginal salinity in deep subsoil restrict root growth.

Water holding capacity: Approximately 90 mm in the potential root zone.

Seedling emergence: Satisfactory.

Workability: Satisfactory. Calcareous sandy loams are easy to work over a wide range of moisture conditions.

Erosion Potential

    Water: Low.

    Wind: Moderately low.

Laboratory Data

Depth cm	Coarse sand %	Fine sand %	Silt %	Clay %	pH H_2O	CO_3 %	EC 1:5 dS/m	Cl mg/kg	CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Ca	Mg	Na	K	
0-9	26	50	10	12	8.5	0.5	0.14	<50	13	10.2	1.0	0.17	1.4	1
9-16	-	-	-	-	8.6	-	0.13	72	-	-	-	-	-	-
16-34	11	43	16	16	8.8	18	0.14	136	14	10.4	2.7	0.34	0.61	2
34-70	7	40	15	15	9.5	34	0.40	570	8	16.4	7.3	1.1	0.48	14
70-105	-	-	-	-	9.8	-	0.59	780	-	-	-	-	-	-
105-150	19	48	18	18	9.9	4.2	0.82	1140	11	1.9	3.7	3.8	1.2	35

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.