SHALLOW SAND ON CALCRETE

General Description: *Bleached sand over calcrete within 50 cm.*

Landform: Undulating rises.

Substrate: Calcrete overlying Tertiary sediments.

Vegetation: Mallee.

Type Site: Site No.: MO042

1:50,000 sheet:	6727-4 (Monarto)	Hundred:	Freeling
Annual rainfall:	400 mm	Sampling date:	1976
Landform:	Upper slope of undulating rises, 3% slope		
Surface:	Loose with no stones		

Soil Description:

Depth (cm)	*Description*
0-8	Dark reddish brown loose single grain sand. Clear to:
8-20	Strong brown loose single grain sand. Clear to:
20-32	Pink (bleached when dry) loose single grain sand. Sharp to:
32-37	Strong brown and yellowish brown firm massive clayey sand with 2-10% carbonate fragments. Abrupt to:
37-40	Calcrete.

Classification: Basic, Petrocalcic, Bleached-Leptic Tenosol; medium, non-gravelly, sandy / sandy, shallow

Summary of Properties

Drainage: Well to rapidly drained. The soil is unlikely to remain wet for more than a few hours following heavy or prolonged rainfall (except where calcrete is unfractured and does not allow lateral movement).

Fertility: Inherent fertility is low, as indicated by the exchangeable cation data. Apart from phosphorus and nitrogen, copper and zinc deficiencies are likely, along with manganese in some crops.

pH: Slightly acidic at the surface, alkaline with depth.

Rooting depth: Not recorded. Estimate 37 cm in pit.

Barriers to root growth:

Physical: The calcrete layer imposes a major restriction, although some root growth may occur depending on degree of fracturing.

Chemical: There are no chemical limitations above the calcrete.

Water holding capacity: Approximately 35 mm in the root zone.

Seedling emergence: Satisfactory except where sand is water repellent.

Workability: Satisfactory. Sands are easy to work over a range of moisture conditions.

Erosion Potential

Water: Low, except where sand is water repellent.

Wind: Moderate due to loose sandy surface.

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	
0-8	36	56	0	6	6.2	0	0.10	76	7	3.3	0.62	0.17	0.45	2.4
8-20	27	68	1	3	6.2	0	<0.06	<50	4	1.4	0.51	0.07	0.22	na
20-32	35	60	0	6	8.8	1	0.15	92	4	1.3	0.41	0.10	0.23	na
32-37	-	-	-	-	-	-	-	-	14	7.4	2.7	0.44	0.88	3.1

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.