SHALLOW GRADATIONAL SANDY LOAM OVER ROCK

General Description: *Sandy loam grading to a red or brown sandy clay loam, calcareous with depth over weathering basement rock within 100 cm.*

Landform: Undulating rises.

Substrate: Coarse grained basement rock (granite, gneiss or sandstone). Kanmantoo Group gneiss at this site.

Vegetation:

Type Site: Site No.: MO038

1:50,000 sheet:	6727-4 (Monarto)	Hundred:	Mobilong
Annual rainfall:	325 mm	Sampling date:	1976
Landform:	Upper slope of undulating rise, 4% slope		
Surface:	Firm with 10% quartz and pegmatite stones to 100 mm		

Soil Description:

Depth (cm)	*Description*
0-10	Dark reddish brown massive soft sandy loam. Sharp to:
10-17	Dark reddish brown massive hard sandy loam with 10-20% gneiss gravel (6-20 mm). Clear to:
17-30	Yellowish red massive hard highly calcareous sandy clay loam with 10-20% gneiss gravel (20-60 mm). Gradual to:
30-65	Weathering gneiss with fine carbonate in cleavage planes.

Classification: Haplic, Calcic, Red Kandosol; medium, slightly gravelly, loamy / clay loamy, shallow

Summary of Properties

Drainage: Well drained. The soil rarely remains wet for more than a day or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is moderately low. Nutrient retention capacity is marginal, and relies on maintenance of organic matter levels. Apart from nitrogen and phosphorus, zinc and copper deficiencies may be expected from time to time.

pH: Alkaline throughout.

Rooting depth: Not recorded. Estimate 30 cm in pit, with some roots extending into cleavages in weathering rock.

Barriers to root growth:

Physical: Basement rock at shallow depth is the main restriction. Depending on degree of weathering and dip of rock, significant growth can occur in rock cleavages.

Chemical: There are no chemical barriers.

Water holding capacity: Approximately 50 mm in the root zone.

Seedling emergence: Satisfactory.

Workability: Firm surface is easily worked.

Erosion Potential

Water: Moderate.

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	
0-10	41	37	10	10	8.0	0	0.13	<50	14	8.4	2.1	0.19	1.4	1.4
10-17	36	40	6	14	8.4	0.4	0.14	86	18	12.8	2.5	0.19	0.90	1.1
17-30	32	32	4	22	8.5	5.9	0.17	100	21	15.7	3.5	0.29	0.66	1.0

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.