LOAMY SAND OVER DISPERSIVE RED CLAY ON ROCK

General Description: *Loamy sand to sandy loam abruptly overlying a coarsely structured and dispersive reddish clay, calcareous with depth, forming in weathering basement rock*

Landform: Undulating rises and low hills.

Substrate: Weathering migmatite (coarse grained metamorphic rock) mantled by fine carbonate.

Vegetation:

Type Site: Site No.: MO005

1:50,000 sheet:	6727-4 (Monarto)	Hundred:	Mobilong
Annual rainfall:	350 mm	Sampling date:	1976
Landform:	Midslope of undulating rise, 5% slope		
Surface:	Soft with no stones		

Soil Description:

Depth (cm)	*Description*
0-11	Dark brown soft loamy sand with minor quartz gravel. Sharp to:
11-20	Pinkish white soft loamy sand with more than 50% quartz gravel. Sharp to:
20-28	Reddish brown and yellowish red hard sandy clay with coarse columnar structure and 20-50% quartz gravel. Clear to:
28-40	Yellowish red hard sandy clay with coarse columnar structure and 20-50% quartz gravel. Clear to:
40-50	Reddish brown hard highly calcareous sandy clay with weak angular blocky structure and 20-50% quartz gravel. clear to:
50-60	Yellowish red hard massive highly calcareous sandy clay. Abrupt to:
60-80	Pink and reddish yellow massive highly calcareous decomposing micaceous rock. Gradual to:
80-100	Weathering migmatite with pockets of fine carbonate.

Classification: Calcic, Subnatric, Red Sodosol; medium, non-gravelly, sandy / clayey, moderate

Summary of Properties

Drainage: Moderately well drained. Water may perch on the dispersive clayey subsoil for a week or so following heavy or prolonged rainfall.

Fertility: Inherent fertility is low as indicated by the low clay content. Nutrient retention capacity of the surface soil is poor, and organic matter levels must be maintained to provide adequate reserves.

pH: Neutral at the surface, strongly alkaline with depth.

Rooting depth: Not recorded. Estimate 40 cm in pit.

Barriers to root growth:

Physical: The poorly structured clayey subsoil retards root growth to some extent by confining most roots to aggregate surfaces.

Chemical: High pH from about 50 cm prevents significant deeper root growth.

Water holding capacity: Approximately 40 mm in the root zone.

Seedling emergence: Satisfactory, although water repellence may be a problem in some seasons.

Workability: The soft surface is easily worked.

Erosion Potential

Water: Moderate depending on slope. The soil is inherently highly erodible.

Wind: Moderate.

Laboratory Data

Depth cm	Coarse sand %	Fine sand %	Silt %	Clay %	pH H_20	CO_3 %	EC 1:5 dS/m	Cl mg/kg	CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Ca	Mg	Na	K	
0-11	48	45	3	2	7.0	0	<0.06	<50	8	4.7	0.59	0.16	0.26	2.0
20-28	33	31	4	28	8.6	0.1	0.12	<50	20	9.2	6.7	1.3	0.60	6.5
28-40	33	21	3	40	8.7	0	0.11	<50	29	11.0	9.8	2.2	0.80	7.6
50-60	42	16	4	28	9.6	6.2	0.31	114	26	11.7	9.4	3.2	0.35	12.3

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.