

# SANDY LOAM OVER POORLY STRUCTURED RED CLAY

**General Description:** *Hard loamy sand to sandy loam over a coarsely structured red clay, generally calcareous at depth.*

**Landform:** Flats and lower slopes.

**Substrate:** Fine to medium grained alluvial sediments.

**Vegetation:**



**Type Site:** Site No.: MO021  
1:50,000 sheet: 6727-4 (Monarto)      Hundred: Monarto  
Annual rainfall: 350 mm      Sampling date: 1976  
Landform: Creek flat, 1% slope  
Surface: Hard setting with no stones

## Soil Description:

Depth (cm)	Description
0-9	Dark reddish brown massive soft sandy loam. Clear to:
9-18	Reddish brown massive hard sandy loam, sporadically bleached at base. Clear to:
18-40	Dark reddish brown hard medium clay with moderate coarse subangular blocky structure. Gradual to:
40-300	Reddish brown hard massive clay.



**Classification:** Eutrophic, Subnatric, Red Sodosol; medium, non-gravelly, loamy / clayey, very deep

## *Summary of Properties*

**Drainage:** Moderately well drained. Water perches temporarily on top of the clayey subsoil, but the profile rarely remains saturated for more than a week following heavy or prolonged rainfall.

**Fertility:** Inherent fertility is moderate, a function of neutral pH and favourable clay content. Nitrogen and phosphorus deficiencies are usual, with trace elements (mainly zinc) likely to be required occasionally.

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

**Rooting depth:** Not recorded. Estimate 80 cm in pit, with some roots extending lower.

### **Barriers to root growth:**

**Physical:** The clayey subsoil affects root growth to some extent.

**Chemical:** There are no apparent chemical barriers, data below 50 cm are required to confirm.

**Water holding capacity:** Approximately 100 mm in the root zone.

**Seedling emergence:** Satisfactory to fair, depending on the degree of hard setting and surface sealing

**Workability:** Fair to good, depending on surface organic matter levels.

### **Erosion Potential**

**Water:** Moderately low.

**Wind:** Low.

## *Laboratory Data*

Depth cm	Coarse sand %	Fine sand %	Silt %	Clay %	pH H <sub>2</sub> O	CO <sub>3</sub> %	EC 1:5 dS/m	Cl mg/kg	CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Ca	Mg	Na	K	
0-9	28	53	6	14	7.0	0	0.07	<50	5	2.6	0.51	0.07	1.1	1.6
18-31	21	39	5	34	8.3	0	0.09	86	9	3.1	3.3	1.2	1.3	13.5
40-50	10	31	6	48	8.8	0	0.31	372	18	4.7	7.3	3.2	2.4	18.2

**Note:** CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements. CEC at this site is estimated from the sum of exchangeable cations.

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC.