## LOAM OVER DARK CLAY ON CALCIFIED ROCK

General Description: Medium thickness hard loam to clay loam over a strongly structured

dark coloured clay, highly calcareous at depth, forming in weathering

basement rock within 100 cm.

Landform: Undulating rises and low

hills.

**Substrate:** Schists and phyllites,

mantled by fine carbonates.

Vegetation:



**Type Site:** Site No.: MO003 1:50,000 mapsheet: 6727-4 (Monarto)

Hundred:MonartoEasting:325080Section:484Northing:6114090

Sampling date: 1976 Annual rainfall: 470 mm average

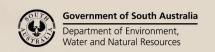
Midslope of undulating rise, 4% slope. Hard setting surface.

## **Soil Description:**

Depth (cm)	Description
0-20	Dark reddish brown hard loam with weak subangular blocky structure and 2-10% quartz gravel. Sharp to:
20-29	Black hard medium clay with strong prismatic structure. Sharp to:
29-35	Black hard medium clay with strong prismatic structure, 10-20% fine carbonate and 2-10% schist gravel (6-20 mm). Clear to:
35-40	Very pale brown massive firm highly calcareous sandy clay loam with 2-10% schist gravel (6-20 mm). Clear to:
40-60	Pink hard massive loam with 20-50% fine carbonate and 20-50% schist gravel (carbonate in highly weathered rock). Abrupt to:
60-100	Weathering schist with 10-20% calcareous segregations.



Classification: Sodic, Hypercalcic, Black Chromosol; medium, slightly gravelly, loamy / clayey, moderate





## Summary of Properties

**Drainage:** Well drained. Water perches temporarily on subsoil clay, but profile is rarely

saturated for more than a few days following heavy or prolonged rainfall.

**Fertility:** Inherent fertility is high, as indicated by the exchangeable cation data. Both topsoil

and subsoil have good nutrient retention characteristics - only nitrogen and

phosphorus are required on a regular basis.

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

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

Barriers to root growth:

**Physical:** The coarsely structured clay impedes root growth to some extent, as does the parent

rock when hardness increases at depth.

**Chemical:** High carbonate content in lower subsoil restricts root growth.

**Waterholding capacity:** Approximately 60 mm in the rootzone.

**Seedling emergence:** Fair due to hard setting and sealing surface.

**Workability:** Fair. Surface soil tends to puddle when wet and set hard when dry. Surface stone

affects cultivation in places.

**Erosion Potential:** 

**Water:** Moderate low to moderately high, depending on degree of slope.

Wind: Low.

## Laboratory Data

Depth cm	Coarse sand	Fine sand	Silt %	Clay %	pH H <sub>2</sub> 0	CO <sub>3</sub>	EC 1:5 dS/m	Cl mg/kg	CEC cmol	Exchangeable Cations cmol(+)/kg				ESP
	%	%							(+)/kg	Ca	Mg	Na	K	
0-20	11	49	11	25	7.2	0	0.07	<50	26	14.0	3.6	0.33	1.8	1.3
20-29	11	39	12	34	7.5	0	<0.06	<50	37	19.0	4.3	0.49	1.2	1.3
35-40	9	24	3	21	9.1	40	0.15	80	18	13.0	3.5	1.1	0.34	6.1

**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.

Further information: DEWNR Soil and Land Program

