

GRADATIONAL DARK SANDY CLAY LOAM

General Description: *Hard sandy clay loam grading to a red coarsely structured clay, calcareous with depth*

Landform: Flats and gently inclined outwash fans

Substrate: Pleistocene clay, underlain by Tertiary sand.

Vegetation:

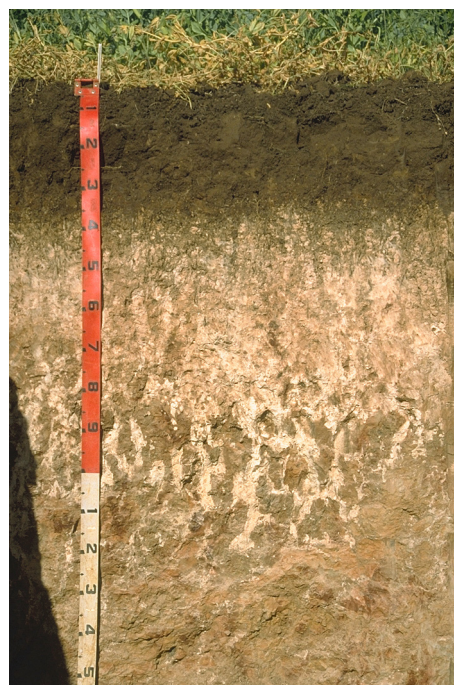


Type Site:	Site No.:	MP009	1:50,000 mapsheet:	6727-4 (Monarto)
	Hundred:	Monarto	Easting:	329550
	Section:	259	Northing:	6111750
	Sampling date:	28/10/1994	Annual rainfall:	400 mm average

Gently inclined (3% slope). Loose (cultivated surface), otherwise hard setting. No stone.

Soil Description:

Depth (cm)	Description
0-8	Dark brown friable sandy clay loam with strong granular structure. Sharp to:
8-17	Dark brown hard massive sandy clay loam. Clear to:
17-32	Dark brown hard light medium clay with strong coarse prismatic structure. Gradual to:
32-80	Light brown highly calcareous firm loam. Clear to:
80-115	Brown, red and orange firm medium clay (Blanchetown Clay equivalent) with strong coarse prismatic structure and 2-10% fine carbonate. Clear to:
115-165	Grey and red hard massive sandy loam (Parilla Sand equivalent).



Classification: Sodic, Hypercalcic, Black Dermosol; medium, non-gravelly, clay loamy / clayey, moderate



Summary of Properties

Drainage: Moderately well drained. The soil may remain wet for up to a week following heavy or prolonged rainfall.

Fertility: Natural fertility is high due to the high clay content and favourable organic carbon level.

pH: Alkaline at the surface, strongly alkaline in the substrate

Rooting depth: 80 cm in pit, but few roots below 20 cm.

Barriers to root growth:

Physical: The coarsely structured subsoil prevents uniform root distribution, leading to sub-optimal water use efficiency.

Chemical: There are no chemical barriers above the Blanchetown Clay.

Waterholding capacity: Approximately 110 mm in the rootzone (ie. above the Blanchetown Clay).

Seedling emergence: Fair - surface tends to set hard and seal.

Workability: Fair - likely to become sticky when wet.

Erosion Potential:

Water: Moderately low (very gentle slope).

Wind: Low.

Laboratory Data

Depth cm	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	7.9	7.4	0.2	0.14	0.53	1.5	26	477	1.3	-	-	-	-	20.2	16.01	2.67	0.17	1.40	0.8
0-8	7.8	7.4	0.1	0.13	0.51	1.8	29	540	1.3	-	-	-	-	19.6	15.03	2.55	0.16	1.47	0.8
8-17	8.2	7.6	0.1	0.13	0.34	1.2	6	345	0.9	-	-	-	-	21.1	16.80	2.62	0.19	1.06	0.9
17-32	8.3	7.7	0.8	0.13	0.33	1.0	4	240	0.7	-	-	-	-	23.5	20.46	3.32	0.30	0.75	1.3
32-80	9.0	7.9	29.1	0.22	0.81	0.5	3	134	0.6	-	-	-	-	14.9	9.65	4.39	1.49	0.27	10.0
80-115	9.4	8.4	7.7	0.58	3.29	0.9	2	256	2.0	-	-	-	-	18.0	5.95	8.21	5.65	0.63	31.4
115-165	9.1	8.3	0.2	0.77	5.31	<0.1	11	260	5.9	-	-	-	-	18.0	3.86	6.88	6.83	0.66	38.0

Note: Paddock sample bulked from 20 cores (0-10 cm) taken around the pit.
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](#)

