

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 103 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**Site Information**

<b>Desc. By:</b>	N.J. McKenzie	<b>Locality:</b>	
<b>Date Desc.:</b>	21/02/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8534 1:100000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6458767 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	590400 Datum: AGD66	<b>Drainage:</b>	No Data

**Geology**

<b>ExposureType:</b>	Soil pit	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

**Land Form**

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	Flat	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	No Data	<b>Slope Category:</b>	No Data
<b>Slope:</b>	%	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Hardsetting

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	OLD ALLUVIUM
N/A			MEANDER PLAIN
		<b>Principal Profile Form:</b>	Dr2.23
		<b>Great Soil Group:</b>	N/A

**ASC Confidence:**

Confidence level not specified

**Site Disturbance:** Complete clearing. Pasture, native or improved, cultivated at some stage

**Vegetation:**

Tall Strata - Hummock grass, 0.26-0.5m, . \*Species includes - None Recorded

**Surface Coarse Fragments:**

**Profile Morphology**

A1	0 - 0.26 m	Dark reddish brown (5YR3/4-Moist); ; Sandy clay (Light); Weak grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Field pH 6 (Raupach); Many, fine (1-2mm) roots; Gradual, Smooth change to -
A2	0.26 - 0.51 m	Yellowish red (5YR4/8-Moist); ; Sandy clay loam; Moderate grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Field pH 6 (Raupach); Many, fine (1-2mm) roots; Abrupt, Smooth change to -
B21	0.51 - 0.76 m	Dark red (2.5YR3/6-Moist); ; Sandy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Many cutans, >50% of ped faces or walls coated; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), ; Field pH 8.5 (Raupach); Common, fine (1-2mm) roots;
B22	0.76 - 1.3 m	Dark red (2.5YR3/6-Moist); ; Sandy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Many cutans, >50% of ped faces or walls coated; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), ; Field pH 8.5 (Raupach); Few, fine (1-2mm) roots;

**Morphological Notes**

**Observation Notes**

Mitchell Soil Profile Class, Well Drained Phase

**Site Notes**

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0.1 - 0.15	6.5A	0.093A	0.6E	0.1	0.8	0			1.5D	
0.3 - 0.35	7.2A	0.025A								
0.7 - 0.75	7.9A	0.05A	8E	4.5	0.4	0.3			13.2D	
1.3 - 1.35	8.1A	0.051A								

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0.1 - 0.15							1.54		39.8A	36.6	12.2	11.3
0.3 - 0.35							1.63					
0.7 - 0.75							1.70		19.4A	24.9	11.2	44.5
1.3 - 1.35							1.52					

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
m		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
					g/g -	m3/m3			mm/h
0.1 - 0.15	0.048A			0.12G				0.04D	
0.3 - 0.35	0.023A			0.12G				0.05D	
0.7 - 0.75	0.037A			0.16G				0.14D	
1.3 - 1.35	0.07A			0.24G				0.14D	

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**Laboratory Analyses Completed for this profile**

15C1_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_K	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_MG	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_NA	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15J_BASES	Sum of Bases
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_CS	Coarse sand (%) - Coventry and Fett pipette method
P10_CF_FS	Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P3A1	Bulk density - g/cm <sup>3</sup>
P3B1GV_15	15 BAR Moisture g/g - Gravimetric of ground sample (<2mm) using pressure plate
P3B4GV_01	0.1 BAR Moisture g/g - Gravimetric of soil clods (Soil Survey Staff,1967)
P5_COLE	Coefficient of Linear Extensibility (Grossman et al. 1968)