

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 417 **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>	14/10/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8533 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6451067 AMG zone: 55	<b>Runoff:</b>	Slow
<b>Easting/Lat.:</b>	604133 Datum: AGD66	<b>Drainage:</b>	Moderately well drained

#### 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>	N/A	<b>Mapping Unit:</b>	OLD ALLUVIUM BACKPLAIN
<b>ASC Confidence:</b>	Confidence level not specified	<b>Principal Profile Form:</b>	Dr3.23
<b>Site Disturbance:</b>	Cultivation. Rainfed	<b>Great Soil Group:</b>	N/A

#### Vegetation:

Tall Strata - Tussock grass, 0.51-1m, Mid-dense. \*Species includes - None Recorded

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.22 m	Dark reddish brown (5YR3/4-Moist); ; Sandy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Wet; Firm consistence; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Clear, Smooth change to -
A2	0.22 - 0.39 m	Yellowish red (5YR4/6-Moist); ; Sandy clay loam; Moderate grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Many (>5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Many (>5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
B21	0.39 - 0.9 m	Reddish brown (2.5YR4/4-Moist); ; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Many (>5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Many (>5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Many cutans, >50% of ped faces or walls coated; Field pH 7.5 (Raupach); Common, very fine (0-1mm) roots; Diffuse, Irregular change to -
B22	0.9 - 1.3 m	Yellowish red (5YR5/5-Moist); ; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B23	1.3 - 1.5 m	Yellowish red (5YR4/6-Moist); , 7.5YR55, 2-10% , 15-30mm, Distinct; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Wet; Firm consistence; Common cutans, 10-50% of ped faces or walls coated; Common cutans, 10-50% of ped faces or walls coated; Very few (0 - 2 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots;

#### Morphological Notes

A1 Infilled channels at depth. The B horizons in these red soil have less planar faces than the A's. Small Mn nods in B

#### Observation Notes

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie      **Site ID:** 417      **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

Mitchell Soil Profile Class, Poorly Drained Phase

**Site Notes**

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 417 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**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	6A	0.056A	2.3E	0.7	0.9	0.1			4D	
0.3 - 0.35	6.9A	0.038A								
0.7 - 0.75	8.9A	0.093A	6.4E	9.6	0.4	3.6			20D	
1.3 - 1.35	9.2A	0.492A								

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							1.62		28.4A	40.5	15	16.1
0.3 - 0.35							1.72					
0.7 - 0.75							1.57		17.4A	24.5	11.8	46.3
1.3 - 1.35							1.39					

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			
0.1 - 0.15	0.024A			0.14G				0.06D	
0.3 - 0.35	0.013A			0.12G				0.05D	
0.7 - 0.75	0.054A			0.2G				0.17D	
1.3 - 1.35	0.112A			0.26G				0.19D	

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 417 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**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)