

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 305 **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>	27/07/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8434 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6462960 AMG zone: 55	<b>Runoff:</b>	Moderately rapid
<b>Easting/Lat.:</b>	587480 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>	Crest	<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, Surface crust

**Erosion:** Partial, Minor or present (wind);

#### Soil Classification

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	OLD ALLUVIUM MEANDER PLAIN
N/A		<b>Principal Profile Form:</b>	Gn3.15
		<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:

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.22 m	Dark reddish brown (5YR3/3-Moist); ; Sandy clay loam; Moderate grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Few (<1 per 100mm <sup>2</sup> ) macropores, Few (<1 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 7.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Clear, Smooth change to -
A2	0.22 - 0.42 m	Yellowish red (5YR3/6-Moist); Yellowish red (5YR5/6-Dry); ; Sandy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Earthy 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, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 7.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Gradual, Smooth change to -
B21	0.42 - 0.85 m	Red (2.5YR4/5-Moist); ; Light 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, Few (<1 per 0.01m <sup>2</sup> ) macropores, Common (1-5 per 0.01m <sup>2</sup> ) macropores, Moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), ; Field pH 8 (Raupach); Common, fine (1-2mm) roots; Diffuse,
B22	0.85 - 1.5 m	Red (2.5YR4/5-Moist); ; Medium clay; Strong grade of structure, 10-20 mm, Polyhedral; Smooth-ped fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8 (Raupach); Few, very fine (0-1mm) roots; Sharp, Smooth change to -

#### Morphological Notes

#### Observation Notes

Mitchell Soil Profile Class, Moderately Drained Phase, Lucerne

#### Site Notes

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 305 **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	8.3A	0.097A	10.8E	0.2	0.9	0.3			12.2D	
0.3 - 0.35	7.8A	0.032A								
0.7 - 0.75	8.2A	0.069A	8.6E	3.3	0.6	0.1			12.6D	
1.3 - 1.35	8.3A	0.077A								

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							1.50		21.1A	40.6	13.7	24.6
0.3 - 0.35							1.59					
0.7 - 0.75							1.66		14.6A	27.9	9.4	48.1
1.3 - 1.35							1.66					

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	0.051A			0.17G				0.08D	
0.3 - 0.35	0.047A			0.14G				0.08D	
0.7 - 0.75	0.046A			0.18G				0.14D	
1.3 - 1.35	0.048A			0.18G				0.14D	

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 305 **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)