

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 152 **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>	09/05/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8534 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6469400 AMG zone: 55	<b>Runoff:</b>	Very slow
<b>Easting/Lat.:</b>	596200 Datum: AGD66	<b>Drainage:</b>	Imperfectly 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):** Self-mulching

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	N/A	<b>Mapping Unit:</b>	MACQUARIE ALLUVIUM BACKPLAI
<b>ASC Confidence:</b>	Confidence level not specified	<b>Principal Profile Form:</b>	Ug5.16
		<b>Great Soil Group:</b>	N/A

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 20-50 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Very firm consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Clear, Smooth change to -
B21	0.1 - 0.55 m	Very dark grey (10YR3/1-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Polyhedral; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m2) macropores, Very strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (Raupach); Common, very fine (0-1mm)
B22	0.55 - 1.1 m	Dark greyish brown (10YR4/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m2) macropores, Strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Common (10 - 20 %), Calcareous, Medium (2 - 6 mm), Nodules; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
BC	1.1 - 1.5 m	Brown (10YR5/3-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8 (Raupach); Few, very fine (0-1mm) roots;

#### Morphological Notes

BC Many small nodules of CaCO3 and ironstone. Bc wetted easily. B21 very slimy - hard to texture

#### Observation Notes

Mullah Soil Profile Class, Black Phase

#### Site Notes

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 152 **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	7.7A	0.099A	10.5E	7.5	0.3	1.3			19.6D	
0.3 - 0.35	8.4A	0.086A								
0.7 - 0.75	8.6A	0.37A	15.8E	13	0.4	4.9			34.1D	
1.3 - 1.35	8.3A	0.633A								

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							1.39		8.4A	16.6	16.4	58.6
0.3 - 0.35							1.45					
0.7 - 0.75							1.42		6.7A	15.6	17	60.8
1.3 - 1.35							1.46					

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	0.127A			0.3G				0.21D	
0.3 - 0.35	0.111A			0.27G				0.2D	
0.7 - 0.75	0.12A			0.27G				0.23D	
1.3 - 1.35	0.091A			0.25G				0.22D	

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 152 **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)