

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 350 **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>	06/11/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8434 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6474625 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	591600 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>	No Data	<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):

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	MACQUARIE
N/A		ALLUVIUM
		LEVEE DE
	<b>Principal Profile Form:</b>	Uf/Ug5.25
	<b>Great Soil Group:</b>	N/A

#### **ASC Confidence:**

Confidence level not specified

#### Site Disturbance:

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.19 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Many (>5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moist; Firm consistence; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Abrupt, Smooth change to -
A2	0.19 - 0.35 m	Greyish brown (10YR5/2-Moist); Light grey (10YR7/1-Dry); , 10YR44, 10-20% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Many (>5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moist; Strong consistence; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Gradual, Smooth change to -
A2	0.19 - 0.35 m	Greyish brown (10YR5/2-Moist); Light grey (10YR7/1-Dry); , 10YR44, 10-20% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; 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; Common, fine (1-2mm) roots; Gradual, Smooth change to -
B21	0.35 - 0.6 m	Dark greyish brown (10YR4/2-Moist); , 10YR44, 10-20% , 5-15mm, Faint; Medium heavy clay; Strong grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	0.6 - 1.15 m	Dark yellowish brown (10YR4/4-Moist); , 10YR42, 10-20% , 5-15mm, Distinct; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; 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; Field pH 7 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B3	1.15 - 1.5 m	Brown (10YR4/3-Moist); , 7.5YR46, 10-20% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Many cutans, >50% of ped faces or walls coated; Field pH 7 (Raupach); Few, very fine (0-1mm) roots;

#### Morphological Notes

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A1

**Observation Notes**

Ellengerah Soil Profile Class

**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	7A	0.044A	10.7E	6.2	0.8	0.3			18D	
0.3 - 0.35	7A	0.044A								
0.7 - 0.75	7.4A	0.069A	9.1E	5.7	0.6	0.3			15.7D	
1.3 - 1.35	6.7A	0.058A								

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							1.31		4.4A	6.7	38.3	50.5
0.3 - 0.35							1.55					
0.7 - 0.75							1.64		20.6A	14.5	22.4	42.5
1.3 - 1.35							1.67					

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	0.069A			0.3G				0.2D	
0.3 - 0.35	0.076A			0.23G				0.17D	
0.7 - 0.75	0.058A			0.2G				0.15D	
1.3 - 1.35	0.046A			0.17G				0.12D	

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**Laboratory Analyses Completed for this profile**

15C1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 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/cm3
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)