

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 157 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	11/05/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8534 1:10000	Rainfall:	No Data
Northing/Long.:	6470400 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	597600 Datum: AGD66	Drainage:	Well drained

Geology

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

Land Form

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

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	MACQUARIE ALLUVIUM LEVEE DE
		Principal Profile Form:	Uf6.11
		Great Soil Group:	N/A

ASC Confidence:

Confidence level not specified

Site Disturbance: Limited clearing, for example selective logging

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A	0 - 0.55 m	Dark brown (10YR3/3-Moist); ; Silty clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Earthy fabric; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Strong consistence; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Abrupt, Smooth change to -
2A	0.55 - 0.85 m	Dark yellowish brown (10YR4/5-Moist); ; Fine sandy clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Many (>5 per 0.01m ²) Medium (2-5mm) macropores, Strong consistence; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Abrupt, Smooth change to -
3B21	0.85 - 1.15 m	Dark brown (10YR3/3-Moist); ; Sandy clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Many (>5 per 0.01m ²) Medium (2-5mm) macropores, Strong consistence; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Abrupt, Smooth change to -
3B22	1.15 - 1.45 m	Dark brown (10YR3/3-Moist); ; Sandy clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Many (>5 per 0.01m ²) Medium (2-5mm) macropores, Strong consistence; Field pH 7.5 (Raupach); Common, coarse (>5mm) roots;

Morphological Notes

A	Horizon nomenclature of 3B21 and 22 were added on 16/9/99 as this had been omitted in the first instance. Only minor difference between the 2 horizons - pH only.
3B22	Complicated multilayered alluvial soil - lighter layers about 2cm thick @24, 33, 55. Former surfaces, lower horizons at >85 are fine sandy lens occur below 50cm - better

Observation Notes

Macquarie 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	6.7A	0.058A	5.4E	3.1	0.7	0			9.2D	
0.3 - 0.35	7.5A	0.041A								
0.7 - 0.75	6.9A	0.041A	5.2E	2	0.2	0			7.4D	
1.3 - 1.35	7.3A	0.033A								

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							1.26		0.2A	31.8	38.7	29.3
0.3 - 0.35							1.41					
0.7 - 0.75							1.51		7.9A	62.4	14.6	15.2
1.3 - 1.35							1.22					

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	0.047A			0.27G				0.13D	
0.3 - 0.35	0.039A			0.25G				0.12D	
0.7 - 0.75	0.034A			0.14G				0.07D	
1.3 - 1.35	0.052A			0.23G				0.11D	

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Laboratory Analyses Completed for this profile

15C1_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,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/cm ³
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)
XRD_C_II	Illite - X-Ray Diffraction
XRD_C_Kt	Kaolinite - X-Ray Diffraction
XRD_C_St	Smectite - X-Ray Diffraction