

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 316 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	29/07/84	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6466000 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	588500 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:	Flat	Relief:	No Data
Elem. Type:	No Data	Slope Category:	No Data
Slope:	%	Aspect:	No Data

Surface Soil Condition (dry): Hardsetting, Surface crust

Erosion: Partial, Minor or present (wind);

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	OLD ALLUVIUM MEANDER PLAIN
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Gn4.15
		Great Soil Group:	N/A

Site Disturbance: Limited clearing, for example selective logging

Vegetation:

Tall Strata - Tree, 12.01-20m, Sparse. *Species includes - Eucalyptus populnea

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.22 m	Dark reddish brown (5YR3/3-Moist); ; Clay loam; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Gradual, Smooth change to -
A2	0.22 - 0.45 m	Yellowish red (5YR4/6-Moist); Reddish yellow (7.5YR6/6-Dry); ; Sandy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 100mm2) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Gradual, Smooth change to -
B1	0.45 - 0.88 m	Yellowish red (5YR4/5-Moist); ; Sandy clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Moist; Firm consistence; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Field pH 7.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Gradual, Irregular change to -
B2	0.88 - 1.5 m	Pinkish grey (7.5YR7/2-Moist); , 5YR46, 20-50% , 15-30mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated; Common (10 - 20 %), Ferruginous, Very coarse (20 - 60 mm), Nodules; Common (10 - 20 %), Manganiferous, Very coarse (20 - 60 mm), Nodules; Field pH 7.5 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

B2 ?Buckshot - @ >45cm

Observation Notes

Mitchell Soil Profile Class, Poorly Drained Phase, Appears to be a slightly elevated area in all directions. Sandy & lightly textured.

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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	6.8A	0.034A	1.9E	0.7	0.6	0.3			3.5D	
0.3 - 0.35	7.2A	0.019A								
0.7 - 0.75	7.9A	0.019A	4E	1.8	0.3	0.2			6.3D	
1.3 - 1.35	8.3A	0.028A								

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							1.42		26.6A	38.1	14.7	20.6
0.3 - 0.35							1.50					
0.7 - 0.75							1.77		29.6A	33.4	10.9	26.1
1.3 - 1.35							1.71					

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	0.042A			0.14G				0.06D	
0.3 - 0.35	0.072A			0.12G				0.07D	
0.7 - 0.75	0.028A			0.11G				0.07D	
1.3 - 1.35	0.039A			0.14G				0.09D	

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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)