

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 521 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	06/12/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6477080 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	578900 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:	Mid-slope	Relief:	No Data
Elem. Type:	No Data	Slope Category:	No Data
Slope:	%	Aspect:	No Data

Surface Soil Condition (dry): Hardsetting, Surface crust

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	OLD ALLUVIUM MEANDER PLAIN
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Gn4.12
		Great Soil Group:	N/A

Site Disturbance: Complete clearing. Pasture, native or improved, but never cultivated

Vegetation:

Tall Strata - Tussock grass, 0.51-1m, Sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.07 m	Dark reddish brown (2.5YR3/4-Moist); ; Sandy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Fine (1-2mm) macropores, Moist; Weak consistence; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Gradual, Smooth change to -
A12	0.07 - 0.35 m	Red (2.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 20-50 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, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Diffuse, Smooth change to -
B21	0.35 - 0.6 m	Dark red (2.5YR3/6-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moderately moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated; Field pH 7.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Gradual, Smooth change to -
B22	0.6 - 1.35 m	Dark red (2.5YR3/6-Moist); , 10R34, 2-10% , 15-30mm, Distinct; Medium clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Fine (1-2mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Very few (0 - 2 %), Ferruginous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Nodules; Field pH 8 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots;

Morphological Notes

A11 Texture does not seem to vary much but yet profile looks different in B. The A12 is very friable.

Observation Notes

Mitchell Soil Profile Class, Well Drained Phase

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	6.8A	0.039A	2.7E	0.5	1.5	0.1			4.8D	
0.3 - 0.35	7.1A	0.021A								
0.7 - 0.75	7.8A	0.025A	5.4E	2.7	0.7	0.3			9.1D	
1.3 - 1.35	8.5A	0.046A								

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							1.49		23.8A	38.7	11.3	26.1
0.3 - 0.35							1.55					
0.7 - 0.75							1.64		22.2A	29.5	8.9	39.5
1.3 - 1.35							1.50					

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	0.028A			0.13G				0.07D	
0.3 - 0.35	0.022A			0.14G				0.08D	
0.7 - 0.75	0.03A			0.17G				0.11D	
1.3 - 1.35	0.073A			0.17G				0.16D	

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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)