

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 302 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	27/07/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6462240 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	587120 Datum: AGD66	Drainage:	Moderately 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

Erosion: Partial, Minor or present (wind);

Soil Classification

Australian Soil Classification:		Mapping Unit:	OLD ALLUVIUM MEANDER PLAIN
N/A		Principal Profile Form:	Gn3.16
		Great Soil Group:	N/A

ASC Confidence:

Confidence level not specified

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation:

Tall Strata - Tussock grass, <0.25m, Sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.21 m	Dark reddish brown (5YR3/4-Moist); ; Fine sandy clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) 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; Clear, Smooth change to -
A2	0.21 - 0.35 m	Yellowish red (5YR4/7-Moist); Reddish yellow (5YR7/6-Dry); ; Fine sandy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) 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; Clear, Smooth change to -
B21	0.35 - 1 m	Red (2.5YR4/6-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Many cutans, >50% of ped faces or walls coated; Field pH 8 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	1 - 1.4 m	Red (2.5YR4/6-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; 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; Many cutans, >50% of ped faces or walls coated; Many cutans, >50% of ped faces or walls coated; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

B22 A2: more developed profile than 301

Observation Notes

Mitchell Soil Profile Class, Well Drained Phase, Vegetation - lucerne

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	0.054A	1.8E	0.2	0.9	0.2			3.1D	
0.3 - 0.35	7.6A	0.026A								
0.7 - 0.75	8.6A	0.081A	9.4E	4.9	0.7	0.7			15.7D	
1.3 - 1.35	8.9A	0.109A								

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							1.52		13.4A	45.4	20.8	20.5
0.3 - 0.35							1.67					
0.7 - 0.75							1.67		9.3A	29.2	13.5	48
1.3 - 1.35							1.55					

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	0.027A			0.13G				0.07D	
0.3 - 0.35	0.032A			0.14G				0.08D	
0.7 - 0.75	0.035A			0.19G				0.15D	
1.3 - 1.35	0.049A			0.22G				0.17D	

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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)