

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 151 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	09/05/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8534 1:10000	Rainfall:	No Data
Northing/Long.:	6469225 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	595950 Datum: AGD66	Drainage:	Imperfectly 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): Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	MACQUARIE ALLUVIUM BACKPLAI
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.34
		Great Soil Group:	N/A

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.15 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) macropores, Very firm consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Field pH 7.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.15 - 1.05 m	Brown (10YR4/3-Moist); ; Medium clay; Strong grade of structure, 50-100 mm, Polyhedral; Strong grade of structure, 100-200 mm, Polyhedral; Smooth-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Fine (1-2mm) macropores, Very strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.15 - 1.05 m	Brown (10YR4/3-Moist); ; Medium clay; Strong grade of structure, 50-100 mm, Polyhedral; Strong grade of structure, 100-200 mm, Polyhedral; Smooth-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Fine (1-2mm) macropores, Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	1.05 - 1.5 m	Strong brown (7.5YR5/5-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) macropores, Strong consistence; 2-10%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

B22 B22 slaked very easily. B21 didn't and was very slimy. This differs from 150 - colour, gypsum, mottles

Observation Notes

Mullah Soil Profile Class, Grey 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	7.1A	0.069A	12.1E	4.9	0.3	0.2			17.5D	
0.3 - 0.35	8.4A	0.061A								
0.7 - 0.75	8.7A	0.152A	12.8E	11.6	0.5	1.7			26.6D	
1.3 - 1.35	8.9A	0.239A								

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							1.40		7.2A	19	15	58.8
0.3 - 0.35							1.48					
0.7 - 0.75							1.50		6.1A	20.1	15.7	58.1
1.3 - 1.35							1.35					

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	0.103A			0.25G				0.2D	
0.3 - 0.35	0.11A			0.28G				0.2D	
0.7 - 0.75	0.093A			0.26G				0.21D	
1.3 - 1.35	0.071A			0.26G				0.22D	

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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)