

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 314 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	28/07/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6465400 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	588450 Datum: AGD66	Drainage:	Poorly 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): Cracking

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	OLD ALLUVIUM
N/A			BACKPLAIN
		Principal Profile Form:	Ug5.34
		Great Soil Group:	N/A

ASC Confidence:

Confidence level not specified

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.08 m	Brown (7.5YR4/4-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Platy; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 100mm ²) Fine (1-2mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moist; Very firm consistence; Field pH 8 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Clear, Smooth change to -
B1	0.08 - 0.28 m	Strong brown (7.5YR4/5-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 100mm ²) Fine (1-2mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moist; Strong consistence; Common cutans, 10-50% of ped faces or walls coated; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.28 - 0.68 m	Brown (7.5YR4/3-Moist); ; Medium clay; Strong grade of structure, 50-100 mm, Polyhedral; Smooth-ped fabric; Medium, (5 - 10) mm crack; Dry; Strong consistence; Many cutans, >50% of ped faces or walls coated; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B23	0.68 - 1.5 m	Yellowish red (5YR5/5-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Many cutans, >50% of ped faces or walls coated; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

B23 Very shallow and clear CaCO₃ layer

Observation Notes

Buddah Soil Profile Class, Faint gilgai.

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	8.4A	0.158A	8.3E	2.4	1	0.1			11.8D	
0.3 - 0.35	8.9A	0.231A								
0.7 - 0.75	9.3A	0.613A	5.6E	11	0.5	4.8			21.9D	
1.3 - 1.35	9.2A	1.028A								

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							1.35		14.4A	25.8	13.5	46.2
0.3 - 0.35							1.52					
0.7 - 0.75							1.48		14.5A	26.6	10.7	48.1
1.3 - 1.35							1.49					

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	0.075A			0.24G				0.15D	
0.3 - 0.35	0.076A			0.23G				0.15D	
0.7 - 0.75	0.106A			0.27G				0.17D	
1.3 - 1.35	0.109A			0.27G				0.18D	

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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)