

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 349 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	06/11/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6474350 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	591700 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, Firm

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	MACQUARIE ALLUVIUM BACKPLAI
		Principal Profile Form:	Ug5.15
		Great Soil Group:	N/A

ASC Confidence:

Confidence level not specified

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

Vegetation:

Tall Strata - Tussock grass, 0.26-0.5m, Sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); ; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; 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; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Clear, Irregular change to -
B21	0.1 - 0.45 m	Very dark grey (10YR3/1-Moist); Grey (10YR6/1-Dry); ; Light clay; Strong grade of structure, 10-20 mm, Angular blocky; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	0.45 - 0.87 m	Very dark grey (10YR3/1-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Subangular blocky; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Field pH 8 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Gradual, Smooth change to -
B3	0.87 - 1.35 m	Brown (10YR4/3-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Field pH 8 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A1 Weird profile. Half pit dominated by what seems to be former tree; probably uprooted during clearing (many roots partially rotted). "red brick" (see earlier sites) has been brought up with root system. Suspect red soil to underly this <1.5m

Observation Notes

Ellengerah Soil Profile Class

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	7.6E	3.8	1	0.1			12.5D	
0.3 - 0.35	7.8A	0.03A								
0.7 - 0.75	8.4A	0.051A	13.8E	7.8	0.5	0.3			22.4D	
1.3 - 1.35	8.5A	0.047A								

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							1.31		7.2A	25.1	30.6	37.1
0.3 - 0.35							1.51					
0.7 - 0.75							1.64		7.4A	22.7	24.9	45
1.3 - 1.35							1.57					

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	0.052A			0.28G				0.14D	
0.3 - 0.35	0.061A			0.22G				0.14D	
0.7 - 0.75	0.062A			0.2G				0.16D	
1.3 - 1.35	0.066A			0.19G				0.15D	

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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)