

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 542 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	10/12/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6482867 AMG zone: 55	Runoff:	Rapid
Easting/Lat.:	583133 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:	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:	Mapping Unit:	TRANGIE
N/A		COWAL ALLUVIUM

ASC Confidence:	Principal Profile Form:	Gn4.12
Confidence level not specified	Great Soil Group:	N/A

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

Vegetation:

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

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.06 m	Dark brown (7.5YR3/4-Moist); ; Silty clay; Weak grade of structure, 20-50 mm, Platy; Earthy fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Dry; Weak consistence; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Smooth change to -
A12	0.06 - 0.28 m	Dark brown (7.5YR3/4-Moist); ; Silty clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Common (1-5 per 0.01m ²) Medium (2-5mm) macropores, Moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Gradual, Smooth change to -
B21	0.28 - 0.65 m	Dark reddish brown (5YR3/3-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped 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, Moderately moist; Weak consistence; Few cutans, <10% 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	0.65 - 1.1 m	Reddish brown (5YR4/4-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped 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, Moderately moist; Weak consistence; Field pH 7.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Diffuse, Smooth change to -
B3	1.1 - 1.4 m	Reddish brown (5YR4/3-Moist); , 5YR44, 2-10% , 15-30mm, Faint; Medium clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Wet; Weak consistence; Field pH 7.5 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A11 The A11 and to a lesser extent the A12 are hydrophobic.

Observation Notes

Byron Soil Profile Class, Scald

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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	6.5A	0.369A	8.4E	3	0.7	0.1			12.2D	
0.3 - 0.35	7.1A	0.053A								
0.7 - 0.75	7.8A	0.024A	18.2E	8.6	0.6	0.2			27.6D	
1.3 - 1.35	8.1A	0.019A								

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							1.27		2.5A	32.4	35.2	29.9
0.3 - 0.35							1.60					
0.7 - 0.75							1.61		1.5A	25.9	30.5	42.1
1.3 - 1.35							1.45					

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	0.036A			0.23G				0.16D	
0.3 - 0.35	0.026A			0.2G				0.15D	
0.7 - 0.75	0.065A			0.2G				0.19D	
1.3 - 1.35	0.04A			0.23G				0.19D	

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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)