

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 529 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	07/12/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6479456 AMG zone: 55	Runoff:	Slow
Easting/Lat.:	579700 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): Hardsetting, Surface crust

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	TRANGIE COWAL ALLUVIUM
N/A			

ASC Confidence:

Confidence level not specified

Principal Profile Form: Dy3.42

Great Soil Group: N/A

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

Vegetation:

Tall Strata - Tussock grass, 0.51-1m, Sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Brown (7.5YR4/4-Moist); ; Sandy clay loam; Weak grade of structure, 20-50 mm, Platy; Earthy fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 6.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
A2cb	0.1 - 0.41 m	Light brown (7.5YR6/4-Moist); Very pale brown (10YR7/3-Dry); ; Sandy clay loam; Moderate grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moist; Weak consistence; Many (20 - 50 %), Ferruginous, Medium (2 - 6 mm), Nodules; Many (20 - 50 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
B2	0.41 - 0.65 m	Brown (7.5YR5/3-Moist); , 7.5YR56, 20-50% , 15-30mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moist; Weak consistence; Many cutans, >50% of ped faces or walls coated; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Ferruginous, Medium (2 - 6 mm), Nodules; Few (2 - 10 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Field pH 8 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Gradual, Irregular change to -
2A	0.65 - 1.15 m	Red (10R4/6-Moist); , 10YR62, 20-50% , 15-30mm, Distinct; , 7.5YR56, 20-50% , 15-30mm, Distinct; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) 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 (Raupach); Few, very fine (0-1mm) roots; Gradual, Irregular change to -

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2B 1.15 - 1.4 m Red (10R4/6-Moist); , 10YR6/2, 2-10% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm²) Fine (1-2mm) 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 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A1 Complex layered profile. TCA overlying OA. Fe conc's. Another layer from 0.5 could be included - its a surface crust and is massive. Compaction due to stock.

Observation Notes

Buckshot 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	6.5A	0.069A	2.1E	0.4	0.9	0.2			3.6D	
0.3 - 0.35	7.6A	0.038A								
0.7 - 0.75	8.1A	0.042A	7.5E	2.8	0.9	0.1			11.3D	
1.3 - 1.35	8.3A	0.057A								

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							1.56		37.9A	34.5	11.4	16.2
0.3 - 0.35							1.75					
0.7 - 0.75							1.69		31.7A	24.5	6.3	37.6
1.3 - 1.35							1.66					

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	0.026A			0.12G				0.06D	
0.3 - 0.35	0.008A			0.11G				0.11D	
0.7 - 0.75	0.046A			0.17G				0.12D	
1.3 - 1.35	0.059A			0.18G				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)