

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 537 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

<b>Desc. By:</b>	N.J. McKenzie	<b>Locality:</b>	
<b>Date Desc.:</b>	09/12/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8434 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6481500 AMG zone: 55	<b>Runoff:</b>	Slow
<b>Easting/Lat.:</b>	582100 Datum: AGD66	<b>Drainage:</b>	Moderately well drained

#### Geology

<b>ExposureType:</b>	Soil pit	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

#### Land Form

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	Mid-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	No Data	<b>Slope Category:</b>	No Data
<b>Slope:</b>	%	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Firm

#### Erosion:

#### Soil Classification

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

#### **ASC Confidence:**

Confidence level not specified

**Principal Profile Form:** Uf1.13

**Great Soil Group:** N/A

**Site Disturbance:** Extensive clearing, for example poisoning, ringbarking

#### Vegetation:

Tall Strata - Tree, 12.01-20m, Sparse. \*Species includes - Eucalyptus camaldulensis

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.1 m	Brown (7.5YR4/4-Moist); ; Sandy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 6.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Abrupt, Smooth change to -
A2	0.1 - 0.46 m	Brown (7.5YR4/3-Moist); ; Medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Many (>5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Many (>5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Common (1-5 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moderately moist; Weak consistence; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Sharp, Smooth change to -
2B2	0.46 - 0.65 m	Brown (7.5YR4/3-Moist); ; Medium clay; Weak grade of structure, 10-20 mm, Platy; Earthy fabric; Many (>5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Many (>5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Common (1-5 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moderately moist; Weak consistence; Field pH 7.5 (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 -
3A	0.65 - 0.95 m	Grey (7.5YR5/1-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm; Earthy fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moist; Firm consistence; Field pH 7.5 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth change to
3B	0.95 - 1.3 m	Greyish brown (10YR5/2-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Wet; Firm consistence; Few cutans, <10% of ped faces or walls coated; Field pH 7.5 (Raupach); Few, very fine (0-1mm) roots;

#### Morphological Notes

A1	Buried grey soil. Many alluvial bands to 67 cms. Post European? About 12 alluvial bands = in each band there is usually a laminated layer (1-2cm) followed by thicker bands. Layers identified on basis of sig texture changes.
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Macquarie Soil Profile Class

**Site Notes**

**Observation 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	7A	0.037A	7.2E	3.9	0.6	0.1			11.8D	
0.3 - 0.35	7.6A	0.043A								
0.7 - 0.75	7.5A	0.036A	9.6E	4.6	0.3	0.3			14.8D	
1.3 - 1.35	7.4A	0.049A								

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							1.43		16.5A	37.7	17.6	28.2
0.3 - 0.35							1.23					
0.7 - 0.75							1.39		2.6A	43.7	24.3	29.3
1.3 - 1.35							1.56					

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	0.041A			0.18G				0.12D	
0.3 - 0.35	0.091A			0.26G				0.15D	
0.7 - 0.75	0.01A			0.22G				0.13D	
1.3 - 1.35	0.06A			0.21G				0.16D	

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**Laboratory Analyses Completed for this profile**

15C1_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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 <sup>3</sup>
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)