

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 532 **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>	6480222 AMG zone: 55	<b>Runoff:</b>	Very slow
<b>Easting/Lat.:</b>	580600 Datum: AGD66	<b>Drainage:</b>	Poorly 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>	Open depression (vale)	<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):** Hardsetting, Surface crust

#### 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:** Dy3.12

**Great Soil Group:** N/A

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

#### Vegetation:

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

#### Surface Coarse Fragments:

#### Profile Morphology

A1	0 - 0.08 m	Dark brown (7.5YR3/3-Moist); ; Silty clay; Weak grade of structure, 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, Wet; Weak consistence; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Many, coarse (>5mm) roots; Clear, Irregular change to -
B1	0.08 - 0.43 m	Greyish brown (10YR5/2-Moist); ; Medium clay; Moderate grade of structure, Angular blocky; Rough-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Wet; Weak consistence; Common (10 - 20 %), Ferruginous, Medium (2 -6 mm), Nodules; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Nodules; 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; Gradual, Smooth change to -
2B1	0.43 - 0.7 m	Brown (7.5YR5/3-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Polyhedral; Smooth-ped 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, Wet; Firm consistence; Common cutans, 10-50% of ped faces or walls coated; Field pH 8 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Diffuse, Smooth change to
2B2	0.7 - 1.35 m	Reddish brown (2.5YR4/4-Moist); , 7.5YR53, 10-20% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 10-20 mm, Polyhedral; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Wet; Firm consistence; Many cutans, >50% of ped faces or walls coated; Field pH 8 (Raupach); Few, very fine (0-1mm) roots;

#### Morphological Notes

A1	Hard to describe due to the wet profile. The red subsoils are tricky; they seem to be porous but are quite impermeable.
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#### 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	6.3A	0.037A	5.2E	1.3	0.9	0			7.4D	
0.3 - 0.35	7.2A	0.028A								
0.7 - 0.75	8.2A	0.046A	12.2E	3.9	0.7	0.2			17D	
1.3 - 1.35	8.3A	0.048A								

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							1.50		9.5A	34.8	30.4	25.3
0.3 - 0.35							1.58					
0.7 - 0.75							1.62		9A	23.8	21.9	45.3
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	0.037A			0.2G				0.1D	
0.3 - 0.35	0.061A			0.2G				0.12D	
0.7 - 0.75	0.046A			0.2G				0.15D	
1.3 - 1.35	0.056A			0.2G				0.15D	

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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)