

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 332 **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>	01/08/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8434 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6469367 AMG zone: 55	<b>Runoff:</b>	Moderately rapid
<b>Easting/Lat.:</b>	591333 Datum: AGD66	<b>Drainage:</b>	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>	Crest	<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:** Partial, Moderate (wind);

#### Soil Classification

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

#### **ASC Confidence:**

Confidence level not specified

**Principal Profile Form:** Dr2.12

**Great Soil Group:** N/A

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

#### Vegetation:

Tall Strata - Tussock grass, <0.25m, Sparse. \*Species includes - None Recorded

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/4-Moist); ; Sandy clay loam (Light); Weak grade of structure, 20-50 mm, Subangular 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, Moist; Very weak consistence; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Clear, Smooth change to -
A12	0.1 - 0.45 m	Yellowish red (5YR4/5-Moist); ; Sandy clay loam; Moderate grade of structure, 20-50 mm, Subangular 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, Moist; Weak consistence; Field pH 7.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth change to -
B1	0.45 - 0.8 m	Yellowish red (5YR4/6-Moist); ; Light clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped 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, Moist; Weak consistence; Few cutans, <10% of ped faces or walls coated; Field pH 8 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Irregular change to -
B2	0.8 - 1.4 m	Strong brown (7.5YR4/6-Moist); ; Sandy clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped 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, Moderately moist; Weak consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots;

#### Morphological Notes

A11	A11 has sand lenses - 30cm x 2cm >330 = very little infilled channels in B22; some with CaCO <sub>3</sub> deposited.
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#### Observation Notes

Wilga Soil Profile Class, Calcic Phase, Some lucerne

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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	6.9A	0.056A	2.9E	0.4	1	0.4			4.7D	
0.3 - 0.35	7.8A	0.034A								
0.7 - 0.75	8.3A	0.096A	13.1E	4.1	0.5	0			17.7D	
1.3 - 1.35	8.5A	0.24A								

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							1.63		22.8A	48.5	15.2	13.5
0.3 - 0.35							1.59					
0.7 - 0.75							1.64		6.9A	40.3	17.7	35
1.3 - 1.35							1.52					

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m					g/g -	m3/m3			mm/h
0.1 - 0.15	0.009A			0.15G				0.05D	
0.3 - 0.35	0.021A			0.07G				0.06D	
0.7 - 0.75	0.024A			0.16G				0.11D	
1.3 - 1.35	0.017A			0.17G				0.07D	

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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)