

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 344 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	05/09/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8434 1:10000	Rainfall:	No Data
Northing/Long.:	6472800 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	591800 Datum: AGD66	Drainage:	Poorly 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:	Open depression (vale)	Relief:	No Data
Elem. Type:	No Data	Slope Category:	No Data
Slope:	%	Aspect:	No Data

Surface Soil Condition (dry): Cracking, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	MACQUARIE
N/A			ALLUVIUM
			BACKPLAI

ASC Confidence:

Confidence level not specified

Principal Profile Form: Ug5.15

Great Soil Group: N/A

Site Disturbance: Cultivation. Rainfed

Vegetation:

Tall Strata - Tussock grass, <0.25m, Mid-dense. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1p	0 - 0.12 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Wet; Weak consistence; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Clear, Smooth change to -
B21	0.12 - 0.5 m	Very dark greyish brown (10YR3/2-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 7.5 (Raupach); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	0.5 - 1.2 m	Dark greyish brown (10YR4/2-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B3	1.2 - 1.4 m	Dark brown (10YR3/3-Moist); , 10YR42, 10-20% , 5-15mm, Faint; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A1p Trend from 342 deep dark horizon

Observation Notes

Ellengerah Soil Profile Class, Wheat

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	6.4A	0.068A	8.2E	5.1	0.7	0.4			14.4D	
0.3 - 0.35	7.9A	0.08A								
0.7 - 0.75	9A	0.279A	14.1E	11.4	0.3	4			29.8D	
1.3 - 1.35	8.6A	0.358A								

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							1.42		4.4A	16.6	35.4	43.6
0.3 - 0.35							1.48					
0.7 - 0.75							1.44		2.1A	9.6	36.3	52
1.3 - 1.35							1.58					

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	0.052A			0.25G				0.16D	
0.3 - 0.35	0.097A			0.26G				0.19D	
0.7 - 0.75	0.103A			0.27G				0.19D	
1.3 - 1.35	0.067A			0.2G				0.17D	

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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)