Project Name: **Soils of the Lower Macquarie Valley, New South Wales**
Project Code: **Macquarie** **Site ID:** **501** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	
Date Desc.:	30/11/85	**Elevation:**	No Data
Map Ref.:	Sheet No. : 8434 1:10000	**Rainfall:**	No Data
Northing/Long.:	6472400 AMG zone: 55	**Runoff:**	Slow
Easting/Lat.:	575500 Datum: AGD66	**Drainage:**	Moderately well 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:	Lower-slope	**Relief:**	No Data
Elem. Type:	No Data	**Slope Category:**	No Data
Slope:	%	**Aspect:**	No Data

Surface Soil Condition (dry): Hardsetting

Erosion: Stable, Minor or present (wind);

Soil Classification

Australian Soil Classification:
N/A

Mapping Unit: OLD ALLUVIUM MEANDER PLAIN

Principal Profile Form: Dy3.13

ASC Confidence:
Confidence level not specified

Great Soil Group: N/A

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

Vegetation:

Tall Strata - Tussock grass, 0.26-0.5m, Sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.25 m	Dark reddish brown (5YR3/3-Moist); ; Sandy clay loam (Light); Weak grade of structure, 20-50 mm, Subangular 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; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Gradual, Smooth change to -
A2	0.25 - 0.47 m	Dark brown (7.5YR3/4-Moist); Brown (7.5YR5/4-Dry); ; Sandy clay loam (Light); Weak grade of structure, 20-50 mm, Subangular 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; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.47 - 0.8 m	Strong brown (7.5YR5/6-Moist); , 10-20% , 5-15mm, Faint; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Nodules; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	0.8 - 1.35 m	Brown (7.5YR5/4-Moist); , 10YR53, 20-50% , 5-15mm, Faint; Medium clay; Strong grade of structure, 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A1 Drab hetereogeneous colour in B with heaps of Mn conc's. Mn/Fe conc's are a feature.

Observation Notes

Mitchell Soil Profile Class, Moderately Drained Phase

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0.1 - 0.15	7.3A	0.053A	2.6E	0.4	1.1	0.3			4.4D	
0.3 - 0.35	7.6A	0.028A								
0.7 - 0.75	8.8A	0.164A	10.3E	7.2	1.9	0.9			20.3D	
1.3 - 1.35	9.1A	0.219A								

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0.1 - 0.15							1.60		36.8A	37.4	10.3	15.5
0.3 - 0.35							1.66					
0.7 - 0.75							1.58		22.5A	19.6	5.1	52.8
1.3 - 1.35							1.72					

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	mm/h
0.1 - 0.15	0.035A			0.14G				0.06D		
0.3 - 0.35	0.028A			0.11G				0.05D		
0.7 - 0.75	0.046A			0.2G				0.17D		
1.3 - 1.35	0.043A			0.17G				0.16D		

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Laboratory Analyses Completed for this profile

15C1_CA	Exchangeable bases (Ca2+,Mg2+,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/cm3
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)