Project Name: **Soils of the Lower Macquarie Valley, New South Wales**
Project Code: **Macquarie** **Site ID:** **416** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	
Date Desc.:	14/10/85	**Elevation:**	No Data
Map Ref.:	Sheet No. : 8533 1:10000	**Rainfall:**	No Data
Northing/Long.:	6450756 AMG zone: 55	**Runoff:**	Very slow
Easting/Lat.:	604111 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

Erosion:

Soil Classification

Australian Soil Classification:
N/A

Mapping Unit: OLD ALLUVIUM MEANDER PLAIN

Principal Profile Form: Ug5.38

ASC Confidence:
Confidence level not specified

Great Soil Group: N/A

Site Disturbance: Cultivation. Rainfed

Vegetation:
Tall Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.2 m	Brown (7.5YR4/2-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Wet; Firm consistence; Field pH 8 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Gradual, Smooth change to -
B21	0.2 - 0.8 m	Reddish brown (5YR4/4-Moist); ; Medium heavy clay; Strong grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Common (10 - 20 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth
B22	0.8 - 1.4 m	Light brown (7.5YR6/4-Moist); , 5YR54; Medium heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A1 A very difficult profile to describe -very wet and muddy site; macropores are full/swollen. There may be an A1 to only 10cm - sodic B22?

Observation Notes

Buddah Soil Profile Class

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	8.7A	0.167A	15.5E	6.7	0.7	0.8			23.7D	
0.3 - 0.35	9.2A	0.24A								
0.7 - 0.75	9.5A	0.527A	5.5E	10.8	0.4	7.4			24.1D	
1.3 - 1.35	9A	1.239A								

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							1.49		16.1A	27.8	9.9	46.2
0.3 - 0.35							1.43					
0.7 - 0.75							1.47		15.9A	29	11.7	43.5
1.3 - 1.35							1.39					

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	0.084A			0.24G				0.18D		
0.3 - 0.35	0.095A			0.27G				0.19D		
0.7 - 0.75	0.115A			0.26G				0.19D		
1.3 - 1.35	0.105A			0.3G				0.2D		

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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)