

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 419 **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.:	6451689 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	604178 Datum: AGD66	Drainage:	Imperfectly 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:		Mapping Unit:	OLD ALLUVIUM BACKPLAIN
N/A		Principal Profile Form:	Ug5.15
		Great Soil Group:	N/A

ASC Confidence:

Confidence level not specified

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.11 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Gradual, Smooth change to -
B21	0.11 - 0.55 m	Very dark greyish brown (10YR3/2-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Prismatic; Strong grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Fine (1-2mm) macropores, 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 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B22	0.55 - 0.8 m	Brown (7.5YR4/3-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Fine (1-2mm) macropores, 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, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B23	0.8 - 1.35 m	Brown (7.5YR4/3-Moist); ; Heavy clay; Moderate grade of structure, 10-20 mm, Polyhedral; Smooth-ped fabric; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm ²) Fine (1-2mm) 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 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A1 Moist grey cracking clay = sodic soil dispersed on surface and on pile of soil.

Observation Notes

Mullah Soil Profile Class, Black Phase

Site Notes

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 419 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 419 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

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	8.6A	0.19A	23.1E	7.9	0.6	1.2			32.8D	
0.3 - 0.35	9A	0.322A								
0.7 - 0.75	8.9A	0.958A	12.6E	12.4	0.5	7.5			33D	
1.3 - 1.35	7.9A	4.01A								

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							1.36		10.6A	19.6	15.8	54
0.3 - 0.35							1.43					
0.7 - 0.75							1.51		7.6A	20.4	16.9	55
1.3 - 1.35							1.27					

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	0.106A			0.26G				0.2D	
0.3 - 0.35	0.103A			0.27G				0.2D	
0.7 - 0.75	0.094A			0.25G				0.23D	
1.3 - 1.35	0.143A			0.32G				0.2D	

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 419 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

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)