

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 408 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	18/10/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8533 1:10000	Rainfall:	No Data
Northing/Long.:	6448300 AMG zone: 55	Runoff:	Very slow
Easting/Lat.:	603889 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, Self-mulching

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	OLD ALLUVIUM BACKPLAIN
N/A		Principal Profile Form:	Ug5.28
		Great Soil Group:	N/A

ASC Confidence:

Confidence level not specified

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

Vegetation:

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

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.08 m	Very dark grey (10YR3/1-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Subangular 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, Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moist; Weak consistence; Many cutans, >50% of ped faces or walls coated; Field pH 8 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Clear, Irregular change to -
B21	0.08 - 0.65 m	Weak red (2.5YR5/1-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-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, Moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Very few (0 - 2 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	0.65 - 1.15 m	Weak red (2.5YR5/2-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Common (1-5 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; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B23	1.15 - 1.35 m	Pale red (2.5YR6/2-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 9 (Raupach); Few, very fine (0-1mm)

Morphological Notes

A1 Profile in slide appears to be from under a tree; a few bones.

Observation Notes

Mullah Soil Profile Class, Grey Phase

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	8.3A	0.162A	18.7E	4.5	2.5	0.6			26.3D	
0.3 - 0.35	8.8A	0.22A								
0.7 - 0.75	9.1A	0.3A	10.2E	10.6	2.6	2.7			26.1D	
1.3 - 1.35	9.4A	0.343A								

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							1.21		6.8A	15.1	13.8	64.3
0.3 - 0.35							1.25					
0.7 - 0.75							1.31		3.1A	19.7	17	60.1
1.3 - 1.35							1.44					

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	0.109A			0.38G				0.22D	
0.3 - 0.35	0.105A			0.34G				0.23D	
0.7 - 0.75	0.151A			0.35G				0.21D	
1.3 - 1.35	0.101A			0.3G				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)