

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 263 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	19/10/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8533 1:10000	Rainfall:	No Data
Northing/Long.:	6456700 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	601100 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:	Mid-slope	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:	GIN GIN AEOLIAN DEPOSITS
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Gn3.13
		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

A11	0 - 0.1 m	Dark reddish brown (5YR3/3-Moist); ; Sandy clay; Moderate grade of structure, 50-100 mm, Platy; 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 100mm ²) Medium (2-5mm) macropores, Moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.26 m	Dark reddish brown (5YR3/4-Moist); ; Sandy clay; Moderate grade of structure, 50-100 mm, Subangular 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 100mm ²) Medium (2-5mm) macropores, Moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Field pH 6.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.26 - 0.42 m	Yellowish red (5YR3/6-Moist); ; Medium 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, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Gradual, Smooth change to -
B22	0.42 - 1.3 m	Yellowish red (5YR3/6-Moist); ; Heavy clay; Strong grade of structure, 10-20 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, Few (<1 per 0.01m ²) Medium (2-5mm) macropores, Moderately moist; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Many cutans, >50% of ped faces or walls coated; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Nodules; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth change to -

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B23 1.3 - 1.5 m Yellowish red (5YR3/6-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; 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; Very firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; 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

B23 A few unfilled channels and cracks at depth. Very prominent CaCO₃ compacted A1

Observation Notes

Mitchell Soil Profile Class, Moderately Drained Phase, Vegetation - oats

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	6.9A	0.027A	3.5E	0.6	0.8	0			4.9D	
0.3 - 0.35	7.4A	0.031A								
0.7 - 0.75	8.9A	0.147A	8.8E	7.5	0.6	0.8			17.7D	
1.3 - 1.35	9.5A	0.308A								

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							1.56		27.1A	34.7	10.4	27.8
0.3 - 0.35							1.59					
0.7 - 0.75							1.51		18.4A	25.5	7.5	48.5
1.3 - 1.35							1.40					

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	0.042A			0.17G				0.09D	
0.3 - 0.35	0.029A			0.16G				0.11D	
0.7 - 0.75	0.108A			0.25G				0.16D	
1.3 - 1.35	0.095A			0.29G				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)