Project Name: **Soils of the Lower Macquarie Valley, New South Wales**
Project Code: **Macquarie** **Site ID:** **222** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	
Date Desc.:	17/06/85	**Elevation:**	No Data
Map Ref.:	Sheet No. : 8534 1:10000	**Rainfall:**	No Data
Northing/Long.:	6465200 AMG zone: 55	**Runoff:**	Slow
Easting/Lat.:	605400 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:	Lower-slope	**Relief:**	No Data
Elem. Type:	No Data	**Slope Category:**	No Data
Slope:	%	**Aspect:**	No Data

Surface Soil Condition (dry): Firm, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:
N/A

Mapping Unit: GIN GIN AEOLIAN DEPOSITS

Principal Profile Form: Gn3.13

ASC Confidence:
Confidence level not specified

Great Soil Group: N/A

Site Disturbance: Extensive clearing, for example poisoning, ringbarking

Vegetation:
Tall Strata - Tree, 6.01-12m, Sparse. *Species includes - Eucalyptus populnea

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.17 m	Dark reddish brown (5YR3/3-Moist); ; Sandy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Clear, Smooth change to -
A12	0.17 - 0.35 m	Yellowish red (5YR3/5-Moist); ; Sandy clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-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, Moderately moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Field pH 6.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Gradual, Smooth change to -
B21	0.35 - 0.6 m	Yellowish red (5YR4/6-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated; Field pH 7.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Gradual, Irregular change to -
B22k	0.6 - 1.35 m	Yellowish red (5YR5/6-Moist); ; Light medium clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Few (<1 per 100mm2) Fine (1-2mm) macropores, Dry; Very firm consistence; Common cutans, 10-50% of ped faces or walls coated; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Nodules; Many (20 - 50 %), Calcareous, Very coarse (20 - 60 mm), Soft segregations; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-

Morphological Notes

A11 Heavier with more tenacious profile compared with 221. More $CaCO_3$ nodules.

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	6.1A	0.047A	6.4E	0.9	0.8	0.1			8.2D	
0.3 - 0.35	6.9A	0.039A								
0.7 - 0.75	8.6A	0.625A	7.1E	7.2	0.2	2.1			16.6D	
1.3 - 1.35	8.3A	1.22A								

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							1.65		20.6A	38.5	14.6	26.3
0.3 - 0.35							1.61					
0.7 - 0.75							1.56		10.2A	19.7	6.4	63.7
1.3 - 1.35							1.46					

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	0.018A			0.13G				0.09D		
0.3 - 0.35	0.04A			0.18G				0.14D		
0.7 - 0.75	0.049A			0.21G				0.19D		
1.3 - 1.35	0.057A			0.23G				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)