Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie Site ID: 205 Observation ID: 1

Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By: N.J. McKenzie Locality:

Date Desc.:13/06/85Elevation:No DataMap Ref.:1:10000Rainfall:No Data

Northing/Long.: 6459433 AMG zone: 55 Runoff: Moderately rapid Easting/Lat.: 596533 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

<u>Surface Soil Condition (dry):</u> Firm **Erosion:** Partial, Minor or present (wind);

**Soil Classification** 

Australian Soil Classification: Mapping Unit: GIN GIN

N/A AEOLIAN DEPOSITS

Principal Profile Form: Um5.51

ASC Confidence: Great Soil Group: N/A

Confidence level not specified

Site Disturbance: Cultivation. Rainfed

**Vegetation:** 

Tall Strata - Tussock grass, , Sparse. \*Species includes - None Recorded

### **Surface Coarse Fragments:**

#### **Profile Morphology**

A1 0 - 0.1 m Reddish brown (5YR4/4-Moist); ; Sandy clay loam; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Weak consistence; 10-20%, fine gravelly, 2-6mm, subrounded, stratified, coarse fragments; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Clear,

Irregular change to -

A2 0.1 - 0.28 m Yellowish red (5YR2/6-Moist); Strong brown (7.5YR4/6-Dry); ; Sandy clay loam; Moderate

grade of structure; Earthy fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Weak consistence; 50-90%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; 50-90%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Field pH 6.5

(Raupach); Few, very fine (0-1mm) roots; Clear, Smooth change to -

B21 0.28 - 0.5 m Red (2.5YR5/5-Moist); , 7.5YR46, 20-50% , 0-5mm, Faint; Medium clay; Moderate grade of

structure; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Firm consistence; 20-50%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; 20-50%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated; Field pH 7 (Raupach); Few, very fine (0-1mm) roots;

Gradual, Smooth change to -

B22 0.5 - 0.95 m Brownish yellow (10YR6/7-Moist); , 5YR56, 20-50% , 0-5mm, Distinct; Medium clay; Moderate

grade of structure; Rough-ped fabric; Few (<1 per 100mm2) Fine (1-2mm) macropores, Firm consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; 10-20%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth

B23 0.95 - 1.28 m Reddish yellow (7.5YR6/6-Moist); , 5YR56, 20-50% , 0-5mm, Distinct; Medium clay; Moderate

grade of structure; Rough-ped fabric; Firm consistence; 10-20%, fine gravelly, 2-6mm, subrounded, dispersed, coarse fragments; 10-20%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated; Field pH

7 (Raupach); Sharp, Smooth change to -

C 1.28 - 1.35 m ;

### **Morphological Notes**

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Some large "red" mottles around gravel: ~100mm diam in B22

## **Observation Notes**

Hillside Soil Profile Class, Fallow - wheat. Substrate - weathered white fine sandstone

Site Notes

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# **Laboratory Test Results:**

Depth	рН	1:5 EC		hangeable Mg	Cations K	I Na	Exchangeable Acidity	CEC	E	CEC	I	ESP
m		dS/m	Ca	wig		Cmol (+)/kg						%
0.1 - 0.15 0.3 - 0.35	5.8A 6.9A	0.029A 0.036A		1.3	0.5	0			:	2.8D		
0.7 - 0.75 1.3 - 1.35	5.6A	0.106A		3	0.1	8.0			(	6.4D		
Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	P: GV	article :	Size <i>F</i>	nalysi: Silt	
m	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	г <b>э</b> %	SIII	Clay
0.1 - 0.15 0.3 - 0.35							1.63 1.66		19.3A	51	10.8	18.9
0.3 - 0.35 0.7 - 0.75 1.3 - 1.35							1.61		4.7A	10.5	6.5	78.3
Depth	COLE	Sat.	Grav 0.05 Bar	/imetric/Vo 0.1 Bar	lumetric W 0.5 Bar	ater Con 1 Bar		5 Bar	K sa	t	K unsa	t
m				g/s	g - m3/m3	3			mm/l	1	mm/h	
0.1 - 0.15 0.3 - 0.35 0.7 - 0.75 1.3 - 1.35	0.021/ 0.01 <i>A</i> 0.029/	١		0.14G 0.14G 0.21G			0.	.06D .14D ).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

EC of 1:5 soil/water extract 3A1 4A1 pH of 1:5 soil/water suspension

Clay (%) - Coventry and Fett pipette method

P10\_CF\_C P10\_CF\_CS P10\_CF\_FS Coarse sand (%) - Coventry and Fett pipette method 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)

XRD\_C\_II Illite - X-Ray Diffraction XRD\_C\_Kt Kaolinite - X-Ray Diffraction