

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 117 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**Site Information**

|                        |                          |                   |                         |
|------------------------|--------------------------|-------------------|-------------------------|
| <b>Desc. By:</b>       | N.J. McKenzie            | <b>Locality:</b>  |                         |
| <b>Date Desc.:</b>     | 29/03/85                 | <b>Elevation:</b> | No Data                 |
| <b>Map Ref.:</b>       | Sheet No. : 8434 1:10000 | <b>Rainfall:</b>  | No Data                 |
| <b>Northing/Long.:</b> | 6462120 AMG zone: 55     | <b>Runoff:</b>    | Slow                    |
| <b>Easting/Lat.:</b>   | 593340 Datum: AGD66      | <b>Drainage:</b>  | Moderately well drained |

**Geology**

|                      |          |                                    |           |
|----------------------|----------|------------------------------------|-----------|
| <b>ExposureType:</b> | Soil pit | <b>Conf. Sub. is Parent. Mat.:</b> | No Data   |
| <b>Geol. Ref.:</b>   | No Data  | <b>Substrate Material:</b>         | , No Data |

**Land Form**

|                         |         |                        |         |
|-------------------------|---------|------------------------|---------|
| <b>Rel/Slope Class:</b> | No Data | <b>Pattern Type:</b>   | No Data |
| <b>Morph. Type:</b>     | Flat    | <b>Relief:</b>         | No Data |
| <b>Elem. Type:</b>      | No Data | <b>Slope Category:</b> | No Data |
| <b>Slope:</b>           | %       | <b>Aspect:</b>         | No Data |

**Surface Soil Condition (dry):** Hardsetting

**Erosion:** Stable, Minor or present (wind);

**Soil Classification**

|  |                      |                |
|--|----------------------|----------------|
| <b>Australian Soil Classification:</b> | <b>Mapping Unit:</b> | TRANGIE        |
| N/A                                    |                      | COWAL ALLUVIUM |

**ASC Confidence:**

Confidence level not specified

**Principal Profile Form:** Gn2.13

**Great Soil Group:** N/A

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

**Vegetation:**

Tall Strata - Hummock grass, 0.51-1m, . \*Species includes - None Recorded

**Surface Coarse Fragments:**

**Profile Morphology**

|    |              |   |
|----|--------------|---|
| A1 | 0 - 0.36 m   | Dark reddish brown (5YR3/4-Moist); ; Sandy clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Common (1-5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Very weak consistence; Field pH 7 (Raupach); Many, fine (1-2mm) roots;             |
| B2 | 0.36 - 0.7 m | Yellowish red (5YR4/6-Moist); ; Sandy clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Common (1-5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Weak consistence; Few cutans, <10% of ped faces or walls coated; Field pH 8 (Raupach); Many, |
| BC | 0.7 - 1.5 m  | Strong brown (7.5YR5/6-Moist); ; Fine sandy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Common (1-5 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Very weak consistence; Field pH 8.5 (Raupach); Many, fine (1-2mm) roots;               |

**Morphological Notes**

BC A lot of biological activity to depth; worm castes, ants, roots etc to >1.4m in a porous low ?? Soil

**Observation Notes**

Wilga Soil Profile Class, Non-Calcic Phase

**Site Notes**

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 117 **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 | 6.9A | 0.051A | 1.6E | 0.4             | 0.7       | 0           |                      |     | 2.7D |     |
| 0.3 - 0.35 | 7.6A | 0.028A |      |                 |           |             |                      |     |      |     |
| 0.7 - 0.75 | 8.3A | 0.042A | 5E   | 2.7             | 0.2       | 0.2         |                      |     | 8.1D |     |
| 1.3 - 1.35 | 8.7A | 0.069A |      |                 |           |             |                      |     |      |     |

| 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 |       |           |          |         |         |         | 1.42         |             | 2.8A    | 56.6        | 22.5 | 18.1 |
| 0.3 - 0.35 |       |           |          |         |         |         | 1.53         |             |         |             |      |      |
| 0.7 - 0.75 |       |           |          |         |         |         | 1.54         |             | 1A      | 54.1        | 19.7 | 25.2 |
| 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 | 0.056A |                                       |          | 0.18G   |         |       |       | 0.07D  |         |
| 0.3 - 0.35 | 0.045A |                                       |          | 0.19G   |         |       |       | 0.11D  |         |
| 0.7 - 0.75 | 0.035A |                                       |          | 0.19G   |         |       |       | 0.09D  |         |
| 1.3 - 1.35 | 0.043A |                                       |          | 0.23G   |         |       |       | 0.06D  |         |

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 117 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**Laboratory Analyses Completed for this profile**

|           |  |
|-----------|--|
| 15C1_CA   | Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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 <sup>3</sup>   |
| 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)   |