

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed152 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

|                        |                            |                   |                                     |
|------------------------|----------------------------|-------------------|-------------------------------------|
| <b>Desc. By:</b>       | W.T. Ward                  | <b>Locality:</b>  | A.R.(Alex) & A.E.Campbell, Avondale |
| <b>Date Desc.:</b>     | 21/01/86                   | <b>Elevation:</b> | 245 metres                          |
| <b>Map Ref.:</b>       | Sheet No. : 8837_N 1:50000 | <b>Rainfall:</b>  | No Data                             |
| <b>Northing/Long.:</b> | 6658100 AMG zone: 55       | <b>Runoff:</b>    | No Data                             |
| <b>Easting/Lat.:</b>   | 771700 Datum: AGD66        | <b>Drainage:</b>  | No Data                             |

#### Geology

|                      |                       |                                    |         |
|----------------------|-----------------------|------------------------------------|---------|
| <b>ExposureType:</b> | Undisturbed soil core | <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>     | No Data | <b>Relief:</b>         | No Data |
| <b>Elem. Type:</b>      | Levee   | <b>Slope Category:</b> | Level   |
| <b>Slope:</b>           | 0 %     | <b>Aspect:</b>         | No Data |

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

#### Erosion:

#### Soil Classification

|  |                                |                                |           |
|--|--------------------------------|--------------------------------|-----------|
| <b>Australian Soil Classification:</b> | N/A                            | <b>Mapping Unit:</b>           | N/A       |
| <b>ASC Confidence:</b>                 | Confidence level not specified | <b>Principal Profile Form:</b> | Ug6.1     |
|  |                                | <b>Great Soil Group:</b>       | Grey clay |

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

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

|     |               |  |
|-----|---------------|--|
| A11 | 0 - 0.1 m     | Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Silty clay loam; Strong grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7 (pH meter); Few, fine (1-2mm) roots; Diffuse, Smooth change to -  |
| A12 | 0.1 - 0.25 m  | Dark brown (7.5YR3/2-Moist); ; Light medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Cast; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;   |
| A13 | 0.25 - 0.55 m | Dark brown (7.5YR3/2-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, <2 mm, Cast; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;  |
| A14 | 0.55 - 1.2 m  | Dark brown (7.5YR3/2-Moist); ; Medium clay; Strong grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, <2 mm, Cast; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -   |
| C1  | 1.2 - 1.5 m   | Dark brown (7.5YR3/4-Moist); , 7.5YR32, 20-50% , 15-30mm, Distinct; , 10YR53, 0-2% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, <2 mm, Cast; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; |
| C2  | 1.5 - 1.84 m  | Brown (7.5YR4/4-Moist); , 7.5YR32, 10-20% , 5-15mm, Distinct; Loamy sand; Weak grade of structure, 50-100 mm, Prismatic; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Moderately moist; Weak consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -   |
| 2B2 | 1.84 - 2.72 m | Dark reddish brown (5YR3/4-Moist); , 7.5YR74, 2-10% , 5-15mm, Distinct; , 7.5YR32, 0-2% , 5-15mm, Faint; Medium clay; Strong grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.8 (pH meter);  |

#### Morphological Notes

A11 The carbonate nodules are very tiny. A buried AC horizon (7.5YR3/2) occurs at 184cm.

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**Observation Notes**

Parent Rock: alluvial sediment, sand, second terraced fan

**Site Notes**

A non-cracking soil; no visible cracks. Surface is moderately hard setting. On edge of levee bank.

**Observation ID: 1**

**Project Code:** EDCERO1      **Site ID:** 3a  
**Agency Name:** CSIRO Division of Soils (QLD)

**Laboratory Test Results:**

| Depth<br>m | pH    | 1:5 EC<br>dS/m | Exchangeable Cations |       |      | Exchangeable<br>Acidity<br>Na<br>Cmol (+)/kg | CEC | ECEC | ESP<br>% |
|------------|-------|----------------|----------------------|-------|------|--|-----|------|----------|
|            |       |                | Ca                   | Mg    | K    |  |     |      |          |
| 0 - 0.02   | 6.98A | 0.167A         | 14.15B               | 6.75  | 3.86 | 0.08   |     |      |          |
| 0 - 0.1    | 6.62A | 0.188A         | 14.55B               | 7.76  | 2.39 | 0.19   |     |      |          |
| 0.1 - 0.2  | 7.41A | 0.062A         | 17.29B               | 9.27  | 0.68 | 0.32   |     |      |          |
| 0.3 - 0.4  | 7.96A | 0.055A         | 18.95B               | 13.05 | 0.6  | 0.28   |     |      |          |
| 0.7 - 0.8  | 8.39A | 0.078A         | 15.98B               | 12.77 | 0.53 | 0.85   |     |      |          |
| 1.2 - 1.3  | 8.89A | <0.1A          | 12.17B               | 12.44 | 0.46 | 1.21   |     |      |          |
| 1.7 - 1.8  | 8.54A | 0.76A          | 5.04B                | 8.15  | 0.31 | 0.89   |     |      |          |
| 2.5 - 2.6  | 9.09A | 0.394A         | 6.25B                | 22.26 | 0.74 | 4.22   |     |      |          |

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**Laboratory Analyses Completed for this profile**

|          |  |
|----------|--|
| 15A2_CA  | Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts |
| 15A2_K   | Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts   |
| 15A2_MG  | Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts   |
| 15A2_NA  | Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts   |
| 19B1     | Carbonates - manometric  |
| 3A1      | EC of 1:5 soil/water extract   |
| 4A1      | pH of 1:5 soil/water suspension  |
| 5A2      | Chloride - 1:5 soil/water extract, automated colour  |
| 6B3      | Total organic carbon - high frequency induction furnace, infrared  |
| 7B1      | Water soluble nitrate - automated colour   |
| 9B1      | Bicarbonate-extractable phosphorus - manual colour   |
| P10_CF_C | Clay (%) - Coventry and Fett pipette method  |
| P10_CF_Z | Silt (%) - Coventry and Fett pipette method  |