

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed118 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

|                        |                            |                   |                        |
|------------------------|----------------------------|-------------------|------------------------|
| <b>Desc. By:</b>       | G.M. Roberts               | <b>Locality:</b>  | Bruce Foster, Newlands |
| <b>Date Desc.:</b>     | 30/04/85                   | <b>Elevation:</b> | 271 metres             |
| <b>Map Ref.:</b>       | Sheet No. : 8837_N 1:50000 | <b>Rainfall:</b>  | No Data                |
| <b>Northing/Long.:</b> | 6662800 AMG zone: 55       | <b>Runoff:</b>    | No Data                |
| <b>Easting/Lat.:</b>   | 774600 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>      | Fan     | <b>Slope Category:</b> | Very gently sloped |
| <b>Slope:</b>           | 1 %     | <b>Aspect:</b>         | 60 degrees         |

**Surface Soil Condition (dry):** Loose, Recently cultivated

**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> | Dy4.13       |
|                                        |                                | <b>Great Soil Group:</b>       | Solodic soil |

**Site Disturbance:** Cultivation. Rainfed

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

|     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A1  | 0 - 0.16 m   | Very dark greyish brown (10YR3/2-Moist); Brown (10YR5/3-Dry); ; Loamy sand; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 6 (pH meter); Common, fine (1-2mm) roots; Clear, Smooth change to -                                                                                                                                                                                    |
| A21 | 0.16 - 0.2 m | Very dark greyish brown (10YR3/2-Moist); Brown (10YR5/3-Dry); , 10YR31, 2-10% , 0-5mm, Faint; Loamy sand; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very weak consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;                                                                                                                                                                              |
| A22 | 0.2 - 0.3 m  | Very dark greyish brown (10YR3/2-Moist); Brown (10YR5/3-Dry); ; Light clay; Massive grade of structure; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Weak consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -                                                                                                                                                                   |
| B21 | 0.3 - 0.55 m | Dark greyish brown (10YR4/2-Moist); Greyish brown (10YR5/2-Dry); ; Coarse sandy light clay; Massive grade of structure; Moderate grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded tabular, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; |
| B22 | 0.55 - 0.9 m | Dark greyish brown (10YR4/2-Moist); Brown (10YR4/3-Dry); , 10YR56, 10-20% , 15-30mm, Distinct; Medium heavy clay; Massive grade of structure; Moderate grade of structure, 10-20 mm, Angular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, rounded tabular, Quartz, coarse fragments; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to - |
| B23 | 0.9 - 1.6 m  | Greyish brown (10YR5/2-Moist); , 10YR68, 10-20% , 0-5mm, Distinct; , 10YR56, 0-2% , 0-5mm, Faint; Medium clay; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Concretions; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.6 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -                  |

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B24      1.6 - 2.73 m      Greyish brown (10YR5/2-Moist); , 5R32, 0-2% , 0-5mm, Prominent; Medium clay; Massive grade of structure; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very strong consistence; 2-10%, coarse gravelly, 20-60mm, rounded, Quartz, coarse fragments; Very few (0 - 2 %), Ferruginous, Fine (0 - 2 mm), Soft segregations; Field pH 5.7 (pH meter); Few, very fine (0-1mm) roots;

**Morphological Notes**

**Observation Notes**

Parent Rock: , , Tertiary beds

**Site Notes**

**Observation ID: 1**

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

**Laboratory Test Results:**

| Depth     | pH    | 1:5 EC        | Exchangeable Cations |          |          | Exchangeable | CEC     | ECEC | ESP |
|-----------|-------|---------------|----------------------|----------|----------|--------------|---------|------|-----|
| m         |       | dS/m          | Ca                   | Mg       | K        | Na           | Acidity |      | %   |
|           |       |               |                      |          |          | Cmol         | (+)/kg  |      |     |
| 0 - 0.02  | 6.25A | 0.133A        | 4.27B                | 1.54     | 0.98     | 0.01         |         |      |     |
| 0 - 0.1   | 7.02A | 8.199999E-02A | 3.47B                | 1.32     | 1.24     | 0.05         |         |      |     |
| 0.1 - 0.2 | 6.73A | 0.168A        | 4.05B                | 1.1      | 1.26     | 0.04         |         |      |     |
| 0.2 - 0.3 | 7.34A | 0.077A        | 4.31B                | 1.1      | 0.989999 | 0.04         |         |      |     |
| 0.3 - 0.4 | 8.1A  | 0.048A        | 8.95B                | 4.06     | 1.2      | 0.19         |         |      |     |
| 0.7 - 0.8 | 9.26A | 0.085A        | 7.35B                | 10.2     | 0.82     | 1.85         |         |      |     |
| 1.2 - 1.3 | 9.84A | 0.34A         | 3.46B                | 9.690001 | 0.45     | 3.98         |         |      |     |
| 2.5 - 2.6 | 5.42A | 0.317A        | 1.66B                | 8.57     | 0.17     | 4.96         |         |      |     |

| Depth<br><br>m | CaCO3 | Organic C | Avail.<br>P | Total P | Total N | Total K | Bulk Density | Particle Size |    | Analysis  |
|----------------|-------|-----------|-------------|---------|---------|---------|--------------|---------------|----|-----------|
|                | %     | %         | mg/kg       | %       | %       | %       | Mg/m3        | GV            | CS | Silt Clay |
| 0 - 0.02       | <0.1B | 2.09C     |             |         |         |         |              |               |    | 8.6 11.4  |
| 0 - 0.1        | <0.1B | 1.21C     | <1J         |         |         |         |              |               |    | 6.2 9.7   |
| 0.1 - 0.2      | <0.1B | 0.68C     | 8.4J        |         |         |         |              |               |    | 5.9 11.6  |
| 0.2 - 0.3      | 0.1B  | 0.48C     | 5.7J        |         |         |         |              |               |    | 5.9 12.5  |
| 0.3 - 0.4      | 0.1B  | 0.32C     | 1.8J        |         |         |         |              |               |    | 6.1 28.4  |
| 0.7 - 0.8      | 0.1B  | 0.15C     | <1J         |         |         |         |              |               |    | 4.8 38.3  |
| 1.2 - 1.3      | 1.5B  | 0.08C     | 3.6J        |         |         |         |              |               |    | 5.1 30.9  |
| 2.5 - 2.6      | <0.1B | 0.08C     | 3.2J        |         |         |         |              |               |    | 6.1 31.8  |

[illegible]

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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                                                                                                                |