

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed087 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

| | | | |
|------------------------|----------------------------|-------------------|----------------------------|
| Desc. By: | K.J. Smith | Locality: | J.G.(John) Wilson, Montana |
| Date Desc.: | 08/01/87 | Elevation: | 386 metres |
| Map Ref.: | Sheet No. : 8837_N 1:50000 | Rainfall: | No Data |
| Northing/Long.: | 6667100 AMG zone: 55 | Runoff: | No Data |
| Easting/Lat.: | 785700 Datum: AGD66 | Drainage: | No Data |

Geology

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|----------------------|-----------------------|------------------------------------|---------|
| ExposureType: | Undisturbed soil core | 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: | No Data | Relief: | No Data |
| Elem. Type: | Pediment | Slope Category: | Moderately inclined |
| Slope: | 4 % | Aspect: | 320 degrees |

Surface Soil Condition (dry): Self-mulching, Recently cultivated

Erosion:

Soil Classification

| | | | |
|--|--------------------------------|--------------------------------|------------|
| Australian Soil Classification: | N/A | Mapping Unit: | N/A |
| ASC Confidence: | Confidence level not specified | Principal Profile Form: | Ug5.12 |
| | | Great Soil Group: | Brown clay |

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

| | | |
|-----|---------------|--|
| A11 | 0 - 0.1 m | Dark reddish brown (5YR3/2-Moist); ; Medium clay; Moderate grade of structure, 2-5 mm, Granular; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, rounded, Basalt, coarse fragments; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to - |
| A12 | 0.1 - 0.26 m | Dark reddish brown (5YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 2-10%, medium gravelly, 6-20mm, rounded, Basalt, coarse fragments; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to - |
| B2 | 0.26 - 0.54 m | Dark reddish brown (5YR3/2-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 20-50%, medium gravelly, 6-20mm, rounded, Basalt, coarse fragments; Field pH 7.7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to - |
| C | 0.54 - 0.75 m | Strong brown (7.5YR5/8-Moist); ; Medium clay; Massive grade of structure; Smooth-ped fabric; Moderately moist; Weak consistence; 90-100%, cobbly, 60-200mm, rounded, Basalt, coarse fragments; Field pH 8.7 (pH meter); |

Morphological Notes

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|-----|--|
| A11 | Layer .03 recognized as B2 from sudden increase in unweathered material (broken rock). Layer .04 is a mix of pulverized weathered rock and clay and has no recognizable structure (as it fragments so readily). Texture of layer .04 is medium c |
| A12 | lay, but there is 20% grit. |

Observation Notes

Parent Rock: residual, basalt, Nandewar Volcanics

Site Notes

Cultivated wheat with contour banks. Shallow colluvium over basalt in situ. Paddock to south has silver-leaf ironbark. Perhaps r3 should be r2. Basalt outliers make small hills in field, avoided by cultivation. Shallow very dark grey brown

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Laboratory Test Results:

| Depth | pH | 1:5 EC | Exchangeable Ca | Exchangeable Mg | Cations K | Exchangeable Na | Exchangeable Acidity | CEC | ECEC | ESP |
|-----------|-------|--------|-----------------|-----------------|-----------|-----------------|----------------------|-----|------|-----|
| m | | dS/m | | | | Cmol | (+)/kg | | | % |
| 0 - 0.02 | 7.37A | 0.053A | 0.61B | 15.37 | 1.68 | 0.11 | | | | |
| 0 - 0.1 | 7.32A | 0.199A | 26.43B | 17 | 1.29 | 0.35 | | | | |
| 0.1 - 0.2 | 7.59A | 0.104A | 32.75B | 17.26 | 0.41 | 0.37 | | | | |
| 0.3 - 0.4 | 8.11A | 0.055A | 32.4B | 20.28 | 0.21 | 0.45 | | | | |
| 0.6 - 0.7 | 8.15A | 0.069A | 27.25B | 18.6 | 0.13 | 0.96 | | | | |

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Laboratory Analyses Completed for this profile

| | |
|----------|--|
| 15A2_CA | Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 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 |