

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed013 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

| | | | |
|------------------------|----------------------------|-------------------|----------------------------------|
| Desc. By: | D. McGarry | Locality: | A.J.(Alan) Dowe, Roderick Plains |
| Date Desc.: | 13/06/86 | Elevation: | 262 metres |
| Map Ref.: | Sheet No. : 8837_N 1:50000 | Rainfall: | No Data |
| Northing/Long.: | 6677050 AMG zone: 55 | Runoff: | No Data |
| Easting/Lat.: | 774900 Datum: AGD66 | Drainage: | No Data |

Geology

| | | | |
|----------------------|-----------------------|------------------------------------|---------|
| 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: | Terrace flat | Slope Category: | Very gently sloped |
| Slope: | 1 % | Aspect: | 180 degrees |

Surface Soil Condition (dry): Self-mulching, Soft

Erosion:

Soil Classification

| | | | |
|--|--------------------------------|--------------------------------|------------|
| Australian Soil Classification: | N/A | Mapping Unit: | N/A |
| ASC Confidence: | Confidence level not specified | Principal Profile Form: | Ug5.15 |
| Site Disturbance: | Cultivation. Rainfed | Great Soil Group: | Brown clay |

Vegetation:

Surface Coarse Fragments:

Profile Morphology

| | | |
|------|---------------|--|
| A1p | 0 - 0.12 m | Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Light medium clay; Moderate grade of structure, 2-5 mm, Granular; Weak grade of structure, 2-5 mm, Granular; Rough-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 9 (pH meter); Common, very fine (0-1mm) roots; Sharp, Wavy change to - |
| AC | 0.12 - 0.2 m | Dark brown (10YR3/3-Moist); , 10YR62, 0-2% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, angular tabular, Quartz, coarse fragments; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to - |
| 2A11 | 0.2 - 0.3 m | Dark brown (10YR3/3-Moist); , 10YR63, 2-10% , 5-15mm, Distinct; Medium heavy clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; |
| 2A12 | 0.3 - 0.55 m | Dark brown (7.5YR3/2-Moist); , 10YR72, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate grade of structure, 10-20 mm, Lenticular; Moderate grade of structure, 5-10 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; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; |
| 2A13 | 0.55 - 1 m | Dark brown (7.5YR3/2-Moist); ; Heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; |
| 2B21 | 1 - 1.55 m | Dark brown (7.5YR3/2-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; Heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 9 (pH meter); Few, very fine (0- |
| 2B22 | 1.55 - 3.05 m | Reddish brown (2.5YR4/4-Moist); , 5YR32, 2-10% , 0-5mm, Distinct; , 7.5YR84, 0-2% , 15-30mm, Distinct; Medium heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; 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; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH |

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Morphological Notes

A1p The profile is very wet. The contact between .02 and .03 is a thin layer of mud bands - 10YR6/3, composed of concave laminae of clay and silt - old sundried mud cracks. Immediately beneath them (013.03) a sample of A12 of the older soil has been taken. The A11 of that soil has gone. The second soil is similar to MVpH. 0-20cm is evidently a recent alluvial accumulation.

AC

Observation Notes

Parent Rock: alluvial sediment, mixed texture, non-calcareous, clay second (brown parna) terraced

Site Notes

Roderick Plains, near drainage line and possibly subject to periodic flooding. Core may show signs of recent burial. Noogoora

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Laboratory Test Results:

| Depth m | pH | 1:5 EC dS/m | Exchangeable Cations | | | Exchangeable Acidity Na Cmol (+)/kg | CEC | ECEC | ESP % |
|------------|-------|----------------|----------------------|-------|------|--|-----|------|----------|
| | | | Ca | Mg | K | | | | |
| 0 - 0.02 | 8.8A | 0.16A | 31.84B | 21.12 | 2.03 | 1.23 | | | |
| 0 - 0.1 | 8.54A | 0.185A | 26.83B | 23.04 | 1.74 | 1.06 | | | |
| 0.12 - 0.2 | 8.6A | 0.196A | 26.37B | 22.78 | 1.72 | 1.22 | | | |
| 0.2 - 0.3 | 8.76A | 0.191A | 32.61B | 22.39 | 1.18 | 2 | | | |
| 0.3 - 0.4 | 8.85A | 0.198A | 28.36B | 26.09 | 1.05 | 2.56 | | | |
| 0.7 - 0.8 | 9.11A | 0.286A | 24.61B | 26.55 | 1.28 | 7.7 | | | |
| 1.2 - 1.3 | 9.09A | 0.505A | 20.28B | 29.77 | 1.49 | 9.5 | | | |
| 2.5 - 2.6 | 8.96A | 0.805A | 17.15B | 32.57 | 1.45 | 10.56 | | | |

| Depth m | CaCO3 | Organic C | Avail. P | Total P | Total N | Total K | Bulk Density | Particle Size | | Analysis | |
|----------------|-------|-----------|-------------|---------|---------|---------|--------------|---------------|----|----------|-----------|
| | % | % | mg/kg | % | % | % | Mg/m3 | GV | CS | FS % | Silt Clay |
| 0 - 0.02 | 0.7B | 0.95C | | | | | | | | | 18.9 64.3 |
| 0 - 0.1 | 1.5B | 0.77C | 32J | | | | | | | | 17.2 57.4 |
| 0.12 - 0.2 | 1.3B | 0.7C | 30.1J | | | | | | | | 16.1 56.3 |
| 0.2 - 0.3 | 0.6B | 0.71C | 11.7J | | | | | | | | 15.7 62.1 |
| 0.3 - 0.4 | 0.9B | 0.67C | 6.9J | | | | | | | | 17 62.7 |
| 0.7 - 0.8 | 0.7B | 0.63C | 17.4J | | | | | | | | 16 63.8 |
| 1.2 - 1.3 | 0.8B | 0.54C | 27.3J | | | | | | | | 15.5 59.7 |
| 2.5 - 2.6 | 2.1B | 0.22C | 29.4J | | | | | | | | 16.7 62.2 |

[illegible]

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Laboratory Analyses Completed for this profile

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|----------|--|
| 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 |