

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed098 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	D. McGarry	Locality:	Brian Freeman, Marickfield
Date Desc.:	24/06/86	Elevation:	232 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6665300 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	767700 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:	Level
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Surface crust, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.16
		Great Soil Group:	Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Very dark grey (10YR3/1-Moist); , 10YR81, 0-2% , 0-5mm, Distinct; Medium heavy clay; Massive grade of structure; Smooth-ped fabric; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); , 10YR81, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 100-200 mm, Lenticular; Weak grade of structure, 20-50 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; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Very dark grey (10YR3/1-Moist); , 10YR51, 0-2% , 0-5mm, Distinct; 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; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1.05 m	Very dark grey (10YR3/1-Moist); , 10YR61, 2-10% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 100-200 mm, Lenticular; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B21	1.05 - 1.9 m	Greyish brown (10YR5/2-Moist); , 10YR31, 2-10% , 5-15mm, Distinct; , 10YR82, 2-10% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 20-50 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; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Very few (0 - 2 %), Gypseous, Fine (0 - 2 mm), Crystals; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;

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B22 1.9 - 2.83 m Brown (7.5YR5/2-Moist); , N30, 2-10% , 0-5mm, Prominent; , 10YR81, 0-2% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 100-200 mm, Lenticular; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm²) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 6 (pH meter); Diffuse, Smooth change to -

Morphological Notes

A11 8mm depth of very fine self mulching top with abundant white sand grains - appears quite dispersive. Layer 02 has some infilled (now disturbed) cracks with fine sand. Wedges and lenses are very close to the surface which may indicate that t

A12 he profile has been truncated and part of the upper A layer has gone. 250-260 is possibly transitional to C, it has a few tiny flecks of lime. Prominent patch of soft lime nodules at 230cm. Manganese starts about 140cm.

Observation Notes

Parent Rock: alluvial sediment, clay, fifth (eroded) fan

Site Notes

Fallow after sorghum. Very weak surface crust, breaking very readily to coarse aggregates (1mm-2cm size).

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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