

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed018 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: R.L.(Dick) Guest, Melburra
Date Desc.: 28/01/86	Elevation: 357 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6676600 AMG zone: 55	Runoff: No Data
Easting/Lat.: 788800 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: Flood plain
Morph. Type: No Data	Relief: No Data
Elem. Type: No Data	Slope Category: Very gently sloped
Slope: 0 %	Aspect: No Data

Surface Soil Condition (dry): Self-mulching

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: N/A
ASC Confidence: Confidence level not specified	Principal Profile Form: Um6.21
	Great Soil Group: Alluvial soil

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/4-Dry); ; Fine sandy clay loam; Moderate grade of structure, 10-20 mm, Platy; Moderate grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7.5 (pH meter); Few, medium (2-5mm) roots; Sharp, Smooth change to -
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Fine sandy clay loam; Strong grade of structure, 10-20 mm, Subangular blocky; Strong grade of structure, 5-10 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); Common, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark brown (7.5YR3/2-Moist); ; Fine sandy clay loam; Strong grade of structure, 20-50 mm, Prismatic; Strong grade of structure, 5-10 mm, Cast; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.9 m	Dark brown (7.5YR3/2-Moist); ; Fine sandy clay loam; Moderate grade of structure, 20-50 mm, Prismatic; Strong grade of structure, 5-10 mm, Cast; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to
AC	0.9 - 1.9 m	Dark brown (7.5YR3/2-Moist); ; Fine sandy clay loam; Moderate grade of structure, 20-50 mm, Prismatic; 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; Very firm consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
2A11	1.9 - 2.46 m	Dark reddish brown (5YR2/2-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Prismatic; Strong grade of structure, 2-5 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
2A12	2.46 - 2.98 m	Dark brown (7.5YR3/2-Moist); , N20, 0-2% , 0-5mm, Distinct; Light clay; Moderate grade of structure, 10-20 mm, Prismatic; Moderate grade of structure, 5-10 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 8.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11 Small pieces of charcoal at 55cm. A horizon structures (below flood deposit) are prismatic mainly. Becomes less well structured below 150cm and slightly paler,

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7.5YR4/4. The surface burial probably just predates entrenchment of nearby strea

A12 m. Because of cracks in the final core, we measured the tensile strength of the last 10cm of the 3 inch core (288-299). A distinct fine sandy band 8cm thick occurs above 246cm. Sand from this level runs into worm channels at lower levels, g

A13 iving casts. Note we took extra sample 210-220 thinking the core had not reached full depth. Young flood deposits over ??Q. The buried material exposed by the creek resembles Aloomba pit.

Observation Notes

Parent Rock: , , floodplain

Site Notes

Handpen: penetration by plastic deformation. Pushtube to 228, then 3 inch. Shear 150 made higher by roots. Footings of an old building 25m away. Natural surface firm. No evident cracks.

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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	7.88A	0.156A	23.27B	7.86	3.01	0.03			
0 - 0.1	8.28A	0.179A	24.83B	9.88	2.23	0.01			
0.1 - 0.2	7.6A	0.188A	22.45B	9.92	1.27	0.09			
0.3 - 0.4	8.43A	0.092A	23.52B	9.02	1.36	0.41			
0.7 - 0.8	8.26A	0.129A	28.64B	13.22	0.66	0.53			
1.2 - 1.3	8.28A	0.226A	27.23B	14.65	0.64	0.6			
2.1 - 2.2	8.06A	0.313A	32.42B	13.49	0.72	0.78			
2.5 - 2.6	8.18A	0.192A	31.27B	14.04	0.64	0.72			

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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