

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed066 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	N.A.(Tony) Barrett, Manamoi
Date Desc.:	18/02/86	Elevation:	270 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6669800 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	776100 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 plain	Slope Category:	Very gently sloped
Slope:	0 %	Aspect:	No Data

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:	Ug5.15
		Great Soil Group:	Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.05 m	Very dark brown (10YR2/2-Moist); Very dark brown (10YR2/2-Dry); ; Clay loam; Strong grade of structure, 5-10 mm, Granular; Earthy fabric; Very coarse, (20 - 50) mm crack; Moderately moist; Very firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.05 - 0.1 m	Very dark brown (10YR2/2-Moist); ; Clay loam; Strong grade of structure, 100-200 mm, Columnar; Moderate grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Very coarse, (20 - 50) mm crack; Moderately moist; Very strong consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.1 - 0.25 m	Very dark brown (10YR2/2-Moist); ; Medium heavy clay; Strong grade of structure, 100-200 mm, Columnar; Moderate grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Very coarse, (20 - 50) mm crack; Moderately moist; Rigid consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.25 - 0.55 m	Very dark brown (10YR2/2-Moist); ; Medium heavy clay; Strong grade of structure, 100-200 mm, Columnar; Smooth-ped fabric; Very coarse, (20 - 50) mm crack; Moderately moist; Rigid consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A15	0.55 - 1.05 m	Dark brown (7.5YR3/2-Moist); ; Heavy clay; Moderate grade of structure, 100-200 mm, Columnar; Smooth-ped fabric; Very coarse, (20 - 50) mm crack; Moderately moist; Rigid consistence; 0-2%, fine gravelly, 2-6mm, rounded, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8 (pH meter); Diffuse, Smooth change to -
B21	1.05 - 1.5 m	Dark brown (10YR3/3-Moist); ; 10YR22, 0-2% , 5-15mm, Faint; Light clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
B22	1.5 - 2.4 m	Brown (7.5YR4/2-Moist); ; 5YR22, 0-2% , 5-15mm, Faint; Light clay; Strong grade of structure, 20-50 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Very firm consistence; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Sharp, Wavy change to -
2C	2.4 - 2.6 m	Light red (2.5YR6/6-Moist); ; 5YR21, 2-10% , 15-30mm, Prominent; ; 5YR62, 0-2% , 0-5mm, Faint; Light clay; Massive grade of structure; Moderate grade of structure, 2-5 mm, Cast; Smooth-ped fabric; Many (>5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Strong consistence; Field pH 8 (pH meter);

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A11p Slickensides at 45cm. Soil resembles MVpH. Possible break in profile at 240cm with fine gravels and clay above sharp wavy contact, worm mixed, massive 250-260. Compare sites 65 and 236. Is this a terrace below site 65, site 236 terrace leve
A12 I? The columnar structure in A preferred to massive because of the big crack. Field texture of 06607 estimated from lab.

Observation Notes

Parent Rock: alluvial sediment, clay, parna on third fan

Site Notes

The loose, fine self mulching topsoil is 5-8cm thick and fills cracks and obscures their extent, shape, and width. Waterworn and decomposed rocks (sandstone and basalt) occur at 200cm depth. Few 8cm diameter well rounded quartzite rocks occ

Morphological Notes

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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	7.98A	0.075A	32.75B	8.91	1.86	0.53			
0 - 0.05	7.16A	0.151A	29.26B	9.54	1.48	1.09			
0.05 - 0.1	7.95A	0.112A	27.61B	9.280001	0.87	1.35			
0.1 - 0.2	8.25A	8.199999E-02A	28.17B	11.54	0.6	1.73			
0.3 - 0.4	8.72A	0.17A	31.39B	10.73	0.51	3.04			
0.7 - 0.8	8.99A	0.329A	27.08B	12.15	0.46	5.98			
1.2 - 1.3	8.68A	0.485A	23.45B	9.54	0.44	4.91			
1.7 - 1.8	8.81A	0.434A	21.45B	10.12	0.34	5.02			
2.5 - 2.6	7.5A	0.358A	23.61B	11.88	0.25	6.91			

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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