

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed202 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G.M. Roberts	Locality:	M.Stoltenberg, Cucabo
Date Desc.:	11/09/85	Elevation:	217 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6651200 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	764600 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:	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:	Brown clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.08 m	Very dark greyish brown (10YR3/2-Moist); Greyish brown (10YR5/2-Dry); ; Light clay; Weak grade of structure, 2-5 mm, Granular; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.08 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.2 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 0.98 m	Very dark greyish brown (10YR3/2-Moist); , 10YR84, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 50-100 mm; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21k	0.98 - 1.4 m	Brown (10YR4/3-Moist); , 10YR84, 0-2% , 0-5mm, Faint; Medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Weak grade of structure, 20-50 mm, Prismatic; Smooth-ped fabric; Earthy fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Gradual, Smooth change to -
C1	1.4 - 2.6 m	Yellowish brown (10YR5/6-Moist); , 10YR31, 10-20% , 15-30mm, Distinct; Light medium clay; Moderate grade of structure, 100-200 mm, Prismatic; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.5 (pH meter);

Morphological Notes

A11p At 160-174 a layer of waterworn basalt and quartz gravels. Calcium carbonate nodules at 170-178. Note conflict in horizon designation.

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Parent Rock: alluvial sediment, mixed texture, with lime, second terraced fan

Site Notes

Rough surface prevents use of handshear and hand penetrometer. A small creek 20m to the east. No visible cracks. Coarse sandy layers at 240-260cm (modern alluvium).

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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	7.72A	0.109A	17.91B	11.53	1.88	0.73			
0 - 0.08	7.4A	0.156A	26.57B	12.28	2.08	0.67			
0.1 - 0.2	8.18A	0.067A	32.05B	12.15	1.91	0.67			
0.3 - 0.4	8.8A	0.078A	21.84B	12.66	0.96	0.73			
0.7 - 0.8	9.36A	0.208A	20.29B	17.85	0.67	3.78			
1.2 - 1.3	9.51A	0.215A	16.6B	15.01	0.68	3.48			
2.5 - 2.6	8.95A	0.071A	9.21B	6.45	0.51	1.33			

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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