

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed154 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	M.E. Heape	Locality:	I.O.(Ian) Falkiner, Murrumbilla
Date Desc.:	21/02/86	Elevation:	265 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6657900 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	777200 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:	Levee	Slope Category:	Very gently sloped
Slope:	4 %	Aspect:	180 degrees

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:	Um6.22
		Great Soil Group:	Alluvial soil

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

AC1	0 - 0.1 m	Dark brown (10YR3/3-Moist); Dark yellowish brown (10YR3/4-Dry); ; Silty clay loam; Moderate grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Firm consistence; Field pH 7 (pH meter); Many, coarse (>5mm) roots;
AC2	0.1 - 0.25 m	Dark brown (10YR3/3-Moist); , N30, 0-2% , 0-5mm, Distinct; Clay loam; Moderate grade of structure, 50-100 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; Firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
AC3	0.25 - 0.45 m	Dark brown (7.5YR3/2-Moist); ; Clay loam; Moderate grade of structure, 50-100 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; Weak consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
C	0.45 - 1.1 m	Brown (10YR4/3-Moist); ; Clay loam; Weak grade of structure, 50-100 mm, Prismatic; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Few (<1 per 0.01m2) Coarse (>5mm) macropores, Moderately moist; Weak consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
2A1	1.1 - 2.1 m	Dark brown (7.5YR3/2-Moist); , 10YR34, 10-20% , 15-30mm, Distinct; Light medium clay; Strong grade of structure, 50-100 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Cast; Earthy fabric; Sandy (grains prominent) 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; Diffuse, Smooth change to -
2B2	2.1 - 2.75 m	Dark reddish grey (5YR4/2-Moist); , 7.5YR32, 10-20% , 5-15mm, Distinct; , 7.5YR84, 0-2% , 15-30mm, Prominent; Medium clay; Weak grade of structure, 50-100 mm, Angular blocky; Massive grade of structure; Smooth-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.5 (pH meter);

Morphological Notes

AC1 Stratigraphic break to cracking clay 7.5YR3/2 at 110cm with inwashed sand and polished peds between 180-210cm. The buried soil looks like MVpH.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, non-calcareous, from sandstone, with lime floodplain

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Site Notes

Surface measures very difficult as much dense vegetation. Core continued to 305 in sand. Photos of nearby stream bank show a buried soil like the MVpH plot unit.

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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	7.16A	0.11A	11.86B	4.55	2.52	<0.01			
0 - 0.1	5.91A	0.43A	8.82B	4.67	2.28	<0.01			
0.1 - 0.2	6.77A	0.1A	13.28B	7.19	1.02	0.1			
0.3 - 0.4	7.33A	0.051A	16.42B	8.02	0.45	0.17			
0.7 - 0.8	7.99A	0.108A	14.19B	7.19	0.29	0.11			
1.2 - 1.3	8.57A	0.079A	16.92B	12.02	0.46	1.23			
2.5 - 2.6	8.92A	0.182A	13.72B	10.35	0.65	2.6			

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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