

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed176 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G.M. Roberts	Locality:	Phillip Wall, Athelstone
Date Desc.:	02/09/85	Elevation:	195 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6654100 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	741300 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): 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:	Dr4.13
		Great Soil Group:	Alluvial soil

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.06 m	Dark brown (7.5YR3/2-Moist); Brown (10YR5/3-Dry); ; Clay loam; Weak 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; Firm consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
A12	0.06 - 0.3 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); , 10YR72, 10-20% , 30-mm, Distinct; Sandy clay loam; Moderate grade of structure, 5-10 mm, Angular blocky; Earthy fabric; Smooth-ped fabric; Medium, (5 - 10) 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;
B21	0.3 - 0.55 m	Dark reddish brown (5YR3/2-Moist); ; Medium heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Strong grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Earthy fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8 (pH meter); Few, very fine (0-1mm)
B22	0.55 - 1.1 m	Yellowish red (5YR4/6-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Moderate grade of structure, 5-10 mm, Lenticular; Earthy fabric; Smooth-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
C1	1.1 - 1.9 m	Yellowish red (5YR4/6-Moist); , 10YR73, 2-10% , 5-15mm, Distinct; , 7.5YR42, 0-2% , 5-15mm, Faint; Light clay; Weak grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 5-10 mm, Subangular 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; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Very few (0 - 2 %), Organic (humified), Medium (2 -6 mm), Laminae; Field pH 9 (pH meter);
C2	1.9 - 2.81 m	Yellowish red (5YR5/6-Moist); , 7.5YR42, 0-2% , 5-15mm, Faint; Light clay; Weak grade of structure, 50-100 mm, Subangular blocky; Earthy fabric; Sandy (grains prominent) fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Very few (0 - 2 %), Organic (humified), Medium (2 -6 mm), Laminae; Field pH 8.5 (pH meter);

Morphological Notes

A11p Recent alluvial deposit near surface over clay subsoil over sandy parent material.

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

Site Notes

Soil surface shows reddish brown-brown patches in cultivated field.

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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	6.73A	0.122A	11.69B	6.94	2.3	0.11			
0 - 0.06	7.03A	0.105A	10.14B	6.03	1.56	0.1			
0.1 - 0.2	7.15A	0.047A	6.96B	3.63	0.73	0.03			
0.3 - 0.4	8A	0.055A	14.8B	8.95	0.59	0.55			
0.7 - 0.8	8.84A	0.102A	14.19B	10.28	0.63	1.12			
1.2 - 1.3	9.03A	0.171A	11.58B	9.34	0.55	1.29			
2.5 - 2.6	8.75A	0.064A	7.73B	6.41	0.31	0.88			

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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