

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed177 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: G.M. Roberts	Locality: R.A.(Richard) Williams, Merinda
Date Desc.: 29/08/85	Elevation: 195 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6654000 AMG zone: 55	Runoff: No Data
Easting/Lat.: 744050 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: Ug5.15
	Great Soil Group: Brown clay

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.1 m	Dark greyish brown (10YR4/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Weak grade of structure, <2 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
A12	0.1 - 0.25 m	Dark greyish brown (10YR4/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.55 m	Dark greyish brown (10YR4/2-Moist); Dark greyish brown (10YR4/2-Dry); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1 m	Dark greyish brown (10YR4/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A15	1 - 1.5 m	Very dark greyish brown (10YR3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9 (pH meter); Gradual, Smooth change to -
B2	1.5 - 2.96 m	Dark yellowish brown (10YR4/4-Moist); , 10YR41, 10-20% , 5-15mm, Distinct; Medium clay; Weak grade of structure, 100-200 mm, Subangular blocky; Weak grade of structure, 5-10 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 9 (pH meter);

Morphological Notes

A11p Very few fine calcium carbonate segregations found from 150-250.

Observation Notes

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Site Notes

Difficult core recovery. This site has higher clay content than site 176.

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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	8.39A	0.273A	26.13B	14.58	1.74	1.19			
0 - 0.1	8.32A	0.129A	23.91B	14.47	1.33	0.9			
0.1 - 0.2	8.65A	0.096A	25.06B	13.85	1.23	1.16			
0.3 - 0.4	8.77A	0.12A	25.46B	14.55	0.8	2.22			
0.7 - 0.8	8.9A	0.189A	23.39B	15.61	0.87	5.51			
1.2 - 1.3	9.04A	0.293A	18.53B	15.89	1.14	7.65			
2.5 - 2.6	9.01A	0.409A	16.16B	15.53	0.83	8.63			

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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